

CE

**Bartscher**

**GAS-LAVASTEINGRILL**

GAS LAVA ROCK GRILL

GRIL À PIERRES DE LAVE À GAZ

GRIGLIA A PIETRA LAVICA GAS

PARRILLA DE PIEDRA VOLCANICA A GAS

CHAPA DE GRILL COM PEDRA VULCÂNICA GAS

GAS LAVASTEENGRILL

LAWA-GRILL GAZOWY

2954521 / GPG91M00

2954631 / GPG92M00



INSTALLATIONS-, BEDIENUNGS-  
UND WARTUNGSANWEISUNGEN

INSTALLATION, OPERATING  
AND MAINTENANCE INSTRUCTIONS

MANUEL D'INSTALLATION,  
D'UTILISATION ET D'ENTRETIEN

MANUALE DI INSTALLAZIONE,  
USO E MANUTENZIONE

MANUAL DE INSTALACIÓN,  
USO Y MANTENIMIENTO

MANUAL DE INSTALAÇÃO,  
UTILIZAÇÃO E MANUTENÇÃO

HANDLEIDING VOOR INSTALLATIE,  
GEBRUIK EN ONDERHOUD

WSKAZÓWKI DOTYCZĄCE INSTALACJI,  
UŻYTKOWANIA I KONSERWACJI



Rev.-Nr.: 01-2017

DE

GB

FR

IT

ES

PT

NL

PL

**DE** TECHNISCHE ÄNDERUNGEN VORBEHALTEN!

**GB** TECHNICAL CHANGES RESERVED!

**FR** SOUS RