WARMTH OF HEART AND HOME

DEFRO
home

Operating manual
Independent gas-fired convection heater

DEFRO HOME VITAL

model	size	version	gas type
☐ 37	☐ S	☐ BL ☐ U ☐ T	☐ G20 ☐ G30
☐ 51	☐ M	☐ BP ☐ C	☐ G27 ☐ G31

Translation of the original operating manual
edition 6
September 2023
country of origin Poland

DEFRO
home

DEKLARACJA ZGODNOŚCI UE
DECLARATION OF CONFORMITY UE
nr DH15/P3/2023

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

DEKLARUJE / DECLEARS

z pełną odpowiedzialnością, że produkt / with all responsibility, that the product
konwekcyjny ogrzewacz pomieszczeń opalany gazem / independent gas-fired convection heater

DEFRO HOME VITAL
37 S, 37 S BL, 37 S BP, 37 S U, 37 S T, 37 S C,
37 M, 37 M BL, 37 M BP, 37 M U, 37 M T, 37 M C
51 S, 51 S BL, 51 S BP, 51 S U, 51 S T, 51 S C,
51 M, 51 M BL, 51 M BP, 51 M U, 51 M T, 51 M C
typ urządzenia/type: C11, C31, C91

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 GAR 2016/426/UE
Rozporządzenie Delegowane Komisji (UE) / Commission Delegated Regulation (EU) 2015/1186
Dyrektywa / Directive ErP 2009/125/WE - Ekoprojekt dla produktów związanych z energią (Dz.Urz. UE L 285/10 z 31/10/2009)
Rozporządzenie Komisji (UE) / Commission Regulation (EU) 2015/1188

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

PN-EN 613:2022

dokumentacja techniczna / technical documentation

Wyrób oznaczono znakiem:
Product has been marked:

CE

Procedury oceny zgodności - moduł B+D - z wymogami Rozporządzenia Parlamentu Europejskiego i Rady 2016/426/UE - zostały wykonane z udziałem Jednostki Notyfikowanej Nr 1450 INSTYTUT NAFTY I GAZU - Państwowy Instytut Badawczy
Procedures of conformity assessment in the process of EC design examination - Module B+D-type of project with the requirements specified in Regulation (eu) 2016/426 of the European Parliament and of the Council have been carried out in the presence of INSTYTUT NAFTY I GAZU - Państwowy Instytut BadawczyNotified Body No 1450
Certyfikat: / Certificate: **GAR1450DM0002**

Ta deklaracja zgodności traci swą ważność, jeżeli w urządzeniu wprowadzono zmiany, zostało przebudowane bez naszej zgody lub jest użytkowane 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 device 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.

Urządzenie jest wykonywane zgodnie z dokumentacją techniczną przechowywaną przez:
Device 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 authorised to compile the technical documentation:

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

Dwie ostatnie cyfry roku, w którym oznakowanie zostało naniesione: 23
Two last digits of the year of marking:

Ruda Strawczyńska, dn. 02.01.2023r.
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 the data on the rating plate against the warranty card.
- Check whether the system is in compliance with the recommendations of this manual and corresponding national regulations before the start-up.

Basic usage rules are to be obeyed while using the equipment. It is forbidden to remove the cover during the operation of the equipment.

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 products.

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 travelling 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 product is handed over. Users 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 equipment must be carried out in accordance with the mandatory standards in the country of destination, according to the 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 equipment 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, 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.

Versions of the publication

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

Manual storage and browsing of its contents

We recommend taking care of 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 which can be present during the operation of the gas-fired heater. 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.

Note!
A 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!
Warning symbol indicating a hazard to health resulting from the action of high temperature! 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) 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 settings can cause hazardous situations and/or incorrect operation.
- 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.
- In case of disturbances in operation, the equipment can be restarted only when the 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 relieve 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.

- All surfaces of the equipment are working surfaces and some of them are very hot. You should avoid direct contact with such components.
- Keep children away from the equipment when it is operating because each hot surface can cause burns.

2.2. WARNINGS RELATED TO OPERATION

- Equipment should be shutdown in case of failure or incorrect operation.
- Gaseous fuel used in the equipment should meet the conditions described in this manual.
- Equipment should be installed in rooms with fire protection and equipped with all required components such as supply (with air) and flue gas discharge.
- The equipment should be stored in the rooms free from moisture and they cannot be exposed to adverse effects of the weather.
- The equipment consumes as much air as it is required for the combustion process.
- Do not touch the equipment with wet or moist parts of the body and/or barefooted.
- Disconnect the equipment from the electric grid before the cleaning.

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 gaseous 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 sale 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 the authorized sales outlet in the DEFRO company if it has been lost.

3. INTENDED USE

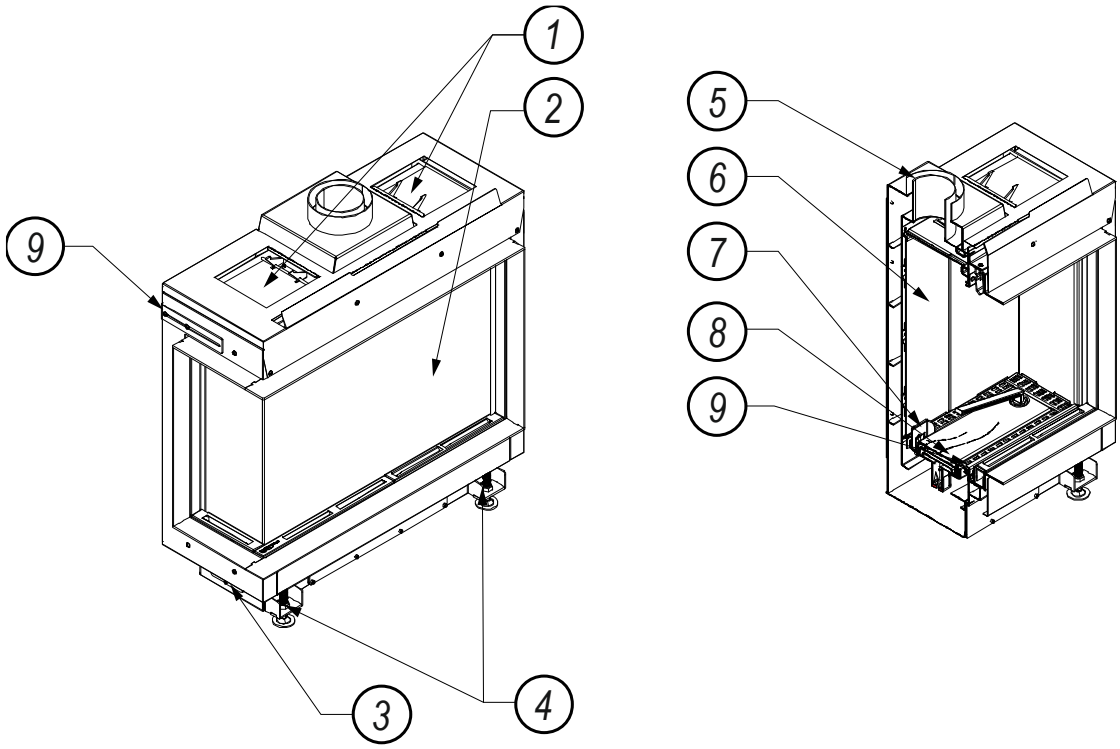
Room heater is intended for combustion of natural gas (NG) or, after proper adaptation, propane-butane (LPG) gas, to heat the rooms where it has been installed.

Gas-fired room heater can be connected multiple times.

4. TECHNICAL SPECIFICATION

4.1. DESIGN

The body of the heater is made of steel sheet with a combustion chamber located inside and lined with additional panels made of sheet (rear and sides).



Picture 1. Design of DEFRO HOME VITAL heater.

1 - explosion relief vents, 2 - window panel, 3 - end cap of gland for gas lines, 4 - adjustable feet, 5 - flue, 6 - panels of the combustion chamber, 7 - set of control burner, spark igniter and temperature sensor, 8 - primary burner, 9 - combustion air inlets.

A gas burner supplied with gas and air is located on the floor of the chamber. Gas is supplied from the electronically controlled dosing device GV60, which is connected to the gas piping system. Gas is combusted after initiation of ignition by the spark igniter, which initiates the ignition of the ignition burner. The main burner is started after the detection of the ignition flame. Flue gas is exhausted through the concentric connector to a twin-walled concentric coaxial pipe (internal pipe). The same pipe (external line) is used to supply air required for combustion. For liquefied gases, it is required to ensure an additional opening for the primary air. A fireplace is operated by a remote control, which is part of the control system manufactured by Mertik Maxitrol GV60.

4.2. TECHNICAL DATA

Table 1. Technical data of DEFRO HOME VITAL S heater

Parameter	unit	Reference gas			
		G20	G27	3P	3B/P
Nominal connection pressure, p_{nom}	mbar	20	20	29 / 37 / 50	29 / 37 / 50
Rated maximum heat load acc. to H_i, $Q_{znam(max)}$	kW	6.0	6.0	5.5	5.5
Rated minimum heat load acc. to H_i, $Q_{znam(min)}$,	kW	3.6	3.6	3.3	3.3
Controller	-	gas pressure regulator locked		gas pressure regulator in operation	
Gas pressure downstream of the controller for $Q_{znam(max)}$, $p_{reg\_Qznam(max)}$	mbar	19.5	19.5	24.0	24.0
Gas pressure downstream of the controller for $Q_{znam(min)}$, $p_{reg\_Qznam(min)}$	mbar	8.0	6.7	8.5	8.5
Stream of consumed gas (15 °C, 1013 hPa) for $Q_{znam(max)}$, $V\_Q_{znam(max)}$	m^3/h	0.626	0.774	0.225	0.170
Stream of consumed gas (15 °C, 1013 hPa) for $Q_{znam(min)}$, $V\_Q_{znam(min)}$	m^3/h	0.376	0.464	0.135	0.102
NO_X emission class[1]	-	4	5	5	5
Diameter of gas nozzle of the main burner	mm	2.00	2.40	1.45	1.35
Diameter of concentric coaxial pipe	mm	100/150			
Gas control valve		GV60			
Receiver supply	V DC	6			

[1] Level for the C11 device acc. to PN-EN 613:2022-05

Table 2. Technical data of DEFRO HOME VITAL M heater

Parameter		unit	Reference gas			
			G20	G27	3P	3B/P
Nominal connection pressure, p_{nom}		mbar	20	20	29 / 37	29 / 37
Rated maximum heat load acc. to H_i, $Q_{znam(max)\_PG\_PB}$	37	kW	10	10.0	11.0	9.2
	51	kW	10	10.0	11.3	10.2
Rated maximum heat load acc. to H_i, $Q_{znam(max)\_PG}$	37	kW	5.6	5.6	7.7	5.6
	51	kW	5.6	5.6	7.8	7.0
Rated minimum heat load acc. to H_i, $Q_{znam(min)\_PG\_PB}$	37	kW	6.0	6.0	6.5	5.5
	51	kW	6.0	6.0	7.3	6.6
Rated minimum heat load acc. to H_i, $Q_{znam(min)\_PG}$	37	kW	4.7	4.7	5.6	5.2
	51	kW	4.7	4.7	5.7	5.2
Controller		-	gas pressure regulator in operation	gas pressure regulator locked	gas pressure regulator in operation	
Gas pressure downstream of the controller for $Q_{znam(max)}$, $p_{reg\_Qznam(max)\_PG\_PB}$		mbar	18.0	16.0	22.0	24.0
Gas pressure downstream of the controller for $Q_{znam(min)}$, $p_{reg\_Qznam(min)\_PG\_PB}$		mbar	8.0	8.0	9.0	9.0
Stream of consumed gas (15 °C,1013 hPa) for $Q_{znam(max)}$, $V\_Q_{znam(max)\_PG\_PB}$	37	m^3/h	1.034	1.289	0.449	0.285
	51		1.034	1.289	0.462	0.316
Stream of consumed gas (15 °C, 1013 hPa) for $Q_{znam(min)}$, $V\_Q_{znam(min)\_PG\_PB}$	37	m^3/h	0.620	0.774	0.265	0.170
	51		0.620	0.774	0.298	0.204
NO_X emission class[1]	37	-	4	4	4	5
	51	-	5	4	5	5
The diameter of the gas nozzle of the main burner and side burners		mm	1.25/1.20/1.45/ 1.20/1.25	1.45/1.40/1.65/ 1.40/1.45	0.90/0.85/1.10/ 0.85/0.90	0.85/0.80/1.05/ 0.80/0.85
Diameter of concentric coaxial pipe		mm	100/150			
Gas control valve			GV60			
Receiver supply		V DC	6			

[1] Level for C11 equipment acc. to PN-EN 613:2022-05

$Q_{znam(max)\_PG\_PB}$ - rated maximum heat load, acc. to H_i, main burner and side burners
$Q_{znam(max)\_PG}$ - rated maximum heat load, acc. to H_i, main burner
$Q_{znam(min)\_PG\_PB}$ - rated minimum heat load, acc. to H_i, main burner and side burners
$Q_{znam(min)\_PG}$ - rated minimum heat load, acc. to H_i, main burner
$p_{reg\_Qznam(max)\_PG\_PB}$ -gas pressure downstream of the controller for Qznam(max)_PG_PB, main burner and side burners
$p_{reg\_Qznam(min)\_PG\_PB}$ -gas pressure downstream of the controller for Qznam(min)_PG_PB, main burner and side burners

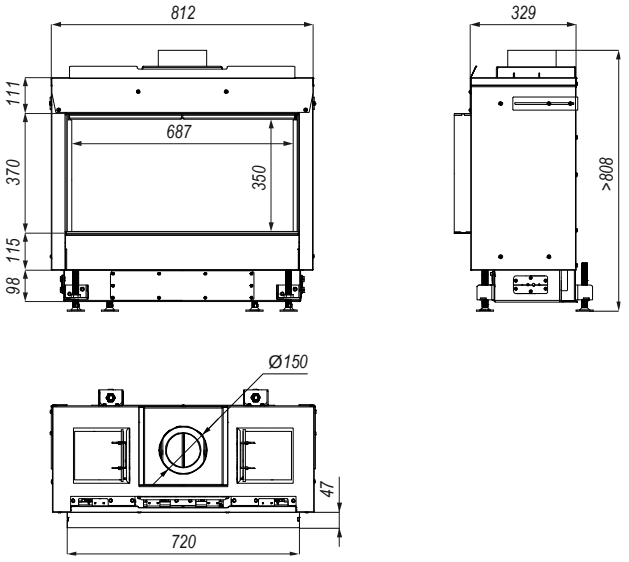
Table 3. Technical data of GV60 regulator with a receiver and remote control manufactured by Mertik Maxitrol.

Parameter	unit	Value
Directives fulfilled	-	GAR 2016/426/ UE, DIN EN 298, DIN EN 126, DIN EN 14611
Fuel	-	gas of first, second or third family acc. to EN 437
Adjustment range	-	class C acc. to the standard EN 88
Adjustment range for pressure regulator	mbar	5÷40
Maximum input pressure	mbar	50
Allowable operating temperature for GV60 valve	ºC	80
Allowable operating temperature for receiver supplied with batteries	ºC	55
Allowable operating temperature for receiver supplied from electric power system	ºC	80
Allowable operating temperature for remote control	ºC	60
Allowable operating temperature for ignition cable	ºC	150
Connection of main gas inlet	inch	reduction nipple ½"
Connector of control burner	mm	6 mm
Mounting position		vertical or within the angle from 0° to 90º from a vertical position

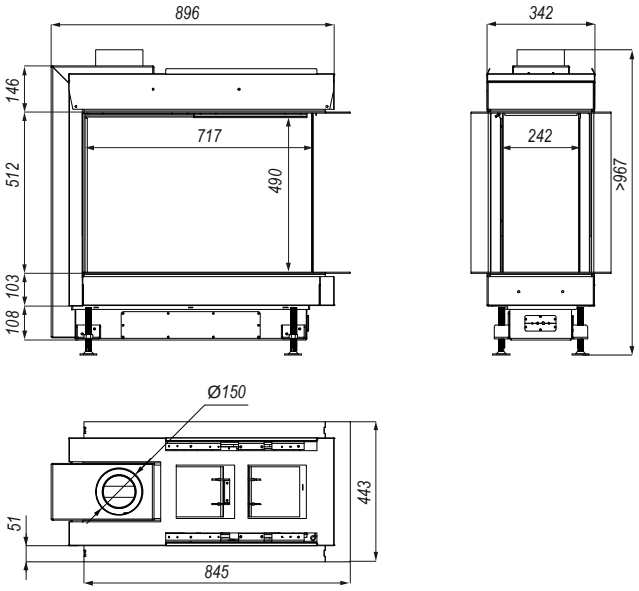
Table 4. Equipment weight

Equipment name	DEFRO HOME VITAL S 37	DEFRO HOME VITAL S 37 BL/BP	DEFRO HOME VITAL S 37 C	DEFRO HOME VITAL S 37 T
Weight (kg)	101	101	105	101
Equipment name	DEFRO HOME VITAL S 51	DEFRO HOME VITAL S 51 BL/BP	DEFRO HOME VITAL S 51 C	DEFRO HOME VITAL S 51 T
Weight (kg)	113	113	115	113
Equipment name	DEFRO HOME VITAL M 37	DEFRO HOME VITAL M 37 BL/BP	DEFRO HOME VITAL M 37 C	
Weight (kg)	136	136	139	
Equipment name	DEFRO HOME VITAL M 51	DEFRO HOME VITAL M 51 BL/BP	DEFRO HOME VITAL M 51 C	
Weight (kg)	151	151	154	

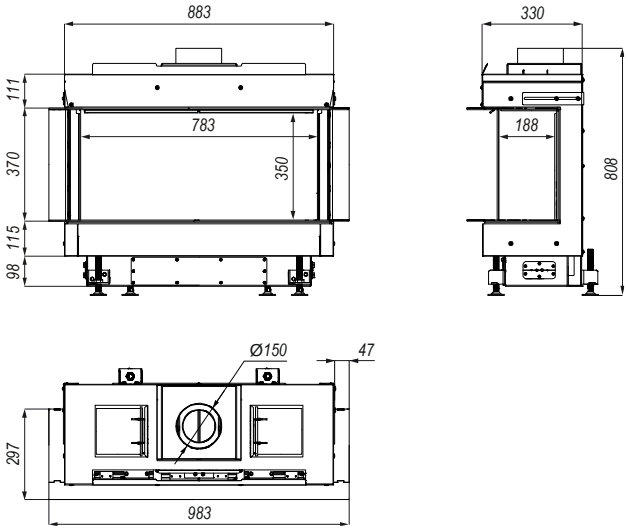
Device weight depends on the selected design version and its equipment.



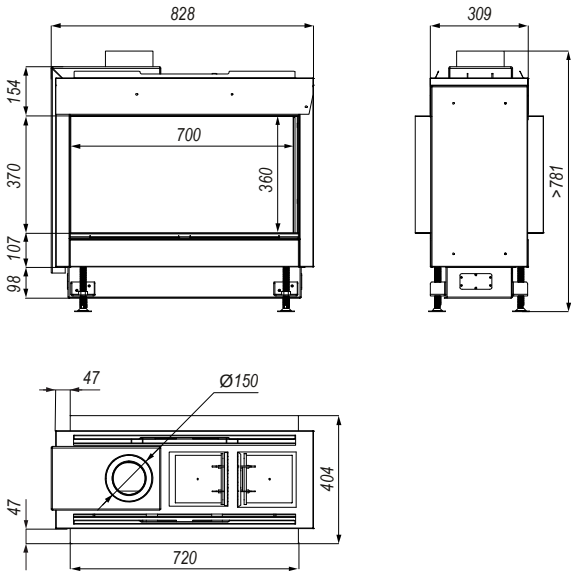
Picture 2. Dimensions of DEFRO HOME VITAL 37 S.



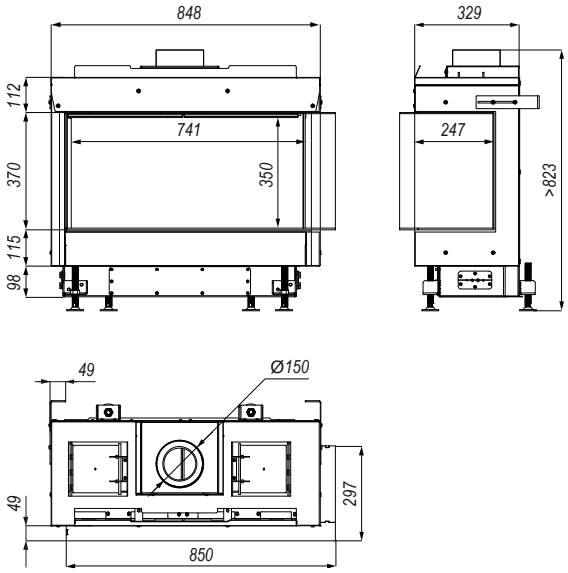
Picture 3. Dimensions of DEFRO HOME VITAL 37 S U.



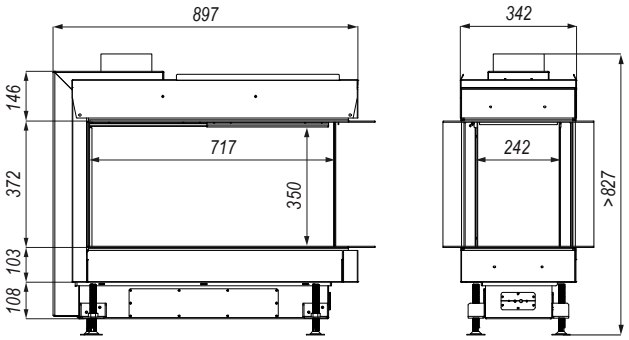
Picture 4. Dimensions of DEFRO HOME VITAL 37 S C.

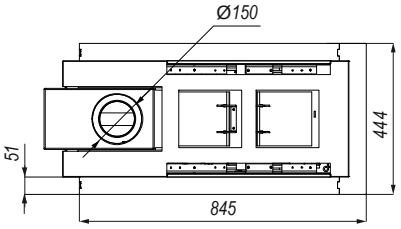


Picture 5. Dimensions of DEFRO HOME VITAL 37 S T.

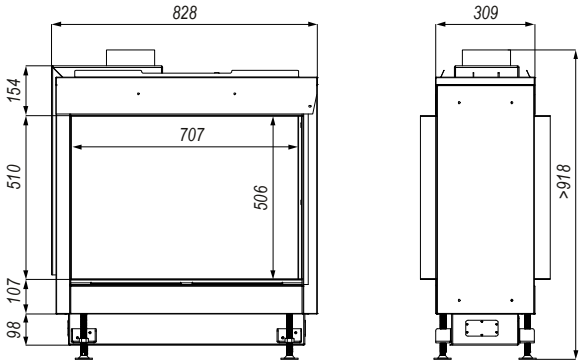


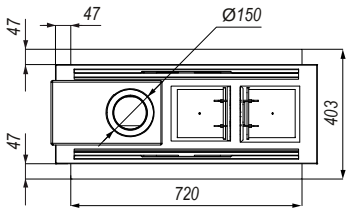
Picture 6. Dimensions of DEFRO HOME VITAL 37 S BP and DEFRO HOME VITAL 37 S BL (mirror reflection of BP version).



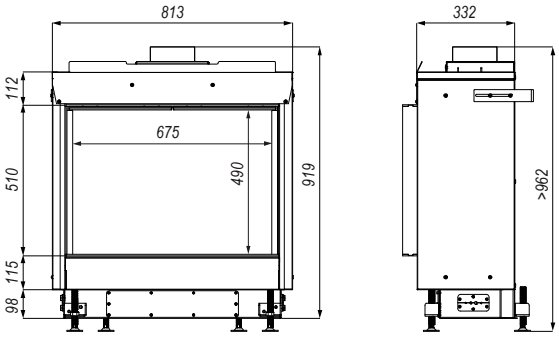


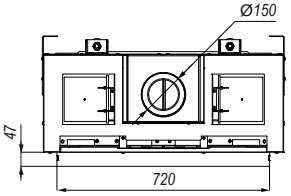
Picture7. Dimensions of DEFRO HOME VITAL 51 S U.



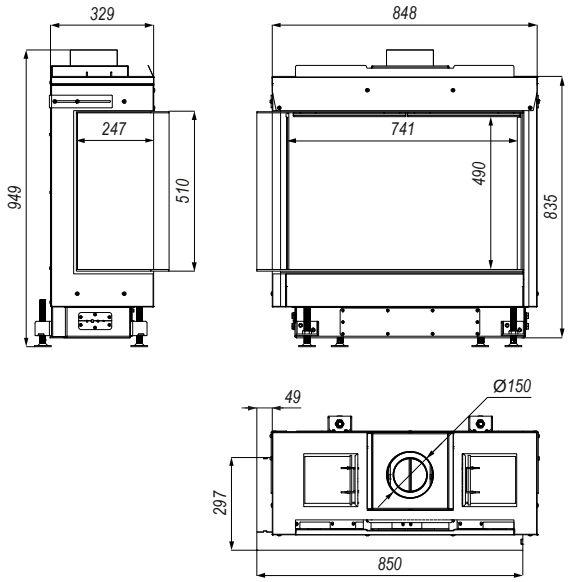


Picture 8. Dimensions of DEFRO HOME VITAL 51 S T.

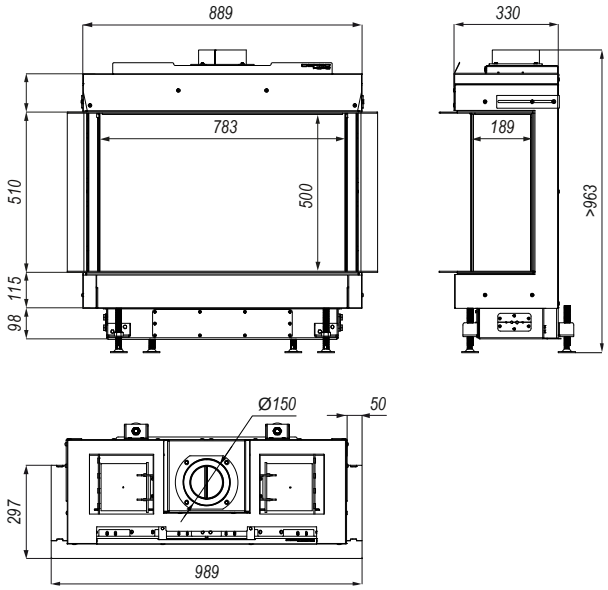




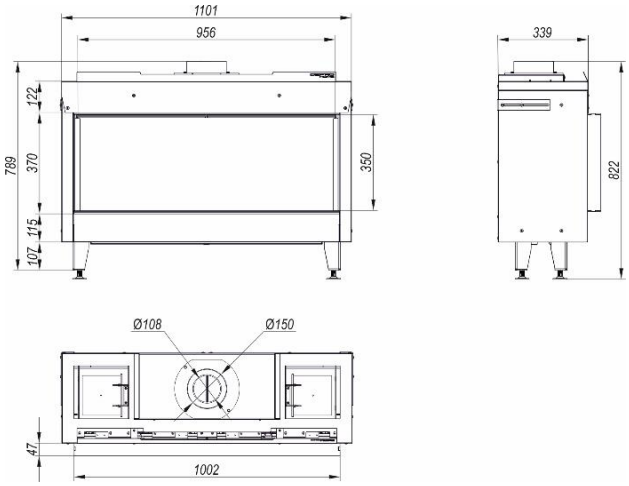
Picture 9. Dimensions of DEFRO HOME VITAL 51 S.



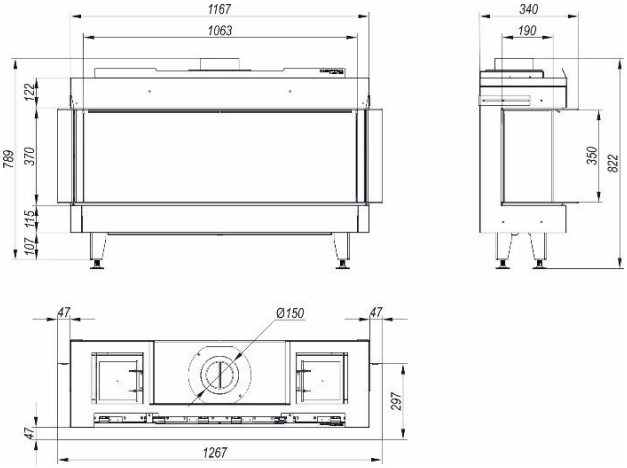
Picture 10. Dimensions of DEFRO HOME VITAL 51 S BL i DEFRO HOME VITAL 51 BP (mirror reflection).



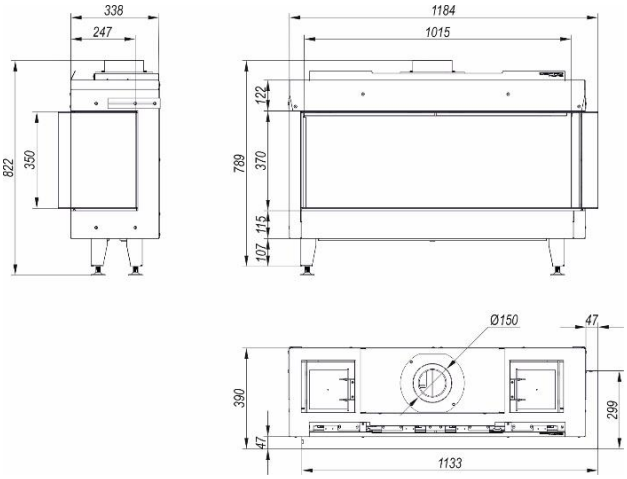
Picture 11. Dimensions of DEFRO HOME VITAL 51 S C.



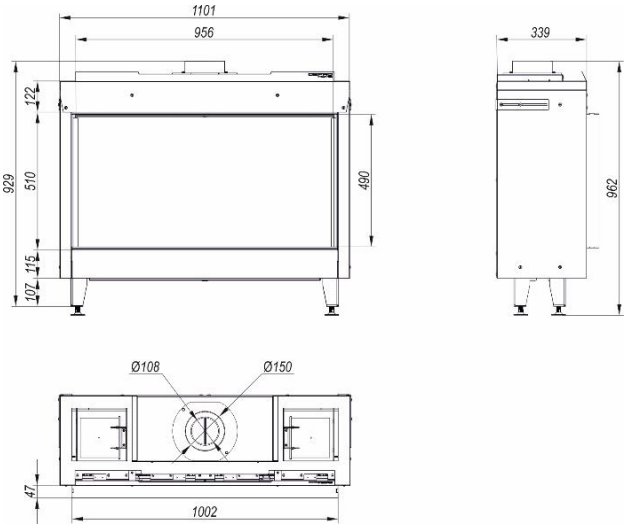
Picture 12. Dimensions of DEFRO HOME VITAL 37 M.



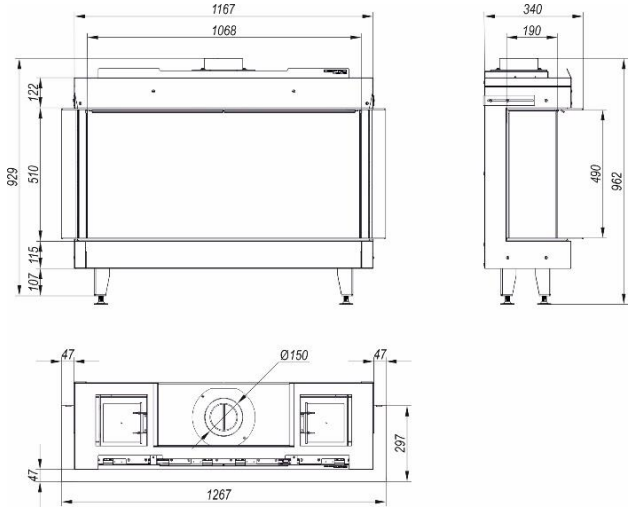
Picture 13. Dimensions of DEFRO HOME VITAL 37 M C.



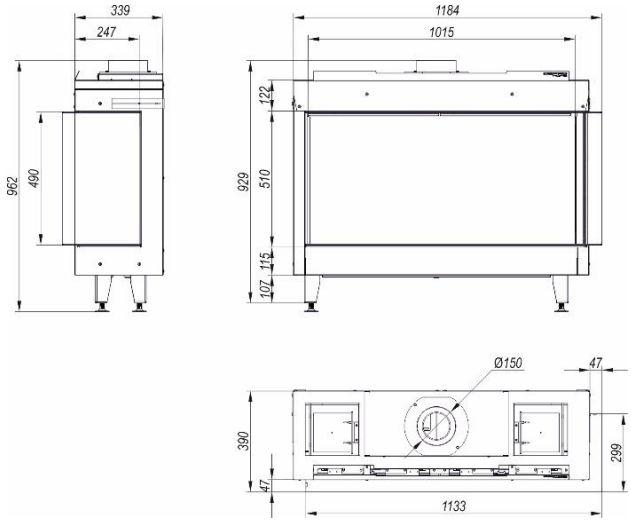
Picture 14. Dimensions of DEFRO HOME VITAL 37 M BP and DEFRO HOME VITAL 37 M BL (mirror reflection of BP version).



Picture 15. Dimensions of DEFRO HOME VITAL 51 M.



Picture 16. Dimensions of DEFRO HOME VITAL 51 M C.



Picture 17. Dimensions of DEFRO HOME VITAL 37 M BP and DEFRO HOME VITAL 37 M BL (mirror reflection of BP version).

4.3. EQUIPMENT

The gas-fired heater is delivered on a pallet, foil-wrapped and fully assembled. The scope of delivery can include additional components and subassemblies, according to the order. The components which are standard equipment are specified in table 4.

Table 5. Equipment of DEFRO HOME VITAL room heater.

Standard equipment of gas fireplace	unit	Quantity
Equipment operating manual	pcs.	1
Heating stove warranty book	pcs.	1
Operating manual and warranty card for electronic controller	pcs.	1
Controller with a valve	set	1

4.4. FUEL PARAMETERS

Gaseous fuel of second or third family acc. to the EN 437 standard is used as a primary fuel for the DEFRO HOME VITAL heater.

The heater is factory adapted to one type of fuel acc. to the customer's order and can be operated only with this fuel. Conversion of the equipment to the other type of fuel and change of gas on your own and without conversion is forbidden! Contact the manufacturer if it is required to change a fuel type.

4.5. SPARE PARTS

To obtain information on the availability of spare parts for gas-fired fireplaces or inquiries about equipment servicing please contact with DEFRO Service Center or Authorized DEFRO Service.

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

serwis@defro.pl

5. TRANSPORT

Room heater in the packing material should be transported in the horizontal position using a special trolley. In special cases and on short distances it is allowed to transport it in vertical position.

6. INSTALLATION

Check the local conditions for distribution before installation (identify type of gas and its pressure) and whether the current settings of heater are correct.
VITAL heater should be supplied with the same type of gas as the other gas-fired equipment (if any) in the home of their installation.

Installation of the gas-fired heater should be performed by qualified personnel. All assembly operations should be performed in accordance with the applicable national and local regulations within the scope of fire protection, and requirements of the gas distributor and local authorities.

Gas system and flue gas handling systems should be in compliance with the Regulation of the Minister of Infrastructure of 12.04.2002 (Journal of Laws of 2002, no. 75, item 690) with all subsequent acts amending this regulation.

It is required to obtain all the required permits from the appropriate authorities before starting the installation process: the Regional Gas Company, chimney sweep company and the building administration.

6.1. INSTALLATION LOCATION

The selection of the installation location of the gas-fired heater should be based on meeting the following conditions:

- access to the gas piping system should ensure ease of connection; flexible hoses should not be excessively twisted;

- access to the chimney system should ensure as low number of bends as possible;
- The distance of the heater from non-flammable components of the housing should not be smaller than 80 mm and the temperature of walls exposed to direct heating by the heater should not exceed 80 ºC.

Room heater is intended for installation only in a vertical position and should be placed on a hard and non-flammable substrate with suitable load-carrying capacity. It is forbidden to install the heater as a unit hanging on the wall!

6.2. CONNECTION TO THE GAS PIPING SYSTEM

The device is intended only for one type of fuel acc. to the customer's orders indicated on the first page of the manual and declaration on the rating plate.
It is strictly forbidden to bend the gas route near the gas valve at a distance of 6 cm. Failure to follow these recommendations may lead occurrence of leaks from the gas route.

The heater connection to the gas system should be in compliance with the applicable regulations.

Shut off the gas supply with a main valve before starting the installation works.

Before installation make sure that the gas meter has suitable throughput, also in case when the other equipment is drawing the gas.

During installation make sure to avoid getting dirt (dust, water and others) into the gas line. It is recommended to install the filter.

Install gas shut-off valve for the heater.

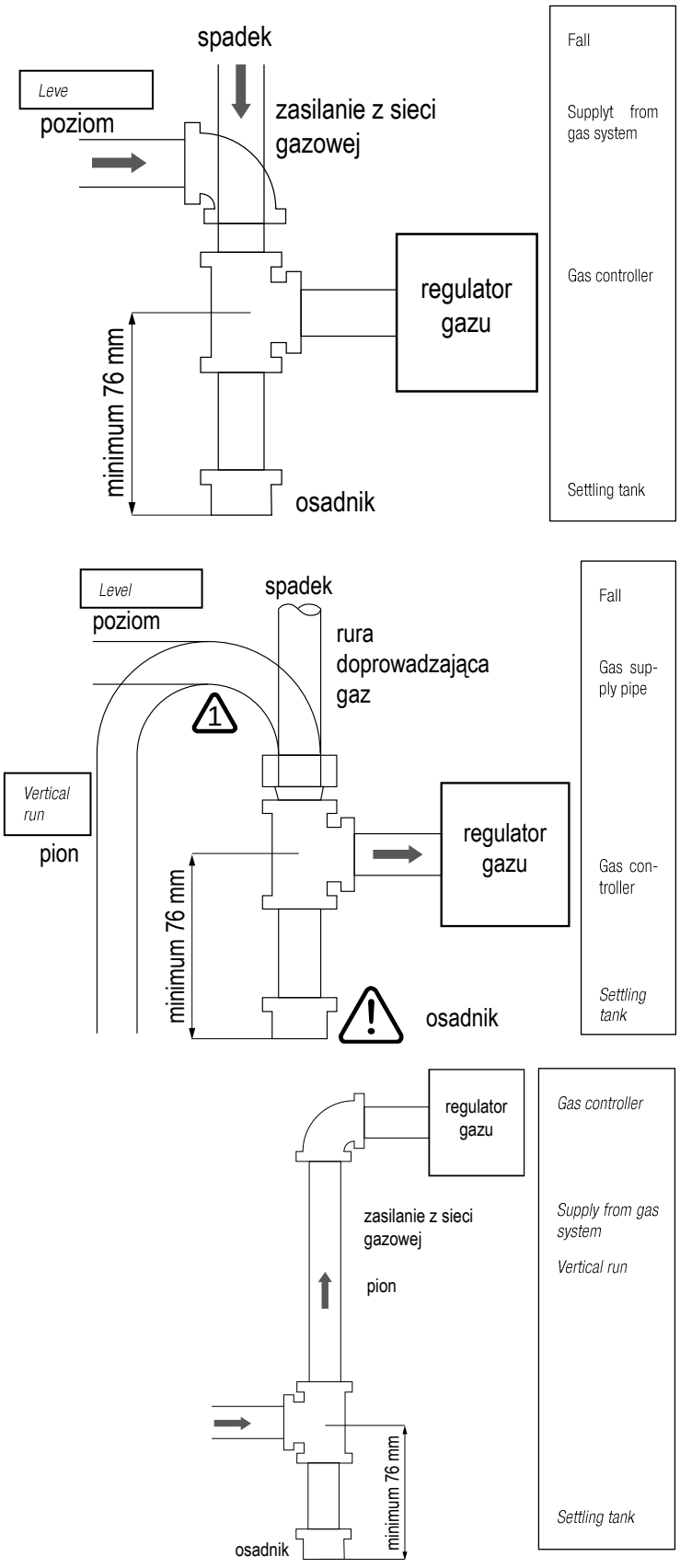
Nuts on the gas valve should be tightened using proper torque:
- for copper pipe Ø6 – 15 Nm
- for copper pipe Ø8 – 20 Nm
Failure to follow these recommendations may lead occurrence of leaks from the gas route or the rupturing of the thread from the controller.

The gas lines should be led outside the wall unless the local regulations provide otherwise. It is recommended to install a filter on gas lines to stop possible dirt from the gas system. Check the tightness of the system after the installation.

To connect the heater to the gas piping system it is required to remove:

- glazing - description of removal is given in 0,
- covers of cleanouts in the base of the heater.

Install a sedimentation trap (acc. to the picture) if it is required to ensure protection against dirt in the gas piping system.



Picture 18. Method of installation of sedimentation trap, if required.

GV60 valve with receiver should be located in the box intended for this purpose. Conditions for cabinet installation

- The cabinet should be located at a distance allowed by the cables of the spark igniter and thermocouple. ***Do not extend these cables!***

- The cable of the spark igniter should be led away from the metal parts,
- The cabinet should be located in a location free from moisture, dust and corrosive agents!

➔ The cabinet should be installed in a location where temperature does not exceed 25 ºC.

6.3. CONNECTION TO THE CONCENTRIC FLUE SYSTEM

Room heater is adapted for removal of flue gas and uptake of air for combustion through the concentric flue system with a diameter of 150/100 mm.

Please note the following rules:

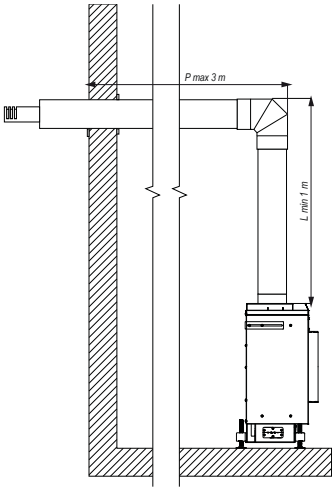
- The outlet-aspirating line should protrude by min. 18 mm from the wall.
- Installation of elbow 90º results in a reduction of the total allowable length of the pipe by 2 meters.
- Installation of elbow 45º results in a reduction of the total allowable length of the pipe by 1 meter.
- The first elbow connected to the equipment is not taken into consideration.
- Vertically led pipes should be fixed to the wall using brackets arranged in approx. 1-meter distance.
- Start leading from the chimney side using a vertical line of length not smaller than 1 metre.
- The wall connector is counted as 1 m.
- Execute thermal insulation of all flammable walls at the distance min. 25 cm from the chimney system.
- Ensure an additional 5 cm of clearance between the wall and line for flammable walls. Fill the space with thermal insulation.
- The maximum length of the chimney system should not exceed 10 metres.
- Install a condensate discharge system from the chimney system, e.g. as a droplet eliminator, if necessary.
- End vertical sections with terminal should be led with 1% slope towards the outside of the building to prevent flowing of possible condensate to the inside of the fireplace.
- The concentric coaxial pipe should be ended with a suitable wind protection cap. For horizontal pipes (led through the wall) it is required to use (type C11) special horizontal cap, while for vertical variant (led through the roof) - vertical cap (type 31).

6.3.1. Horizontal outlet of concentric pipe - type C11

It allows removing the flue gas and air intake by a horizontal section of the coaxial pipe led through the wall of the building. The minimum length of the vertical section should be 1 m and the length of the horizontal section depends on the length of the vertical section, but should not exceed 3 m. It is allowed to use only one elbow 90 in the system. Remember about the suitable slope of the end horizontal section (see previous chapter). A diagram of the C11 type outlet is presented in picture 19.

Table 6. Total lengths of C11 type concentric coaxial pipe depending on the minimum length of vertical section.

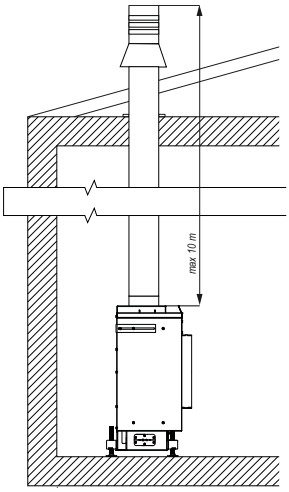
Total length of the balanced flue system Dn100-150	L_{min}
2.8 m	1 m
10.5 m	2 m
13.9 m	3 m



Picture 19. Diagram of horizontal outlet of concentric pipe – type C11.

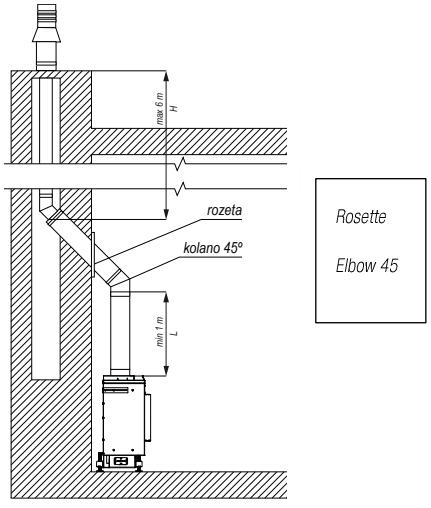
6.3.2. Vertical outlet of concentric pipe - type C31

Concentric pipe is led through the roof or floor slab of the building. A minimum distance of the vertical section without an elbow is 1 m and a maximum 10 m. The total length of the pipe should not exceed 10 m.



Picture 20. Diagram of outlet of C31 concentric pipe.

6.3.3. Outlet using conventional flue - type C91



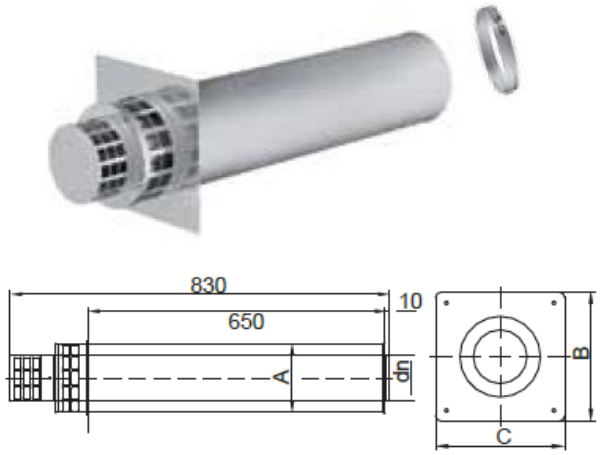
Picture 21. Diagram of outlet of C91 concentric pipe.

This system may use a conventional chimney to remove the flue gas and for air intake. A pipe with a suitable terminal at the outlet is installed inside the flue and used for this purpose, while flue space outside the pipe is used for air intake. However, the following conditions should be fulfilled:

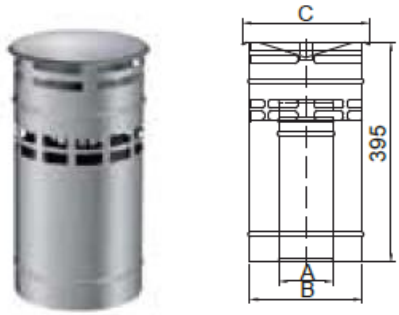
- The diameter of the flue gas exhaust pipe inside the chimney is 100 mm, its maximum length should not exceed 6 m.
- The chimney section should not be lower than 150mm x 150mm.
- Flue should be tight, with full flow capacity, clean and easy to maintain.
- The chimney outlet of the existing chimney in connection with a terminal should be protected against flooding or clogging and the terminal should be installed in a way ensuring its correct operation.
- Penetration of concentric pipe through the wall to the chimney should be equipped with a trim plate.

6.4. TERMINALS

Concentric coaxial pipe should end with a suitable terminal corresponding to the type of system. Below you will find terminals for C11 and C31.



C11 type terminal. Designation: A – 151,6, B – 240.



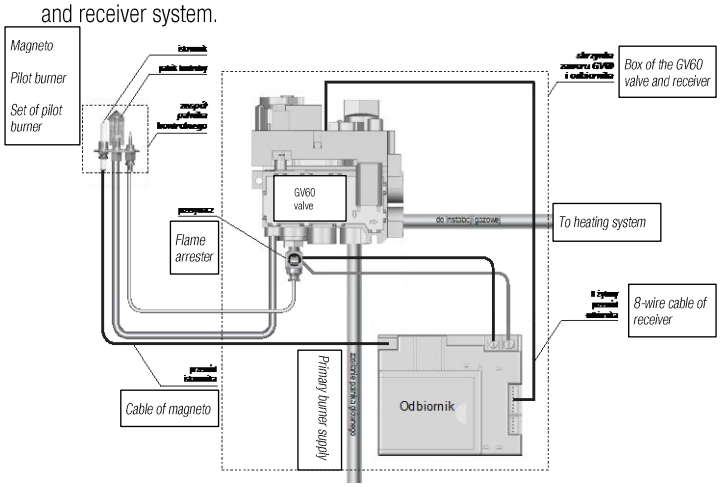
C31 type terminal. Designation: A – 97.5, B - 202, C- 228.

C91 type terminal.

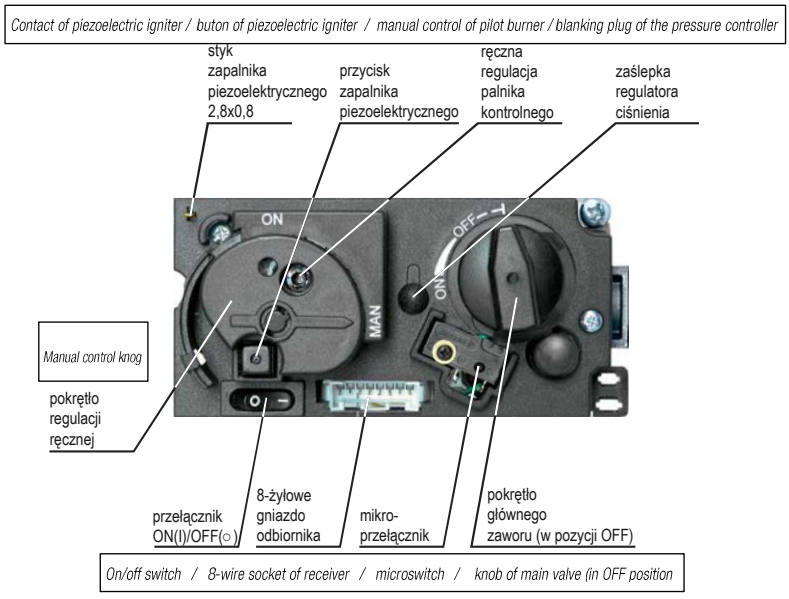
6.5. INSTALLATION OF CONTROL SYSTEM

The installation should be carried out according to the manual of the control system manufactured by Mertik company and the recommendations given in this chapter. The GV60 gas valve with equipment manufactured by Mertik is the only one intended for installation in the DEFRO HOME VITAL heater. The system can be installed only in the brand-new fireplace.

During installation, you should observe the below pictures presenting the arrangement of the connecting and control components of the GV60 valve and receiver system.



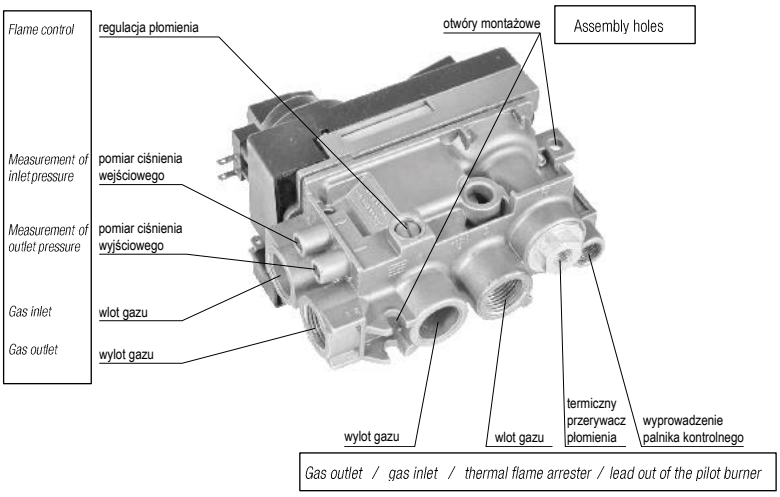
Picture 22. Connection diagram of the GV60 controlled valve with the other components of the control system.



Picture 23. Arrangement of control components at the GV60 valve.

NOTE!!!

The ON/OFF switch is an optional equipment and may not be used in the delivered equipment!



Picture 24. Arrangement of connectors at the GV60 valve.

The GV60 valve should be installed vertically or in a position deviated from the verticality to 90 degrees. Do not install it in a position reversed by 180 degrees (upside down).

Unused gas inlets or outlets should be tightly plugged!

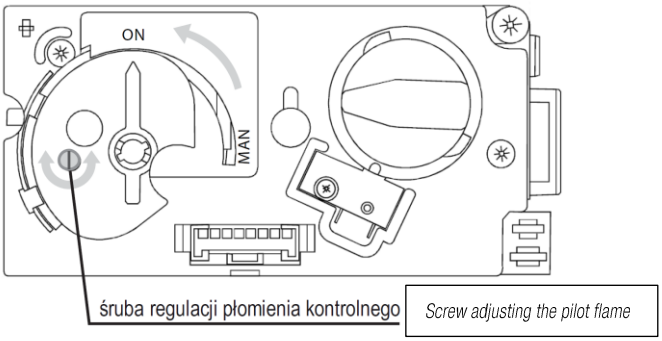
6.6. ADJUSTMENT

The heater is factory-adapted for the given type of fuel according to the customer's order. Also, pressure adjustment for exhaust gas for the pressure regulator is made acc. to the given type of gas. The task of the fitter, after installing the chimney, is to check the settings and make possible corrections to ensure that pressure values for the given type of fuel correspond to table 1 for both rated loads (minimum and maximum).

6.6.1. Adjustment of flame in the control burner

The control flame is factory-set to the maximum height. To decrease it:

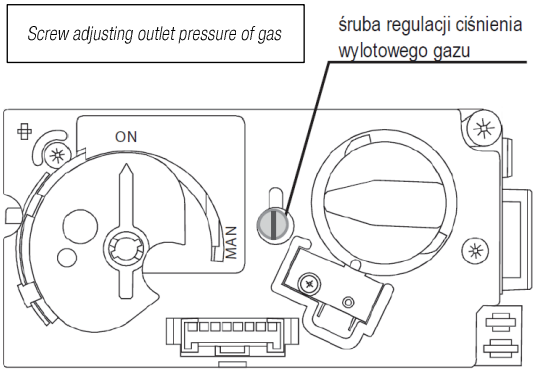
- Set the manual mode knob to ON
- Pierce the membrane-protecting alignment screw with a screwdriver
- Decrease the flame by turning the screw clockwise



Picture 25. Location of screw for adjustment of flame height in the control burner.

6.6.2. Adjustment of gas exhaust pressure

- Remove the blanking plug from the exhaust pressure measurement opening in the GV60 valve.
- Connect the pressure gauge to the measuring point.
- Set the main valve knob to ON.
- Remove the plastic cap from the screw of the pressure regulator.
- Adjust the pressure of the primary burner by turning the screw; clockwise rotation increases the pressure.
- When the adjustment has been completed you should protect the following fixtures with blanking plugs: pressure control screw and, after removal of the pressure gauge, the opening for measurement of exhaust pressure.



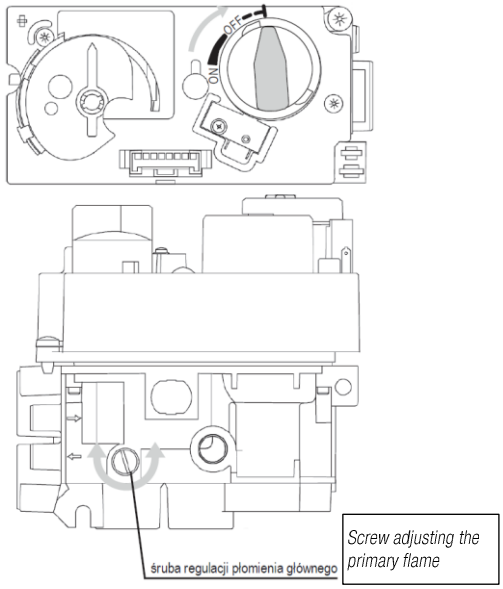
Picture 26. Location of adjustment screw for gas exhaust pressure.

If there are no effects of adjustment - check exhaust pressure by connecting the pressure gauge to the measuring opening intended for this pressure. Depending on the measurement you should:

- If the inlet pressure has the correct value - probably the valve is damaged and it should be replaced.
- If the inlet pressure is too low - you should restore the correct pressure by taking the appropriate measures (check the system, and contact the gas supplier).

6.6.3. Adjustment of minimum height of flame of the primary burner

- Set the main valve knob to OFF.
- Turn the knob clockwise until the valve is open.
- Reduce the minimum height of the flame of the main burner to the required value by turning the adjusting screw to the right. Factory set, a minimum height of flame of the main burner is set to maximum value.



Picture 27. Position of the knob of the main valve and location of screw for adjustment of the main flame.

6.6.4. Final operations

After connection and making the necessary adjustments you should:

- Check the tightness of executed gas connections using a special detector and, if there are any leaks, shut off the gas supply and make these connections once again.
- Connect the power supply of the receiver by inserting four AA batteries.

6.7. TIGHTNESS CONTROL OF THE BALANCED FLUE SYSTEM

After installation of the balanced flue system and when the heater is ready for operation you should start the equipment at maximum heat load. Perform measurement of CO_2 in the combustion air supply line using a flue gas analyser. If there is no indication of carbon dioxide presence in the combustion air it means that concentric coaxial pipes are correctly installed.

6.8. FLUE GAS FLOW DAMPER ADJUSTMENT

- After installation of the concentric coaxial system (acc. to allowed configuration for lines leading) set the flue gas flow damper in half of the opening position.
- Close the window panel and set the maximum load of the heater.
- Measure oxygen content after 5 minutes.
- If the oxygen content deviates from this given in the table then you should close the gas supply to the main burner leaving the flame of the control burner.
- If the oxygen content is higher than this given in the table you should close the opening of the flue gas flow damper; if it is lower - increase the opening of the flue gas flow damper.
- Restore the flame of the main burner to maximum value and measure the content of oxygen in the flue gas.
- If the absolute value between the measured content of oxygen in flue gas and the value given in the table does not exceed 0.3% then it may be assumed that the flow damper setting is correct.
- Tighten the screw to lock the flue gas flow damper position.

Model:	Gas type			
	G20	G27	G31	G30
	O_2 %	O_2 %	O_2 %	O_2 %
VITAL 37	9.1	9.4	12.8	13.8
VITAL 51	12.9	11.9	12.8	13.2

6.9. CONVERSION TO THE OTHER GAS

Adjustment and conversion to the other gas can be performed only by the Authorized Service of the manufacturer.

The rating plate with heater data for the currently used gas should be always placed on the heater!

If other gas should be used to supply the heater then it is required to perform conversion. This operation can be performed only by the authorized service of the manufacturer. The following conversions are possible:

- Heaters adapted for G20 gas can be converted to G27
- Heaters adapted for G31 can be converted to G30.

The conversion is based on the following operations:

- Replacement of the nozzle of the primary burner with the one suitable for the used gas,
- Screw the bolt into the burner injector,
- Perform adjustment acc. to the instruction in 6.8 choosing data from table for the required type of gas and model of heater.

After conversion, it is required to stick one of the delivered rating plates containing information on the current type of gas.

6.10. INSTALLATION OF THE HEATER

Room heater should be installed in compliance with the requirements of the currently applicable standards and legal regulations and detailed regulations of the country of destination. 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 their location. (Journal of Laws no. 75 of 2002 item 690 as amended).

If the DEFRO HOME VITAL heater is installed in rooms, where particularly exposed people (such as children, physically disabled or people requiring special attention) may have contact with it, then it is required to use additional protections. The protections are intended to prevent contact of exposed people with operating and hot equipment.

The fireplace system should be made of non-combustible materials and its design should allow the disassembly of the housing and heater without any damage.

Installation of the room heater should obey the following safety rules:

- minimum distance of 80 mm from the side and rear of the non-flammable materials,
- minimum distance of 400 mm from the side and rear of the medium inflammable materials,
- minimum distance of 800 mm from the front wall, where the medium inflammable materials cannot be located,
- objects made of highly inflammable materials should be located at a 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 the case of contact with a wooden wall or wall made of other inflammable material, it is appropriate to insulate the flue gas discharge pipe.

In the case of a 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.

All surfaces of the equipment are working surfaces!

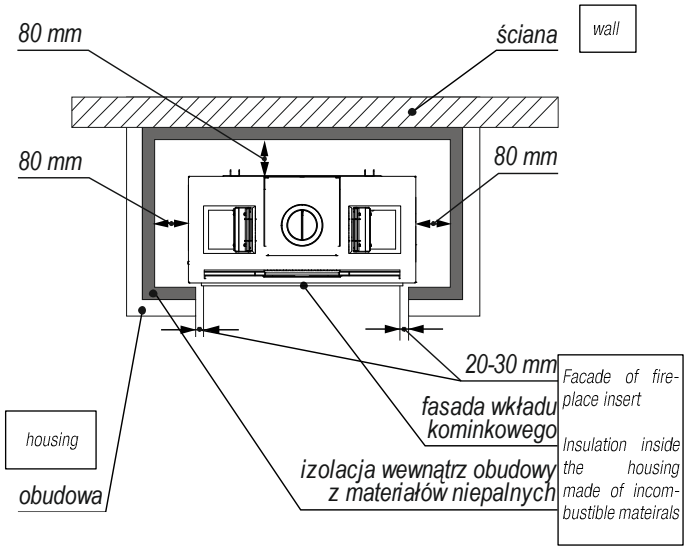
The room heater should be located on a substrate with suitable load-bearing capacity. In accordance with Polish Standards, each square meter of the floor slab in a single-family building should transfer a load of 150 kg. If this condition is fulfilled, the heating stove manufactured by DEFRO can be installed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

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

The system, where the gas-fired room heater is installed, should be equipped with air supply and exhaust grilles of corresponding surfaces. They are intended to ensure heat transfer between the fireplace and the room. The supply grille should be located in the bottom part of the system to ensure the supply of cold air from the room. The exhaust grille should be located in the hood. For DEFRO HOME VITAL the size of the supply grille should be lower than 700 cm^2 and 900 cm^2 for the exhaust grille.

The room, where the DEFRO HOME VITAL room heater has been installed, should be also equipped with a supply/return grille to ensure exhaust of gas in the case of leaks in the gas piping system. In the system, the exhaust grille should be located in a place depending on the fuel used in the fireplace.

- For natural gas (NG) the grille should be located under the ceiling.
- For propane-butane (LPG) the grille should be located near the floor, above the ground level.



Picture 28. Minimum distance that should be kept during installation of the heater.

ATTENTION!!!

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

6.11. FIRST START-UP

Perform a leak-tightness test of gas connections to the gas unit and from the gas unit to the gas nozzle during the operation of the equipment before first start-up.

The first start-up should be performed by the fitter after checking the correctness of the installation.

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 the equipment has been cooled down.

During the removal of the window panel, the gasket of the window panel may be glued with the equipment body at the first stages of operation. Loosen bottom screws in such a case (with sleeves as a spacing element). It is not a fault of the product, but a reaction of temperature to soaking of paint and gasket.

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

Frequent venting of the room, where the heater has been installed, remove unpleasant odour emitted at the beginning of the operation and allows avoiding staining of walls and ceiling by lifted dust.

7. OPERATION

The operation of the gas fireplace is controlled via the remote control. Equipment can be also controlled in full manual mode.

7.1. SAFETY RULES

During use of the gas-fired heater DEFRO HOME VITAL you should remember the following safety rules.

1. *It is forbidden to start the device without a window panel installed.*
2. *If the window panel is cracked or damaged the equipment should be shutdown and the panel should be immediately replaced.*
3. *Do not place flammable items near the equipment (furniture, cloths, etc.)*
4. *Do not touch the hot parts of the fireplace (in particular - the window panel) during operation.*
5. *Do not place the flammable materials in the fireplace chamber.*
6. *Do not leave children, physically disabled people or persons unaware of danger unattended near the operating equipment.*
7. *Do not start the equipment if the gas escapes.*
8. *If the fireplace operates incorrectly it is required to shut off the gas supply and contact the authorized service.*
9. *It is forbidden to lay decorative items on the opposite side of the control burner.*
10. *If the control flame goes out you can retry firing after 5 minutes.*

7.2. PREPARATION

The user controls the operation of the DEFRO HOME VITAL heater via the B6R-H8TV4PBD remote control equipped with 8 buttons. To allow controlling the fireplace with a remote control it is required to prepare it for operation:

Open the gas shut-off valve to the fireplace in the control cabinet.
If the system is equipped with a cable with a changeover switch then it should be set in switched-on position which will result in the switching of the knob of the main valve.
Set the manual control knob to “ON”.
Make sure that four (4) AA batteries have been correctly installed in the receiver.

Remote control operating at the 868 MHz band also requires preparation. You should enter the transmission code:

Insert two AAA 1.5V batteries into the remote control.
Press and hold the RESET button using a thin metal item until you hear two distinctive sounds.
Press and hold the button on the remote control until confirmation with two audible signals.
If one, long signal will be emitted during synchronisation, then you should repeat operations, because the connection, using code, between the devices has not been established.

7.3. INFORMATION

Simultaneous pressing of ⏳ and ⏷ buttons on the remote control results displays information on the current version of the software. Information on the remote control model used can be obtained by pressing the buttons ⏳ and ⏷.

7.4. DEACTIVATION OF REMOTE CONTROL FUNCTION

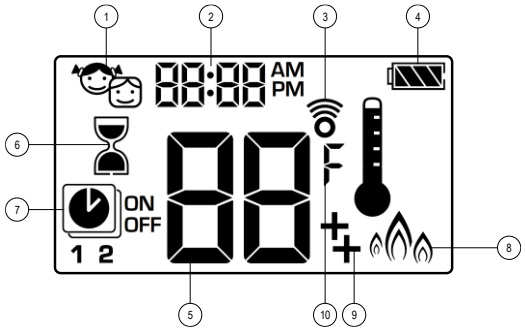
1. Insert batteries. All icons on the display will be flashing.
2. When icons are flashing, press the button corresponding to the function and press it for 10 seconds.
3. When the icon stops flashing deactivation has been finished. The function icon will be displayed with two horizontal lines.

7.5. ACTIVATION OF REMOTE CONTROL FUNCTION

1. Insert batteries. All icons on the display will be flashing.
2. When icons are flashing, press the button corresponding to the function and press it for 10 seconds.
3. When the icon stops flashing activation has been finished. The function icon will be displayed as normal (without two vertical lines).

7.6. CONTROL OF THE FIREPLACE WITH A REMOTE CONTROL

DEFRO HOME VITAL heater is controlled via the 8-button remote control. The picture presents the remote control screen with a description of icons and symbols.



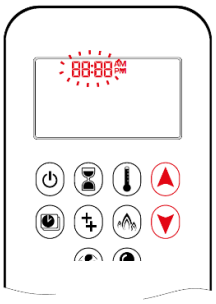
Picture 29. Remote control display screen.

1 - parental lock, 2 - time, 3 - signal indicator, 4 - battery condition, 5 - temperature, 6 - timer, 7 - programme mode, 8 - economy mode, 9 - additional functions, 10 - temperature unit.

7.6.1. Setting temperature units

Press both buttons at the same time: . This will change the temperature units from ºC to ºF or from ºF to ºC.

7.6.2. Time settings



- Press both buttons at the same time: .
- Using or button select the number for the given day, e.g. 1 - Monday, 2 - Tuesday etc.).
- Confirm the day by simultaneously pressing two buttons as in item 1. The hour field will start flashing.
- Select the current hour using buttons .
- Confirm the selected hour by simultaneously pressing both buttons. The minutes' field will start flashing.
- Set the current minute using buttons. Confirm settings with simultaneous pressing of both buttons or wait for a while.

7.7. PARENTAL LOCK

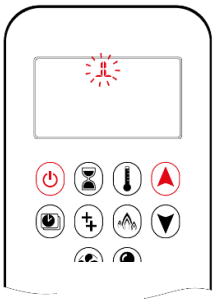
In parental lock mode only switch off button is active.

Press both red buttons simultaneously to activate the lock. A lock icon will be displayed .
The lock is switched off by simultaneous pressing of both buttons: and .

7.7.1. Firing up in manual mode

Before manual ignition of the fireplace initiated from the remote control please make sure that:

- The MANUAL knob on the GV60 valve is in ON position (full rotation - counterclockwise).
- If the ON/OFF switch is part of the equipment it should be set to I (ON) position.



- Press and hold the button (firing with one button) on the remote control or two buttons and at the same time

(firing up with two buttons) until two short audible signals will be heard and an icon confirming the ignition will be flashing on the display. Release the buttons.

- The gas will flow to the primary burner after confirmation of ignition.
- Remote control automatically switches to manual control mode.

7.7.2. Standby mode

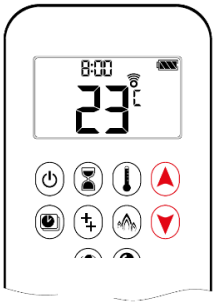
The equipment goes to standby mode after pressing and holding the ▼ button, which results in damping of the primary burner and maintaining the flame only in the control burner.

7.7.3. Fireplace shutdown

- Press button ⏻ to switch off the heater, what will be confirmed by displaying the OFF text on the remote control display.

Attention! Next firing up is possible when OFF stops flashing.

7.7.4. Adjustment of flame height



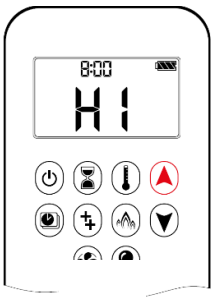
- Press and hold ▲ button to increase flame height.
- Press and hold ▼ button to decrease flame height.

7.7.5. Adjustment of limit heights for the flame

Remote control allows setting the maximum or minimum height of the flame.

Attention! Switch to minimum flame is preceded by its instantaneous increase.

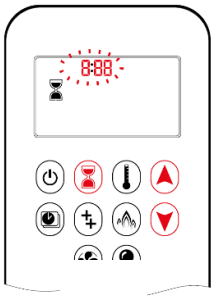
- Double click ▼ button to decrease the flame to a minimum height. Confirmation of executed operation is LO text displayed on the screen.



- An increase to maximum flame height takes place after double click of ▲ button, which is confirmed with HI message.

7.7.6. Timer

Timer operates in Manual, Thermostatic and Eco(nomy) mode. The flame in the fireplace is damped after the set time has elapsed. Maximum countdown time until damping is 9 hours and 50 minutes.



Timer switch on

- Press and hold ⏳ button until icon ⏳ will appear on the screen, and the hour field of the counter starts flashing.
- Use ▲▼ buttons to set hours of fireplace operation. Confirm the setting with ⏳ button. The minute field will start flashing.
- Set additional minutes using ▲ ▼ buttons. Confirm with ⏳ button.

Timer switch off

Press ⏳ button, icon ⏳ and counter will disappear from the remote control screen and counting will be cancelled.

7.7.7. Operating modes

The heater may operate in one of three modes (buttons activating the given mode are red in the pictures):

- Thermostatic mode is based on the measurement of room temperature where the heater is located and control of flame height so as to maintain the temperature set in the controller.

- Programmed mode is one of two programs set, which specify when the heater should operate and what temperature should be maintained.

- Eco mode controls the fireplace so as to maintain the set temperature but in a more economic way. The controller forces the maximum height of the flame if the temperature is too low. If the temperature is too high then the minimum flame will be set. One cycle lasts approx. 20 minutes.

7.7.8. Thermostatic mode

In thermostatic mode ambient temperature is compared with a thermostat temperature and the fireplace power is modulated correspondingly to the difference of both temperatures. Ambient temperature is measured by a sensor installed in the remote control, therefore it should not be subjected to additional heat e.g. by exposing it to direct sunlight. If the temperature of the remote control exceeds the ambient temperature then measuring errors will cause cold spots in the room.

Attention!!!

Do not store the remote control near the fireplace or in a place exposed to sunlight.

- Switch the mode on with button. The thermometer icon will be displayed on the screen. The set temperature will be displayed next to this icon for a while and then room temperature will be shown.
- Press and hold the button with the thermometer until the thermometer icon starts flashing.
- Set the temperature using buttons.
- Confirm the temperature using the button with the thermometer.
- The mode is switched off after you:
  - Press the button.
  - Press the buttons.
  - Press the buttons causing the switch to the other modes or .

7.7.9. Program mode

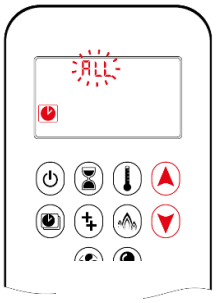
The program mode allows setting fireplace operating times for each day of the week. The heater switches on during operation when the ambient temperature is lower than the set switch on temperature and it switches off after reaching the switch off temperature.

Switch on temperature is the same temperature, which has been set in the thermostatic mode. So, only switch off temperature and operation times are configured after the selection of the program mode.

Default values of temperatures:

- Switch on temperature 21°C,
- Switch off temperature: "--" (only control flame).

- Switch on the mode using button, the following icons will be shown on the display:
- Temperature configuration:
  - Press and hold until the flashing icon will be displayed. **ON** message and switch on temperature will be displayed (temperature set in thermostatic mode),
  - To set the switch off temperature you should press or wait a while . **OFF** message will be displayed and the temperature will flash.
  - Select the required temperature with buttons.
  - Confirm with button.



Configuration of operation times:

- The **ALL** message should flash on the display after confirmation of switch off temperature.

- Pressing the selection keys ▲ ▼ you can switch between the days of the week:
  - ALL - one setting for all days
  - SA:SU separate setting for Saturday and Sunday
  - 1, 2, 3, 4, 5, 6, 7 – separate settings for each day of the week (Daily Timer).

Confirm the selection with a key ●. The system waits for configuration of switch on time in the next step.

ALL mode

- Configuration of program switch on time no. 1:
- Icon 🕐 and symbols 1, ON will be displayed, message ALL will be shown for a while and hours field will flash.
- Select switch on hour using the buttons
- Confirm the hour with ●. ALL will be displayed once again for a wile and the minutes field will be flashing.
- Select minutes using ▲ ▼ buttons.
- Confirm the setting once again with ● button. The system will go to the configuration of switch off time.
- Switch off time configuration:
  - The display will show, except the 🕐 icon, 1, OFF, shortly displayed ALL text and flashing hours field.
  - Select the hour with the selection buttons.
  - Confirm with ● button. ALL will be displayed once again for a wile and the minutes field will be flashing.
  - Set the minutes using ▲ ▼ buttons.
  - Confirm with ● button. The system will go to configuration of program no. 2 in the same way as for no. 1.
- If you do not want to configure program no. 2 - stop entering the times and program no. 2 will remain inactive.

SA:SU or Daily Timer mode

- Switch on and switch off times are set in the same way as in ALL mode
- For SA:SU mode you set one switch on and switch off time for both days at the same time.
- In the Daily Timer mode the unique switch on and switch off times can be set for one, selected day, several days or for each day of the week.

Notes!!!

Program no. 1 and no. 2 use the same setting of switch on and switch off temperature setting for each mode. Change of both temperatures in thermostatic mode results in setting these both values are new default values and they become switch on and switch off temperatures for the programmed mode.

Configuration of the switch on and switch off times for Programs no. 1 and no. 2 causes that they will become new default values. Restoring the factory settings for both programmes takes place after resetting the remote control by taking the batteries out.

7.7.10. Eco mode

- Press ♨ button to switch on Eco mode, icon ♨ will be shown on the display.
- Press ♨ button once again to switch off the Eco mode.

7.7.11. Behavior of fireplace when there is no signal from the remote control

The flame will be automatically reduced to a minimum level if there is no command from the remote control within six (6) hours. The control system will shutdown the equipment and shut off the gas supply if the fireplaces operates continuously without supervision for five (5) successive days.

7.8. POWER SUPPLY AND BATTERY REPLACEMENT

If you hear the signal indicating that the batteries are discharged, it is required to replace them or remove the worn out pieces if you plan to decommission the heater.

Do not leave discharged batteries in the remote control or receiver because it may lead to the destruction of both devices if their contents flow out.

Do not use accumulators to supply the receiver!

Use only the appropriate type of batteries for the receiver and remote control

Batteries used to supply the remote control and system of the receiver are discharged during operation. Both devices inform about the discharge of the batteries. The remote control is equipped with a battery condition indication icon. The receiver indicates that the battery level is low with three (3) audio signals. If the user does not replace the battery before they are completely discharged, then the receiver will cut off the gas supply to the fireplace.

The receiver can be connected to the power supply unit operating at 4.5V connected to the AC network. It is forbidden to use the batteries if the power supply unit is in operation. Remove them from the chamber in the receiver!

7.8.1. Battery replacement in the remote control

- Reverse the remote control and remove the cover.
- Remove discharged batteries.
- Insert AAA batteries acc. to the designation available in the battery compartment.
- Install cover.

7.8.2. Battery replacement in the receiver

- Remove cover from the receiver.
- Remove discharged batteries.
- Insert AA batteries into the recess acc. to the designations.
- Install cover.

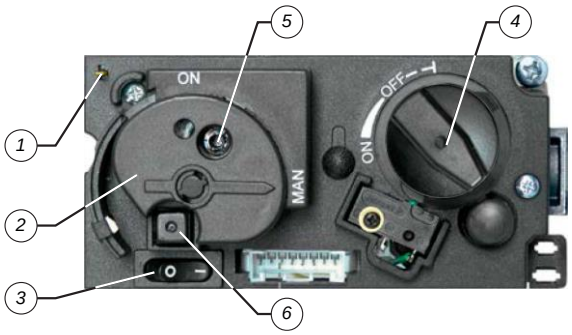
7.9. MANUAL CONTROL OF FIREPLACE

The gas-fired heater can be operated also without a remote control in manual control mode. All operations are then performed directly from the GV60 valve level located inside the cabinet. Control components used during manual control are presented in picture 30.

To perform manual firing up of the fireplace you should disconnect the cable of the spark igniter from the receiver module and connect it directly to the GV60 valve, to contact of piezoelectric igniter (*1* on picture 14).

7.9.1. Firing up

- Open the gas supply valve.
- If the ON/OFF switch is installed (3 on picture 30) then set it to ON position (press symbol I)
- Turn the control knob of the main burner clockwise to the max. position (4 on picture 30)
- Set the manual control knob to MAN (2 in picture 30).
- This position uncovers the metal button (5 in picture 30) in the bigger opening of the knob, which should be pressed and held to supply gas to the control burner.
- Press the square button of the piezoelectric spark igniter (6 on picture 30) several times while still pressing the metal button until the control burner ignites.
- Press the metal button for another 10 seconds until the control flame appears.
- If the control flame goes out before the next manual ignition attempt, the process can be repeated after 5 minutes of wait.
- Set the control knob to ON (2 in picture 30Picture). The primary burner should ignite if the primary burner knob is not set to OFF.
- Set flame size using the control knob of the primary burner (4 in picture 30)



Picture 30. Arrangement of controls required for manual control of fireplace.

7.9.2. Damping a flame of the primary burner

- Turn the control knob of the primary burner (4 on picture Picture) to the right until a distinctive click will be heard. The primary burner should go out and the control burner should be burning still.

7.9.3. Fireplace shutdown

- Set the ON/OFF switch (3 on picture Picture) to OFF (O). The control burner should go out.

If the heater is shutdown for a longer time, then it is required to cut off the air supply using a valve located on the control cabinet.

7.9.4. Error codes

Code		Possible causes
F02 Contact service centre	➔ 5-second audible signal from the receiver ➔ Flame does not respond to remote control, no ignition.	➔ No contact of the microswitch with a cam on drive knob. ➔ Incorrect connections of drive cables. ➔ Reversed polarity or fault of the microswitch. ➔ Bent knob of the motor.
F03 Contact service centre	➔ 5-second audible signal from the receiver ➔ Firing up interrupted. ➔ Flame does not respond to remote control, no ignition.	➔ Incorrect connections of thermocouple cables. ➔ Thermocouple is not connected to the controller. ➔ ON/OFF switch in "O" (OFF) position.
F04 Disturbed firing up sequence. Wait a minute and retry.	➔ No ignition flame for 30 seconds.	➔ No supply gas. ➔ Air in the supply pipe of the ignition burner. ➔ No spark. ➔ Reversed polarity in thermocouple cables. ➔ Check if the opening of ignition burner corresponds to the type of supply gas.
F05 Contact service centre	➔ Failed ignition of ignition burner or its shutdown. ➔ Drive (knobs of primary valve) remains in operating position of the ignition burner	➔ Too low voltage from thermocouple ➔ Presence of air in the supply pipe of the ignition burner. ➔ Too low pressure on inlet. ➔ Damaged or incorrect thermocouple
F06 Contact service centre	➔ Three (3) failed firing up attempts within 5 minutes ➔ The flame does not respond to the settings, no flame in the ignition burner.	➔ No supply gas. ➔ Presence of air in the supply pipe of the ignition burner. ➔ No spark. ➔ Reversed polarity of thermocouple cables. ➔ Check if the opening of ignition burner corresponds to the type of gas.

F07 Replace batteries in the remote control	➔ Flashing battery icon on the remote control screen.	➔ Low voltage of batteries in the remote control.
F08 Contact service centre	➔ Low voltage of batteries supplying the receiver. ➔ Short audible signals within three (3) seconds during operation of the valve drive.	➔ Too low voltage of batteries in the receiver.
F10 Contact service centre	➔ Failed ignition of the primary burner and shut-down of ignition burner. ➔ Ignition locked for two minutes	➔ Second thermocouple in incorrect position ➔ Incorrect connection of cables of the second thermocouple. ➔ Decorative items installed incorrectly. ➔ Clogged openings of the primary burner.
F12 Contact service centre	➔ Valve drive in ignition burner position.	➔ Temperature of battery-operated receiver exceeded 60 °C. ➔ Check air circulation and temperature of housing.
F13 Contact service centre	➔ Valve drive in ignition burner position. ➔ Fan operates on level 4 for 10 minutes (temperature over 80 °C)	➔ Temperature of receiver exceeded 80 °C. ➔ Check air circulation and temperature of housing.
F14 Contact service centre	➔ Audible signal from receiver lasting 5 seconds. ➔ Flame does not respond to change of settings, no ignition.	➔ Receiver software does not support second thermocouple. ➔ Incorrect or damaged receiver.
F15 Contact service centre	➔ Audible signal from receiver lasting 5 seconds. ➔ Flame does not respond to change of settings, no ignition.	➔ Incorrectly connected second thermocouple. ➔ Second thermocouple not connected.
F16 Remote control outside the range	➔ No temperature indication on the remote control screen or in the app.	➔ Remote control located too far away from the receiver for more than 1.5 h. ➔ Interface error.
F17 Contact service centre	➔ Flame does not respond to changes, no ignition.	➔ Input voltage exceeds 7.25 V. ➔ DC rectifier failure.
F18 Contact service centre	➔ Wall-mounted control panel does not work.	➔ Panel locked ➔ Short-circuit in cable or button.
F19 Contact service centre	➔ Ignition burner goes out when primary valve is opened.	➔ Too low voltages from thermocouple. ➔ Thermocouple failure ➔ Too low gas pressure on inlet. ➔ Too high distance of thermocouple from a flame ➔ Accumulation of carbon on thermocouple. ➔ Control failure ➔ Additional resistance in thermocouple circuit.
F26 Contact service centre	➔ Impossible increase of flame height after ignition. ➔ Fan operates on level 4 for 10 minutes (T > 80 °C)	➔ Battery-operated receiver reached temperature over 60 °C ➔ Network-supplied receiver reached temperature over 80 °C
F27 Contact service centre	➔ Flame does not respond to change of settings. ➔ No flame control from controller level.	➔ No connection of receiver with WiFi network or remote control.
F28	➔ Remote control shutdowns after predefined time.	➔ Remote control shutdowns if the drive of the primary valve has not been activated after predefined time.
F31 Contact service centre	➔ Flame does not respond to change of settings. ➔ No flame control from controller level.	➔ Failure of receiver or WiFi module. ➔ Damage of cable connecting the receiver with WiFi module.
F41 Check WiFi	➔ Flame does not respond to change of settings. ➔ No flame control from controller level.	➔ No WiFi connection with WiFi module of the controller. ➔ Switched off WiFi connection on the control device.
F42 Check WiFi	➔ Flame does not respond to change of settings. ➔ No flame control from controller level.	➔ No supply from WiFi router. ➔ No connection of WiFi module with network. ➔ Control device outside the range of the given network, where the heater's controller is operating.
F43 Receiver without connection. Contact service centre.	➔ Flame does not respond to change of settings. ➔ No flame control from controller level.	➔ No communication between the receiver and WiFi module of the controller.

8. DECORATIVE ITEMS

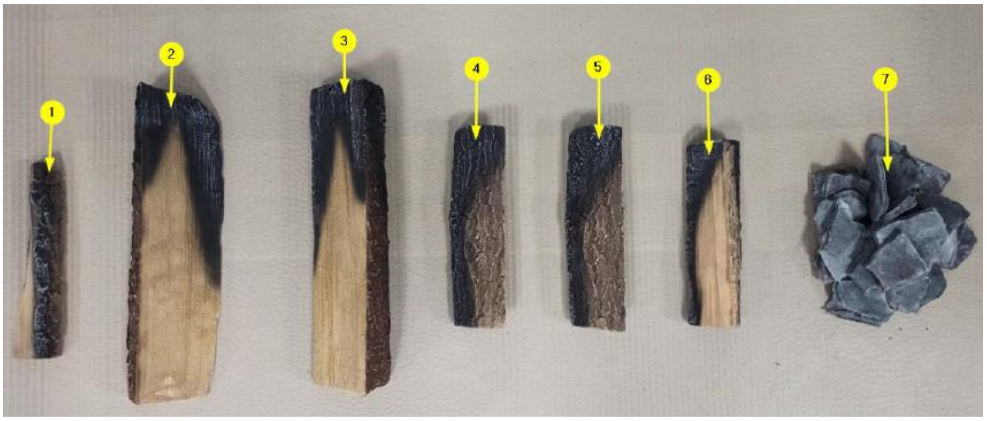
The combustion chamber can be additionally equipped with decoration items supplied by DEFRO. The customer shall be liable for the use of components from the other manufacturers and resulting damages shall not be a base for any claims towards the manufacturer of the DEFRO HOME VITAL heater.

The arrangement of components requires the removal of the front window panel of the heater. Removal instruction is given in 0. Exercise all caution during disassembly to avoid damage to the window panels and heater.

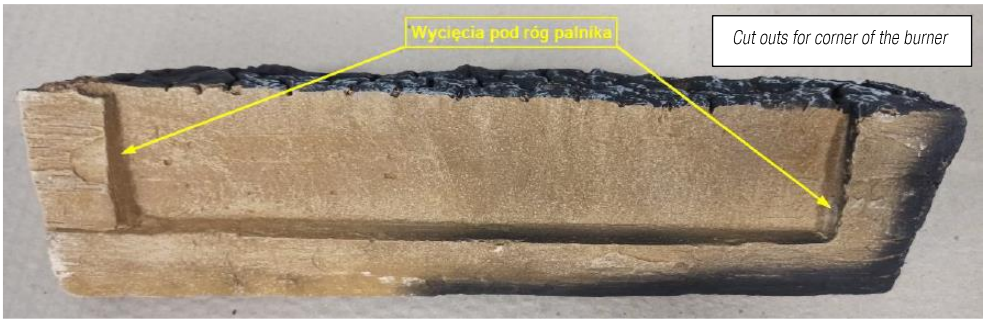
- Arrangements should ensure the free flow of the air around the primary and control burner.
- The components should not touch the window panel.
- Components should not cover the flame of the control burner.
- It is forbidden to cover outlet holes of the primary burner and gaps in the floor of the combustion chamber.
- Decorative items should be made of non-flammable materials.
- Do not put components made of flammable materials inside the combustion chamber!!!
- Exercise all caution during handling of decorative items because they are brittle and can be easily damaged.
- The components should be stable after installation.

8.1. COMPONENTS OF CERAMIC CHUNKS SET

The following pictures present components of ceramic chunks set.



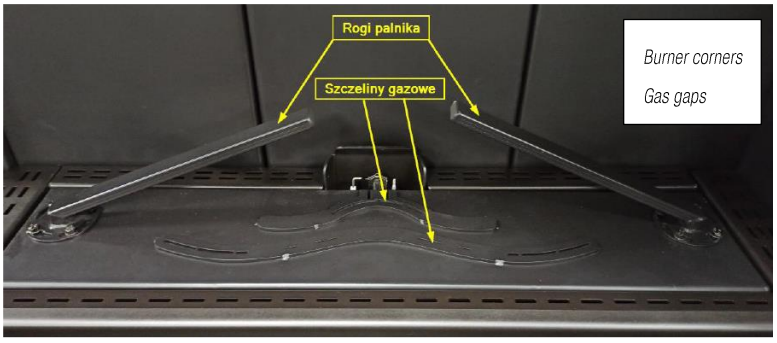
Picture 31. Composition of ceramic chunks set delivered by DEFRO.



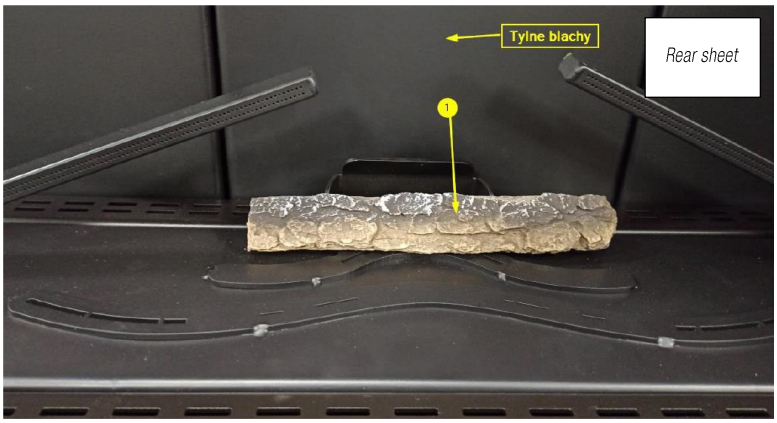
Picture 31. Incisions in items 2 and 3 facilitate laying in corners of the burner.

8.2. ASSEMBLY OF CERAMIC CHUNKS

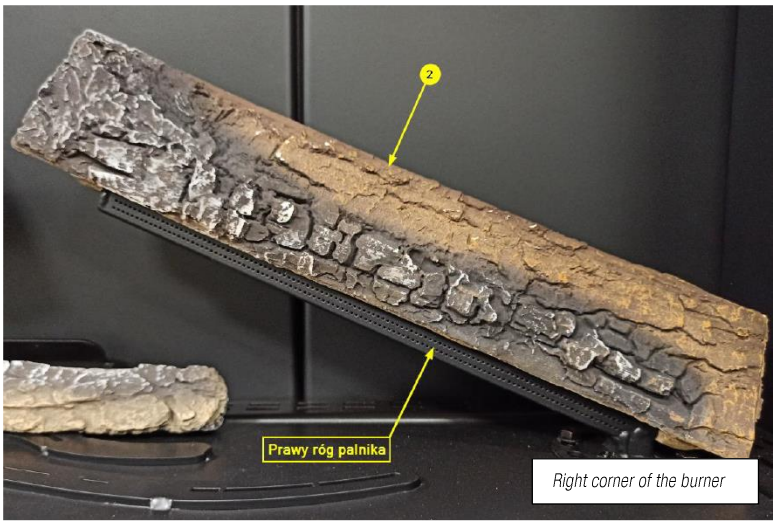
1. View of combustion chamber before installation of chunks.

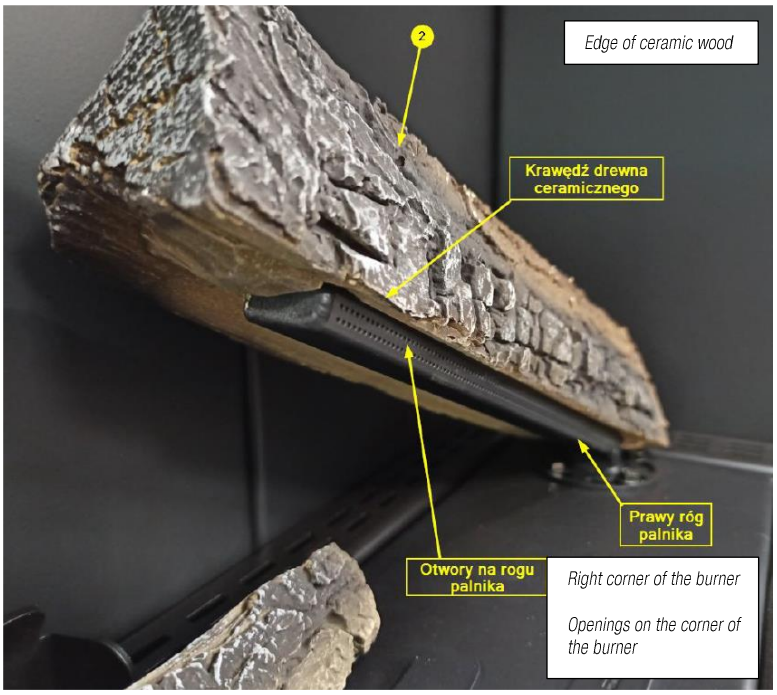


2. Lay item no. 1 as presented in both photos. The component should remain stable at the centre of the ignition burner and parallel to the rear wall. The wider end of the chunk should touch the cover.

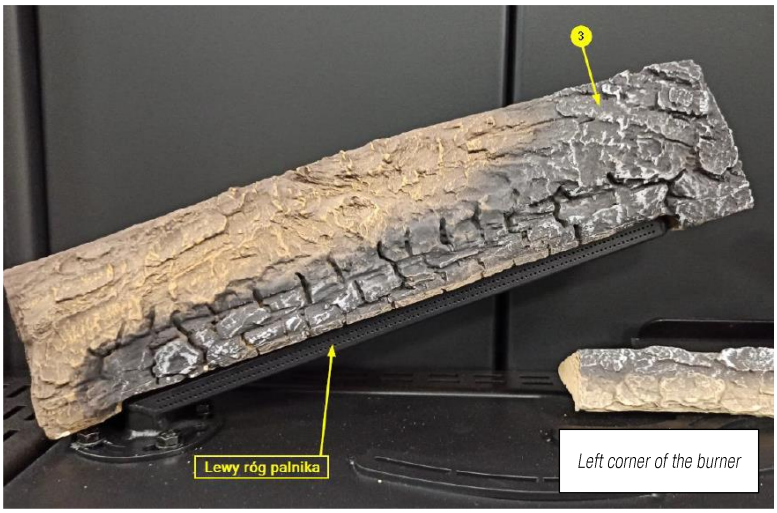


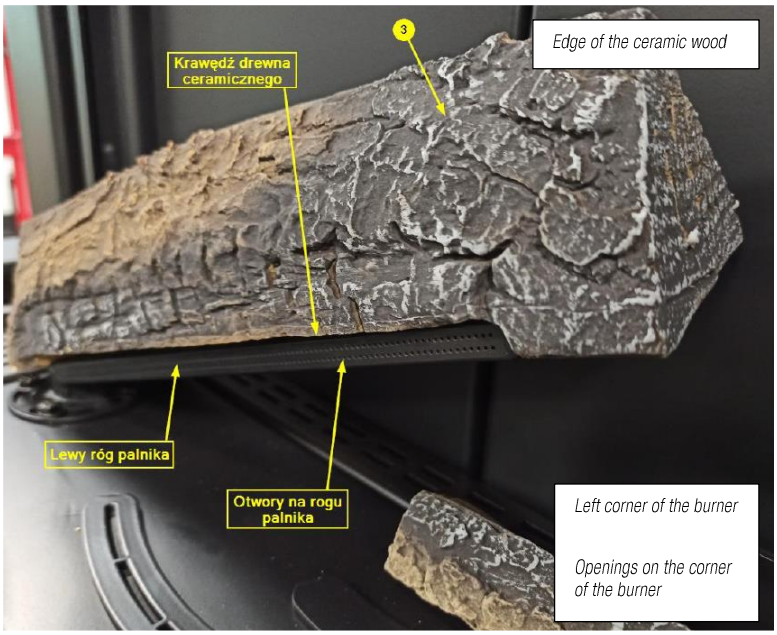
3. Lay item no. 2 in the right corner of the primary burner as presented in both photos. The chunk should be stable due to incisions adapted to the burner. The distance between the holes in the burner and the edge of the chunk should be approx. 5 mm.



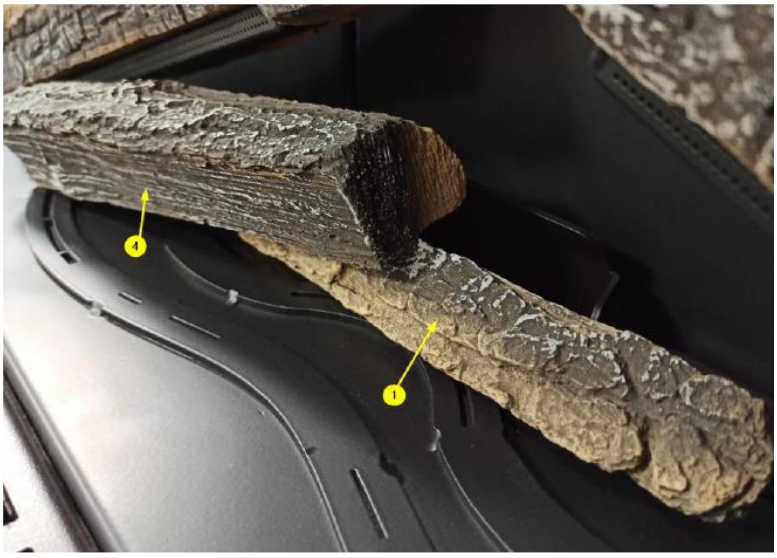


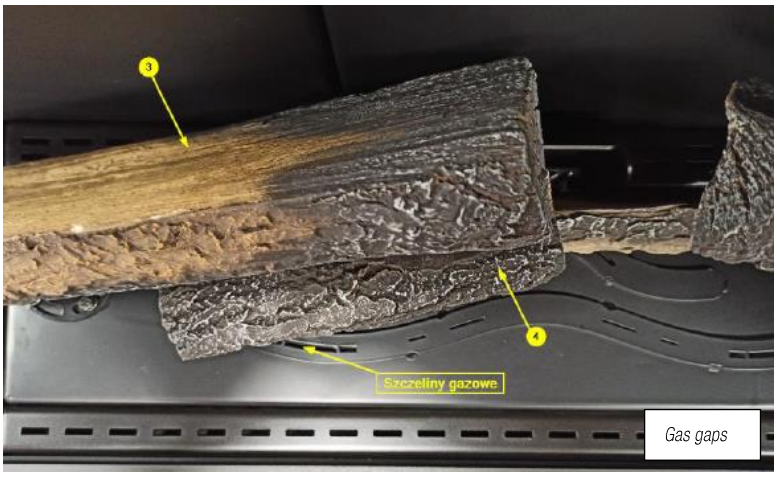
4. Lay item no. 3 in the left corner of the primary burner acc. to the incision and photos. Similarly, as for chunk no. 2, the distance between the holes in the burner and edge of the chunk should be approx. 5 mm.

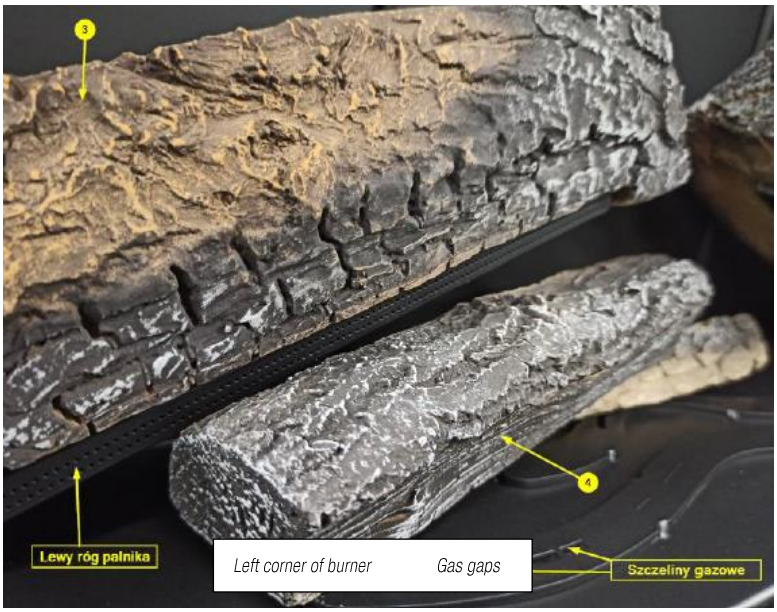


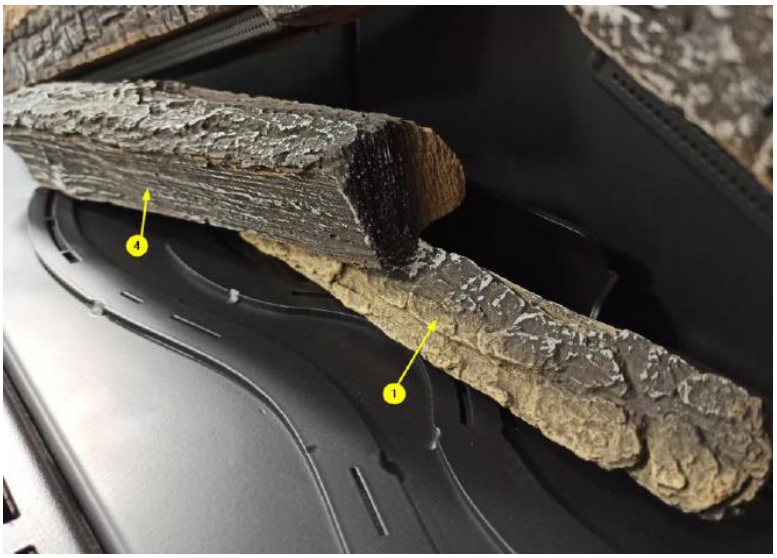


5. Lay chunk no. 4 as presented in the photos. The chunk should not cover burner openings and should be supported in halfway on chunk no. 1.

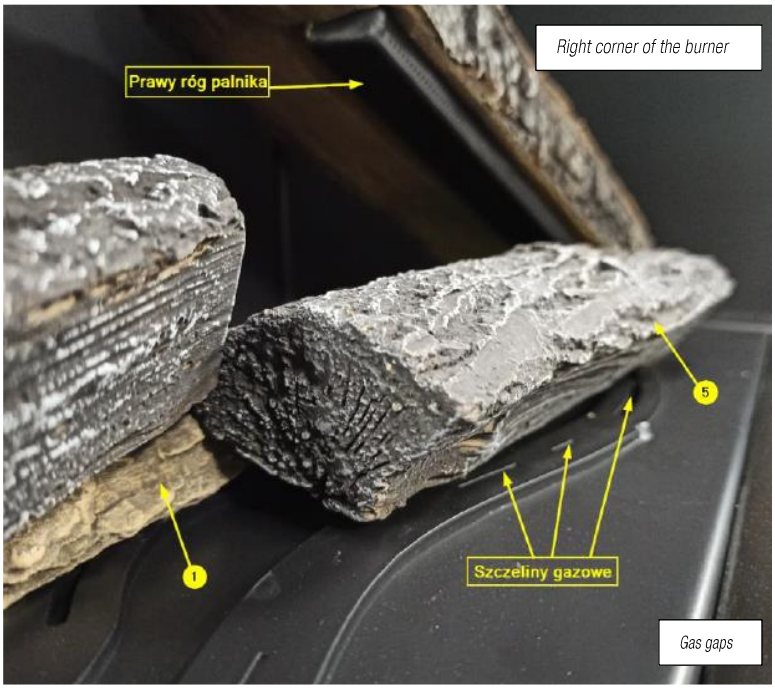


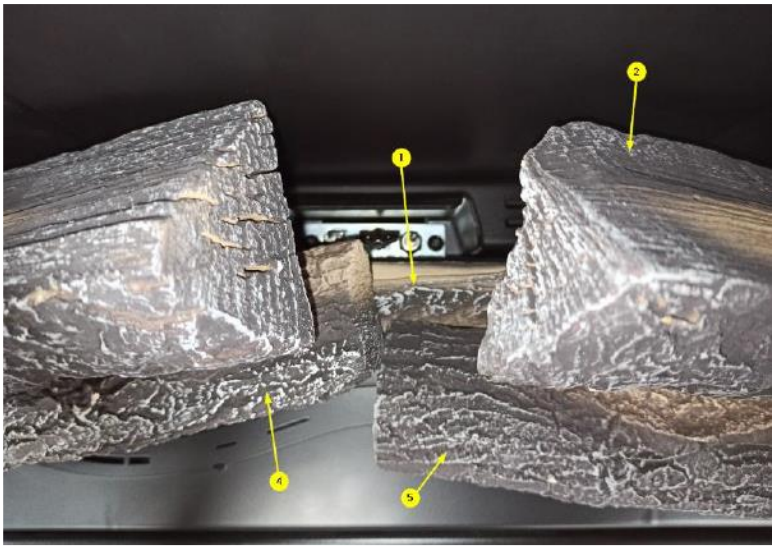

3
4
Szczeliny gazowe
Gas gaps


3
4
Lewy róg palnika
Left corner of burner
Gas gaps
Szczeliny gazowe

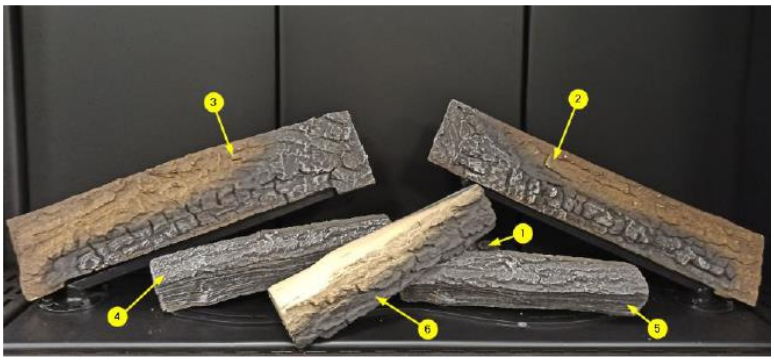

4
1

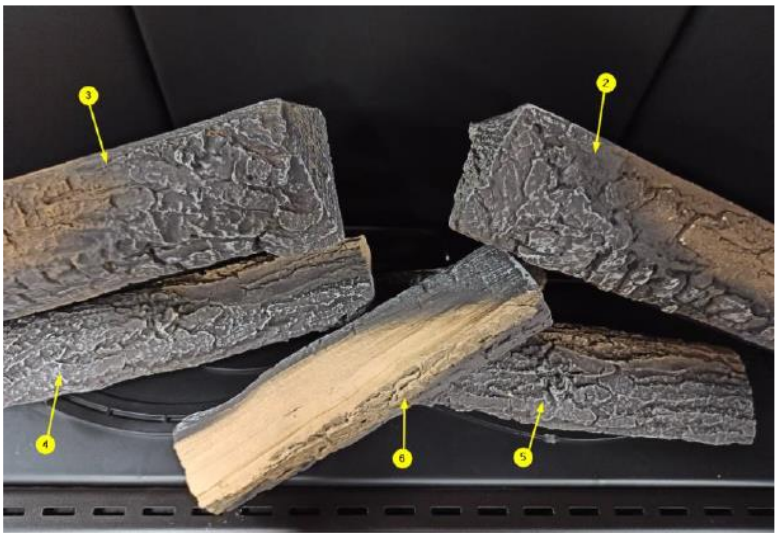
6. Lay item no. 5 as presented in photos. The chunk should be stable and should not cover gas openings in the floor.

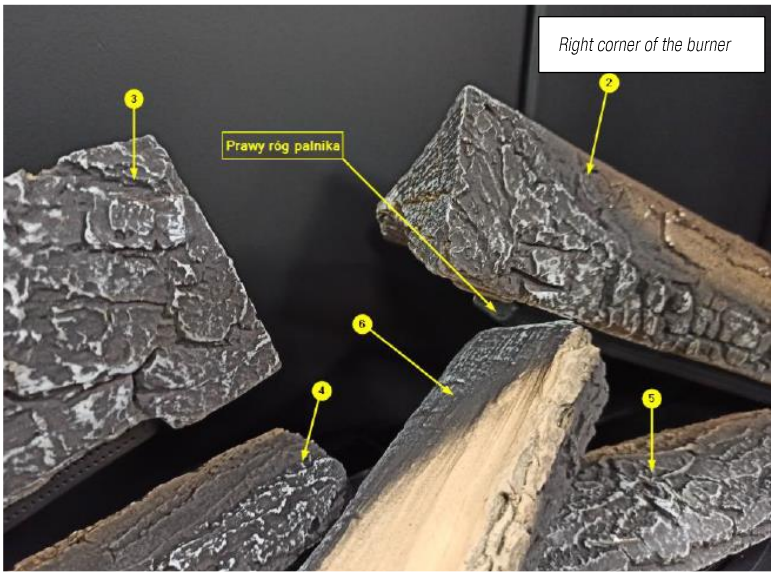


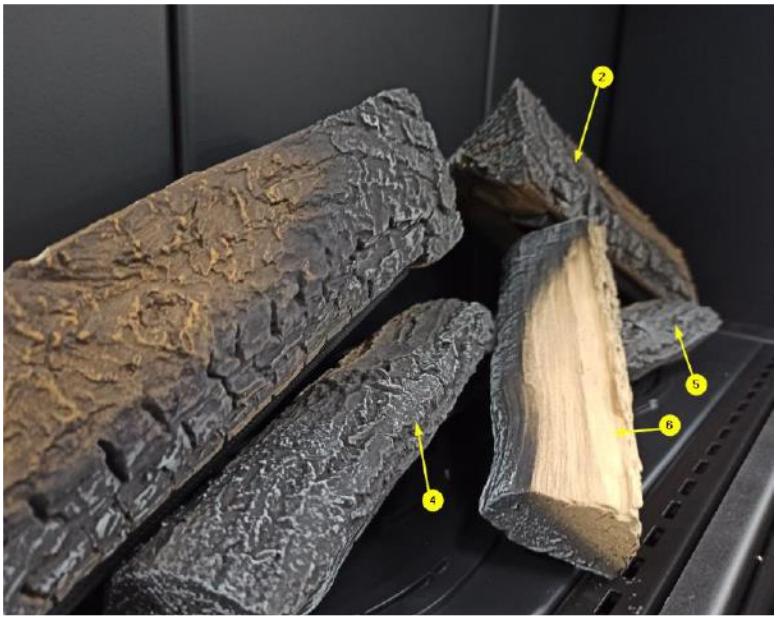


7. Set the chunk no. 6 as the last one; it should be laid on chunk no. 5 and be supported on chunk no. 4 and right corner of the burner.



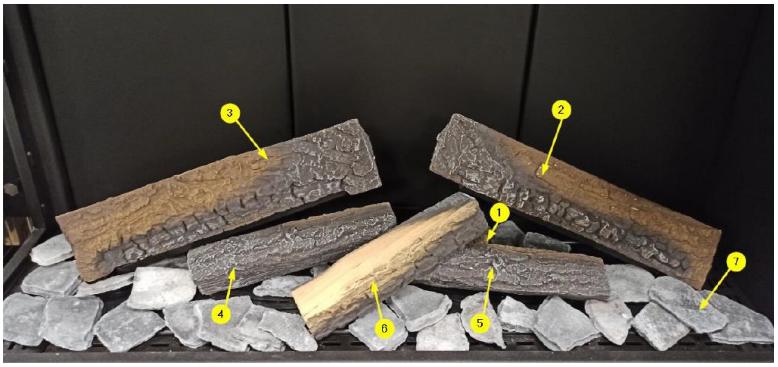






8.3. LAYING OF DECORATION IMITATING THE STONES

Items made of stone should be laid on the floor of the combustion chamber so as to avoid covering gas openings.



9. MAINTENANCE AND SERVICE

To ensure the correct operation of the equipment and that it does not pose any threats it should be cleaned on an ongoing basis and undergo inspections and maintenance by the authorized company or service.

Periodic inspection of the equipment should be carried out only by a qualified manufacturer's service (see 9.3.).

The user should check and clean:

- combustion chamber and furnace,
- window panel,
- decorative items - chunks, stones,
- outlet duct,
- tightness of the gas route.

All maintenance operations should be performed only when the equipment is switched off, does not operate and it is cooled down to room temperature.

All maintenance operations can be performed only when the gas supply is cut off, the heater is switched off and is at room temperature.

9.1. GLASS PANE CLEANING

The majority of dirt can be removed with a dry cloth. You may use also liquid for cleaning of ceramic tiles. Do not touch the window panel with your fingers during cleaning because the fingerprints on the window panel harden as a result of temperature and they cannot be removed!

Do not touch the window panel with your fingers; if you leave fingerprints they may be removed with a cloth.

Do not use abrasive materials and chemicals, not intended for this purpose, for cleaning of the window panel. Their use may damage window panels, for which the manufacturer shall not be liable.

While cleaning the window panels using chemical agents intended for this purpose they should not be used on other surfaces or components (e.g. painted), because they may damage them.

It is forbidden to use the DH sponge, dedicated to the heaters fired with solid fuel, to clean the glass pane and decorative glass pane.

If any deposit will be formed on the internal side of the window panel during the first firing up then it is required to clean it.

Occurrence of discolourations and dirt on black decorative glass (Black Back) is not covered by a warranty because it may be caused by the conditions depending on the assembly, cleaning agents or method of operation.

9.1.1. Method of cleaning of window panels with anti-reflective coating and the BLACK BACK decorative window panels.

<u>During normal operation:</u>

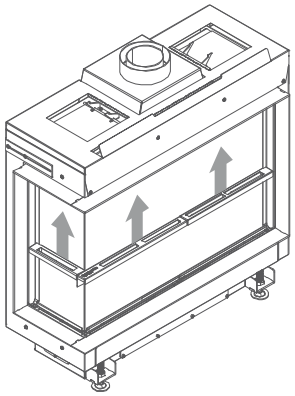
- AR coating is exceptionally sensitive, therefore we recommend cleaning it using a microfibre cloth and water and agent for the cleaning of window panels.
- considering that gas-fired fireplaces do not generate any soot in a classic meaning of the term. The window panel cleaning agent is completely sufficient.
- aggressive agents or sponges may damage the coating, so they can be used only <u>at your own risk</u>.
- because the AR coating is coated on both sides of the window panel: therefore, you should always clean it from both sides to ensure that it is completely clean.

<u>Serious/invasive dirt during assembly (adhesive etc.)</u>

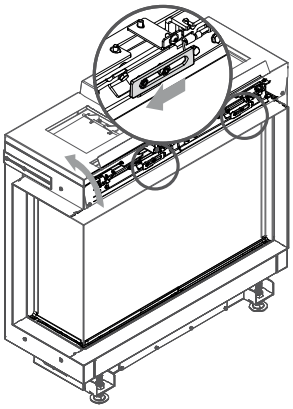
- microfibre cloth and water or window panel cleaning agent remain the best-recommended method of cleaning.
- avoid stubborn stains by ensuring e.g. very careful assembly, covering or shielding of the window panel at exposed locations, proper locating during assembly etc.
- adhesive residues should be immediately removed and very precisely and gently removed.
- observe the window panel during assembly to avoid the occurrence of adhesive stains.

9.2. WINDOW PANEL DISMANTLING

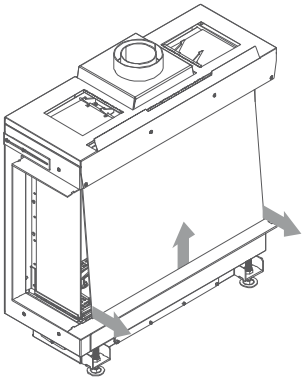
To clean the window panel, combustion chamber or install decorative items, it is required to remove the window panel(s). Below you will find the removal instructions for window panels based on the example of the corner version of the fireplace (with two window panels). In the version with one window panel, the arrangement of strips is the same as for the front window panel with an additional, second side strip. For the version with three window panels: the second side window panel should be installed in the same way as given below.



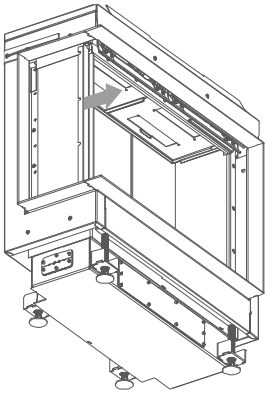
1. Remove all end caps of the base located around the window panel.



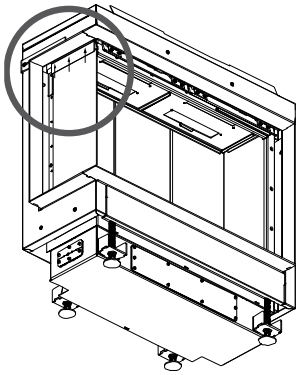
2. In a model with three window panels: remove the front window first, which is pressed from the top by a hinged beam. Pull it back and then shift the lock in the direction given in the picture to lock the beam in position allowing the removal of the window panel. In a fireplace with one or two window panels, you should first remove the side masking frames of the front window panel. A description of side masking frame removal is given in item 4.



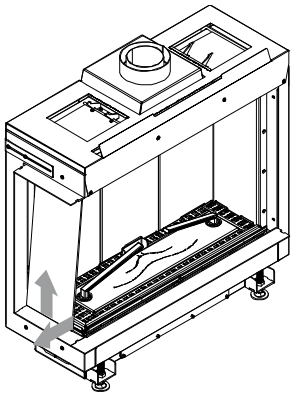
3. The front window panel should be lifted first so as to its bottom edge leaves the base and then the bottom part of the window panel should be deflected outwards. In such a position the window panel can be removed from the upper block and out of the fireplace.



4. Remove side masking frames which are equipped with magnets. First catch the handle and pull the bottom part back and then pull the upper part of the masking frame.



5. Loosen screws of the upper strip fixing the side window panel to allow lifting it.



6. Lift the side window panel up until its bottom edge leaves the base. The window panel may be lowered and removed from the upper strip after shifting the bottom strip away from the fireplace housing.

9.3. PERIODIC MAINTENANCE INSPECTION

Annual maintenance inspection is obligatory and should be carried out by authorized service or qualified personnel.

- Perform maintenance inspection of the equipment once a year,
- Perform inspection of chimney system with cleaning once a year.
- If the window panel is damaged (scratches, cracks) replace it.

During the warranty period, the annual maintenance inspection should be performed only by the service authorized by the manufacturer.

10. EMERGENCY PROCEDURES

10.1. DETECTION OF GAS ODOUR

Gas leaks may be a cause of explosions, therefore if you state their presence in the room or building then you should follow these rules:

- Avoid formation of the sparks and flames: do not use matches, lighters, do not activate the electrical receivers, do not use phone, bell,
- Close the main gas valve,
- Open doors and windows
- Warn all residents and leave the building,
- Prevent access of members of the public into the building,
- Call the appropriate authorities: fire brigade, police and gas emergency service.

10.2. ESCAPE OF FLUE GAS

Escape of flue gas is another possible life-threatening situation. If you detect the presence of damage to the flue gas system or odour of flue gas, you should:

- Turn off the power supply
- Open doors and windows
- Warn all residents in the building and leave the building
- Prevent access of members of the public into the building,
- Notify the authorized fitter company,
- Order removal of defects.

10.3. CARBON MONOXIDE ESCAPE

Carbon monoxide is a colourless, odourless and toxic gas formed during incomplete combustion of such fuels as oil, gas or solid fuels. The formation of carbon monoxide is a result of defects or leaks in the system.

Due to the inability to detect the presence of this hazardous gas, you should:

- Perform the inspection of the system and its maintenance by the authorized companies on a regular basis
- Install the carbon monoxide (CO) detectors triggering the alarm in the case of the presence of carbon monoxide

If you detect the presence of carbon monoxide, you should proceed according to the following recommendations:

Warn the other residents and immediately leave the building,
Notify the authorized fitter company to remove the fault.

11. TROUBLESHOOTING

Equipment does not start - no ignition, no audible signal confirming the ignition

- Check the condition of batteries in the remote control and receiver and replace them if necessary.
- Check the receiver's power supply (if the power supply unit is supplied from a network)
- Reset the receiver and repeat sending of the transmission code
- Check the condition of the antenna.

The valve coil does not work - no distinctive click sound.

- Check if the cable of the witch in the gas control module is not damaged
- Check the condition of the batteries in the receiver

The valve coil does not work and one long sound is generated:

- Check if the switch connecting the gas control module with a receiver is set in position I
- Check if the duct connecting the gas control module with a receiver is not damaged.

No control flame

- Check if the gas valve is open

12. REMOVAL DUE TO WEAR-OUT

Before scrapping the device, it is required to disconnect all components subject to selective collection of waste electronic and electric equipment for disposal purposes. These components include an electronic controller, motors of the pumps, fans and other electric and electronic equipment with cables. The 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 the disassembly of the equipment by using appropriate hand-held and mechanical devices as well as personal protective equipment (gloves, clothes, apron, glasses, etc.).

PRODUCT DATA SHEET

in accordance with the Commission Regulation no. 2015/1186
on the execution of the Directive of the European Parliament and the Council 2010/30/EU
and Regulation 2017/1369

Name and address of the equipment supplier

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

Equipment parameters

Supplier's model identifier	37 S /G20 37 S BL/G20 37 S BP/G20 37 S C /G20 37 S T /G20 37 S U /G20	37 S /G31 37 S BL/G31 37 S BP/G31 37 S C /G31 37 S T /G31 37 S U /G31	37 S /G30 37 S BL/G30 37 S BP/G30 37 S C /G30 37 S T /G30 37 S U /G30	37 S /G27 37 S BL/G27 37 S BP/G27 37 S C /G27 37 S T /G27 37 S U /G27
Energy efficiency class	B	B	B	B
Direct thermal output of the product	6.0 kW	5.5 kW	5.5 kW	6.0 kW
Indirect thermal output	N/A	N/A	N/A	N/A
Energy efficiency Index	83	82	82	82
Performance at rated thermal output	85.5	85.3	85.4	85.2
Efficiency at minimal load	N/A	N/A	N/A	N/A
Special precautions	Consider guidelines included in the Service Manual delivered by the manufacturer each time before assembly, start-up or maintenance of the equipment.			

PRODUCT DATA SHEET

in accordance with the Commission Regulation no. 2015/1186

on the execution of the Directive of the European Parliament and the Council 2010/30/EU

and Regulation 2017/1369

Name and address of the equipment supplier

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

Equipment parameters

Supplier's model identifier	51 S /G20 51 S BL/G20 51 S BP/G20 51 S C /G20 51 S T /G20 51 S U /G20	51 S /G31 51 S BL/G31 51 S BP/G31 51 S C /G31 51 S T /G31 51 S U /G31	51 S /G30 51 S BL/G30 51 S BP/G30 51 S C /G30 51 S T /G30 51 S U /G30	51 S /G27 51 S BL/G27 51 S BP/G27 51 S C /G27 51 S T /G27 51 S U /G27
Energy efficiency class	B	B	B	B
Direct thermal output of the product	6.0 kW	5.5 kW	5.5 kW	6.0 kW
Indirect thermal output	N/A	N/A	N/A	N/A
Energy efficiency Index	83	82	82	82
Performance at rated thermal output	85.5	85.3	85.4	85.2
Efficiency at minimal load	N/A	N/A	N/A	N/A
Special precautions	Consider guidelines included in the Service Manual delivered by the manufacturer each time before assembly, start-up or maintenance of the equipment.			

PRODUCT DATA SHEET

in accordance with the Commission Regulation no. 2015/1186

on the execution of the Directive of the European Parliament and the Council 2010/30/EU

and Regulation 2017/1369

Name and address of the equipment supplier

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

Equipment parameters

Supplier's model identifier	37 M /G20 37 M BL/G20 37 M BP/G20 37 M C /G20	37 M /G31 37 M BL/G31 37 M BP/G31 37 M C /G31	37 M /G30 37 M BL/G30 37 M BP/G30 37 M C /G30	37 M /G27 37 M BL/G27 37 M BP/G27 37 M C /G27
Energy efficiency class	B	B	B	D
Direct thermal output of the product	10.0 kW	11.0 kW	9.2 kW	10.0 kW
Indirect thermal output	N/A	N/A	N/A	N/A
Energy efficiency Index	82	82	82	76
Performance at rated thermal output	85.1	85.1	85.2	78.9
Efficiency at minimal load	N/A	N/A	N/A	N/A
Special precautions	Consider guidelines included in the Service Manual delivered by the manufacturer each time before assembly, start-up or maintenance of the equipment.			

PRODUCT DATA SHEET

in accordance with the Commission Regulation no. 2015/1186

on the execution of the Directive of the European Parliament and the Council 2010/30/EU

and Regulation 2017/1369

Name and address of the equipment supplier

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

Equipment parameters

Supplier's model identifier	51 M /G20 51M BL/G20 51 M BP/G20 51 M C /G20	51 M /G31 51 M BL/G31 51M BP/G31 51 M C /G31	51 M /G30 51 M BL/G30 51 M BP/G30 51 M C /G30	51 M /G27 51 M BL/G27 51 M BP/G27 51 M C /G27
Energy efficiency class	B	B	B	B
Direct thermal output of the product	10.0 kW	11.3 kW	10.2 kW	10.0 kW
Indirect thermal output	N/A	N/A	N/A	N/A
Energy efficiency Index	82	82	82	82
Performance at rated thermal output	85.3	85.2	85.2	85.3
Efficiency at minimal load	N/A	N/A	N/A	N/A
Special precautions	Consider guidelines included in the Service Manual delivered by the manufacturer each time before assembly, start-up or maintenance of the equipment.			

PRODUCT DATA SHEET

in accordance with the Commission Regulation 2015/1188

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

Equipment parameters

Model identifier: DEFRO HOME Vital 37S, DEFRO HOME Vital 37S BL, DEFRO HOME Vital 37S BP, DEFRO HOME Vital 37S C, DEFRO HOME Vital 37S T, DEFRO HOME Vital 37S U

Indirect heating functionality no

Direct heat output: 6.0 kW

Indirect heat output: N/A

			Space heating emissions
			NO_x
Fuel			mg/kWh_{input} (GCV)
	gas	G20	104
		G27	57

Properties in the case of operation only with recommended fuel

Item		Symbol	Value	Unit
Heat output				
Nominal heat output	G 20	P_{nom}	6.0	kW
	G 27			
Minimum heat output (indicative)	G 20	P_{min}	3.6	kW
	G 27			

Item		Symbol	Value	Unit
Useful efficiency (NCV)				
Useful efficiency at nominal heat output	G 20	$\eta_{th,nom}$	85.5	%
	G 27		85.2	
Useful efficiency at minimum heat output (indicative)	G 20	$\eta_{th,min}$		%
	G 27			

Auxiliary electricity consumption			
At nominal heat output	el_{max}	-	kW
At minimum heat output	el_{min}	-	kW
In standby mode	el_{SB}	-	kW

Permanent pilot flame power requirement			
Pilot flame power requirement (if applicable)	P_{pilot}	-	kW

Type of heat output/room temperature control (select one)	
single stage heat output, no room temperature control	no
two or more manual stages, no room temperature control	no
with mechanic thermostat room temperature control	no
electronic control of temperature in the room	no
with electronic room temperature control plus day timer	no
with electronic room temperature control plus week timer	yes

Other control options (multiple selections possible)	
room temperature control, with presence detection	no
room temperature control, with open window detection	no
with distance control option	no
with adaptive start control	no
with working time limitation	yes
with black bulb sensor	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

PRODUCT DATA SHEET

in accordance with the Commission Regulation 2015/1188

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

Equipment parameters

Model identifier: DEFRO HOME Vital 37S, DEFRO HOME Vital 37S BL, DEFRO HOME Vital 37S BP, DEFRO HOME Vital 37S C, DEFRO HOME Vital 37S T, DEFRO HOME Vital 37S U

Indirect heating functionality: no

Direct heat output: 5.5 kW

Indirect heat output: N/A

Fuel			Space heating emissions NO_x mg/kWh$_{input}$ (GCV)
	gas	G31	79
		G30	61

Properties in the case of operation only with recommended fuel

Heat output

Item		Symbol	Value	Unit
Nominal heat output	G 31	P_{nom}	5.5	kW
	G 30			
Minimum heat output (indicative)	G 31	P_{min}	3.3	kW
	G 30			

Useful efficiency (NCV)

Item		Symbol	Value	Unit
Useful efficiency at nominal heat output	G 31	$\eta_{th,nom}$	85.3	%
	G 30		85.4	
Useful efficiency at minimum heat output (indicative)	G 31	$\eta_{th,min}$		%
	G 30			

Auxiliary electricity consumption

At nominal heat output	el_{max}	-	kW
At minimum heat output	el_{min}	-	kW
In standby mode	el_{SB}	-	kW

Permanent pilot flame power requirement

Pilot flame power requirement (if applicable)	P_{pilot}	-	kW

Type of heat output/room temperature control (select one)

single stage heat output, no room temperature control	no
two or more manual stages, no room temperature control	no
with mechanic thermostat room temperature control	no
electronic control of temperature in the room	no
with electronic room temperature control plus day timer	no
with electronic room temperature control plus week timer	yes

Other control options (multiple selections possible)

room temperature control, with presence detection	no
room temperature control, with open window detection	no
with distance control option	no
with adaptive start control	no
with working time limitation	yes
with black bulb sensor	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 – president of the management board

PRODUCT DATA SHEET

in accordance with the Commission Regulation 2015/1188

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

Equipment parameters

Model identifier: DEFRO HOME Vital 51S, DEFRO HOME Vital 51S BL, DEFRO HOME Vital 51S BP, DEFRO HOME Vital 51S C, DEFRO HOME Vital 51S T, DEFRO HOME Vital 51S U

Indirect heating functionality: no

Direct heat output 6.0 kW

Indirect heat output: N/A

			Space heating emissions
			NO_x
Fuel			mg/kWh_{input} (GCV)
	gas	G20	104
		G27	57

Properties in the case of operation only with recommended fuel

Heat output

Item		Symbol	Value	Unit
Nominal heat output	G20	P_{nom}	6.0	kW
	G 27			
Minimum heat output (indicative)	G 20	P_{min}	3.6	kW
	G 27			

Auxiliary electricity consumption

Item	Symbol	Value	Unit
At nominal heat output	el_{max}	-	kW
At minimum heat output	el_{min}	-	kW
In standby mode	el_{SB}	-	kW

Permanent pilot flame power requirement

Item	Symbol	Value	Unit
Pilot flame power requirement (if applicable)	P_{pilot}	-	kW

Useful efficiency (NCV)

Item		Symbol	Value	Unit
Useful efficiency at nominal heat output	G 20	$\eta_{th,nom}$	85.5	%
	G 27		85.2	
Useful efficiency at minimum heat output (indicative)	G 20	$\eta_{th,min}$		%
	G 27			

Type of heat output/room temperature control (select one)

single stage heat output, no room temperature control	no
two or more manual stages, no room temperature control	no
with mechanic thermostat room temperature control	no
electronic control of temperature in the room	no
with electronic room temperature control plus day timer	no
with electronic room temperature control plus week timer	yes

Other control options (multiple selections possible)

room temperature control, with presence detection	no
room temperature control, with open window detection	no
with distance control option	no
with adaptive start control	no
with working time limitation	yes
with black bulb sensor	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 – president of the management board

PRODUCT DATA SHEET

in accordance with the Commission Regulation 2015/1188

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

Equipment parameters

Model identifier: DEFRO HOME Vital 51S, DEFRO HOME Vital 51S BL, DEFRO HOME Vital 51S BP, DEFRO HOME Vital 51S C, DEFRO HOME Vital 51S T, DEFRO HOME Vital 51S U

Indirect heating functionality: no

Direct heat output: 5.5 kW

Indirect heat output: N/A

Fuel			Space heating emissions NO_x mg/kWh$_{input}$ (GCV)
	gas	G31	79
		G30	61

Properties in the case of operation only with recommended fuel

Item		Symbol	Value	Unit
Heat output				
Nominal heat output	G 31	P_{nom}	5.5	kW
	G 30			
Minimum heat output (indicative)	G 31	P_{min}	3.3	kW
	G 30			
Auxiliary electricity consumption				
At nominal heat output		el_{max}	-	kW
At minimum heat output		el_{min}	-	kW
In standby mode		el_{SB}	-	kW
Permanent pilot flame power requirement				
Pilot flame power requirement (if applicable)		P_{pilot}	-	kW

Item		Symbol	Value	Unit
Useful efficiency (NCV)				
Useful efficiency at nominal heat output	G 31	$\eta_{th,nom}$	85.3	%
	G 30		85.4	
Useful efficiency at minimum heat output (indicative)	G 31	$\eta_{th,min}$		%
	G 30			

Type of heat output/room temperature control (select one)

single stage heat output, no room temperature control	no
two or more manual stages, no room temperature control	no
with mechanic thermostat room temperature control	no
electronic control of temperature in the room	no
with electronic room temperature control plus day timer	no
with electronic room temperature control plus week timer	yes

Other control options (multiple selections possible)

room temperature control, with presence detection	no
room temperature control, with open window detection	no
with distance control option	no
with adaptive start control	no
with working time limitation	yes
with black bulb sensor	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 – president of the management board

PRODUCT DATA SHEET

in accordance with the Commission Regulation 2015/1188

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

Equipment parameters

Model identifier: DEFRO HOME Vital 37M, DEFRO HOME Vital 37M BL, DEFRO HOME Vital 37M BP, DEFRO HOME Vital 37M C

Indirect heating functionality: no

Direct heat output: 10.0 kW

Indirect heat output: N/A

			Space heating emissions
			NO_x
Fuel			mg/kWh_{input} (GCV)
	gas	G20	102
		G27	114

Properties in the case of operation only with recommended fuel

Heat output

Item		Symbol	Value	Unit
Nominal heat output	G 20	P_{nom}	10.0	kW
	G 27			
Minimum heat output (indicative)	G 20	P_{min}	4.7	kW
	G 27			

Auxiliary electricity consumption

At nominal heat output	el_{max}	-	kW
At minimum heat output	el_{min}	-	kW
In standby mode	el_{SB}	-	kW

Permanent pilot flame power requirement

Pilot flame power requirement (if applicable)	P_{pilot}	-	kW

Useful efficiency (NCV)

Item		Symbol	Value	Unit
Useful efficiency at nominal heat output	G 20	$\eta_{th,nom}$	85.1	%
	G 27		78.9	
Useful efficiency at minimum heat output (indicative)	G 20	$\eta_{th,min}$		%
	G 27			

Type of heat output/room temperature control (select one)

single stage heat output, no room temperature control	no
two or more manual stages, no room temperature control	no
with mechanic thermostat room temperature control	no
electronic control of temperature in the room	no
with electronic room temperature control plus day timer	no
with electronic room temperature control plus week timer	yes

Other control options (multiple selections possible)

room temperature control, with presence detection	no
room temperature control, with open window detection	no
with distance control option	no
with adaptive start control	no
with working time limitation	yes
with black bulb sensor	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

PRODUCT DATA SHEET

in accordance with the Commission Regulation 2015/1188

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

Equipment parameters

Model identifier: DEFRO HOME Vital 37M, DEFRO HOME Vital 37M BL, DEFRO HOME Vital 37M BP, DEFRO HOME Vital 37M C

Indirect heating functionality: no

Direct heat output: 11.0 kW

Indirect heat output: N/A

Fuel			Space heating emissions
			NO_x
			mg/kWh_{input} (GCV)
	gas	G31	122

Properties in the case of operation only with recommended fuel

Item	Symbol	Value	Unit
Heat output			
Nominal heat output	P_{nom}	11.0	kW
Minimum heat output (indicative)	P_{min}	5.6	kW
Auxiliary electricity consumption			
At nominal heat output	el_{max}	-	kW
At minimum heat output	el_{min}	-	kW
In standby mode	el_{SB}	-	kW
Permanent pilot flame power requirement			
Pilot flame power requirement (if applicable)	P_{pilot}	-	kW

Item	Symbol	Value	Unit
Useful efficiency (NCV)			
Useful efficiency at nominal heat output	$\eta_{th,nom}$	85.1	%
Useful efficiency at minimum heat output (indicative)	$\eta_{th,min}$		%

Type of heat output/room temperature control (select one)	
single stage heat output, no room temperature control	no
two or more manual stages, no room temperature control	no
with mechanic thermostat room temperature control	no
electronic control of temperature in the room	no
with electronic room temperature control plus day timer	no
with electronic room temperature control plus week timer	yes

Other control options (multiple selections possible)	
room temperature control, with presence detection	no
room temperature control, with open window detection	no
with distance control option	no
with adaptive start control	no
with working time limitation	yes
with black bulb sensor	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 – president of the management board

PRODUCT DATA SHEET

in accordance with the Commission Regulation 2015/1188

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

Equipment parameters

Model identifier: DEFRO HOME Vital 37M, DEFRO HOME Vital 37M BL, DEFRO HOME Vital 37M BP, DEFRO HOME Vital 37M C

Indirect heating functionality: no

Direct heat output: 9.2 kW

Indirect heat output: N/A

Fuel			Space heating emissions
			NO_x
			mg/kWh_{input} (GCV)
	gas	G30	104

Properties in the case of operation only with recommended fuel

Item	Symbol	Value	Unit
Heat output			
Nominal heat output	P_{nom}	9.2	kW
Minimum heat output (indicative)	P_{min}	5.2	kW
Auxiliary electricity consumption			
At nominal heat output	el_{max}	-	kW
At minimum heat output	el_{min}	-	kW
In standby mode	el_{SB}	-	kW
Permanent pilot flame power requirement			
Pilot flame power requirement (if applicable)	P_{pilot}	-	kW

Item	Symbol	Value	Unit
Useful efficiency (NCV)			
Useful efficiency at nominal heat output	$\eta_{th,nom}$	85.2	%
Useful efficiency at minimum heat output (indicative)	$\eta_{th,min}$		%

Type of heat output/room temperature control (select one)	
single stage heat output, no room temperature control	no
two or more manual stages, no room temperature control	no
with mechanic thermostat room temperature control	no
electronic control of temperature in the room	no
with electronic room temperature control plus day timer	no
with electronic room temperature control plus week timer	yes

Other control options (multiple selections possible)	
room temperature control, with presence detection	no
room temperature control, with open window detection	no
with distance control option	no
with adaptive start control	no
with working time limitation	yes
with black bulb sensor	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 – president of the management board

PRODUCT DATA SHEET

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Equipment parameters

Model identifier: DEFRO HOME Vital 51M, DEFRO HOME Vital 51M BL, DEFRO HOME Vital 51M BP, DEFRO HOME Vital 51M C

Indirect heating functionality: no

Direct heat output: 10.0 kW

Indirect heat output: N/A

Fuel			Space heating emissions
			NO_x
			mg/kWh_{input} (GCV)
	gas	G20	89
		G27	102

Properties in the case of operation only with recommended fuel

Item		Symbol	Value	Unit
Heat output				
Nominal heat output	G 20	P_{nom}	10.0	kW
	G 27			
Minimum heat output (indicative)	G 20	P_{min}	4.7	kW
	G 27			

Item		Symbol	Value	Unit
Useful efficiency (NCV)				
Useful efficiency at nominal heat output	G 20	$\eta_{th,nom}$	85.3	%
	G 27		85.3	
Useful efficiency at minimum heat output (indicative)	G 20	$\eta_{th,min}$		%
	G 27			

Auxiliary electricity consumption			
At nominal heat output	el_{max}	-	kW
At minimum heat output	el_{min}	-	kW
In standby mode	el_{SB}	-	kW

Permanent pilot flame power requirement			
Pilot flame power requirement (if applicable)	P_{pilot}	-	kW

Type of heat output/room temperature control (select one)	
single stage heat output, no room temperature control	no
two or more manual stages, no room temperature control	no
with mechanic thermostat room temperature control	no
electronic control of temperature in the room	no
with electronic room temperature control plus day timer	no
with electronic room temperature control plus week timer	yes

Other control options (multiple selections possible)	
room temperature control, with presence detection	no
room temperature control, with open window detection	no
with distance control option	no
with adaptive start control	no
with working time limitation	yes
with black bulb sensor	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

PRODUCT DATA SHEET

in accordance with the Commission Regulation 2015/1188

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

Equipment parameters

Model identifier: DEFRO HOME Vital 51M, DEFRO HOME Vital 51M BL, DEFRO HOME Vital 51M BP, DEFRO HOME Vital 51M C

Indirect heating functionality: no

Direct heat output: 11.3 kW

Indirect heat output: N/A

			Space heating emissions
			NO_x
Fuel			mg/kWh_{input} (GCV)
	gas	G31	111

Properties in the case of operation only with recommended fuel

Item	Symbol	Value	Unit
Heat output			
Nominal heat output	P_{nom}	11.3	kW
Minimum heat output (indicative)	P_{min}	5.7	kW

Item	Symbol	Value	Unit
Useful efficiency (NCV)			
Useful efficiency at nominal heat output	$\eta_{th,nom}$	85.2	%
Useful efficiency at minimum heat output (indicative)	$\eta_{th,min}$		%

Auxiliary electricity consumption			
At nominal heat output	el_{max}	-	kW
At minimum heat output	el_{min}	-	kW
In standby mode	el_{SB}	-	kW

Permanent pilot flame power requirement			
Pilot flame power requirement (if applicable)	P_{pilot}	-	kW

Type of heat output/room temperature control (select one)	
single stage heat output, no room temperature control	no
two or more manual stages, no room temperature control	no
with mechanic thermostat room temperature control	no
with electronic room temperature control	no
with electronic room temperature control plus day timer	no
with electronic room temperature control plus week timer	yes

Other control options (multiple selections possible)	
room temperature control, with presence detection	no
room temperature control, with open window detection	no
with distance control option	no
with adaptive start control	no
with working time limitation	yes
with black bulb sensor	no

Contact details / Name and address of the manufacturer or its authorised representative.

DEFRO R. Dziubeła spółka komandytowa
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Robert Dziubeła – CEO

PRODUCT DATA SHEET

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Equipment parameters

Model identifier: DEFRO HOME Vital 51M, DEFRO HOME Vital 51M BL, DEFRO HOME Vital 51M BP, DEFRO HOME Vital 51M C

Indirect heating functionality: no

Direct heat output: 10.2 kW

Indirect heat output N/A

			Space heating emissions
Fuel			NO_x
			mg/kWh_{input} (GCV)
	gas	G30	121

Properties in the case of operation only with recommended fuel

Heat output

Item	Symbol	Value	Unit
Nominal heat output	P_{nom}	10.2	kW
Minimum heat output (indicative)	P_{min}	5.2	kW

Useful efficiency (NCV)

Item	Symbol	Value	Unit
Useful efficiency at nominal heat output	$\eta_{th,nom}$	85.2	%
Useful efficiency at minimum heat output (indicative)	$\eta_{th,min}$		%

Auxiliary electricity consumption

At nominal heat output	el_{max}	-	kW
At minimum heat output	el_{min}	-	kW
In standby mode	el_{SB}	-	kW

Permanent pilot flame power requirement

Pilot flame power requirement (if applicable)	P_{pilot}	-	kW

Type of heat output/room temperature control (select one)

single stage heat output, no room temperature control	no
two or more manual stages, no room temperature control	no
with mechanic thermostat room temperature control	no
electronic control of temperature in the room	no
with electronic room temperature control plus day timer	no
with electronic room temperature control plus week timer	yes

Other control options (multiple selections possible)

room temperature control, with presence detection	no
room temperature control, with open window detection	no
with distance control option	no
with adaptive start control	no
with working time limitation	yes
with black bulb sensor	no

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

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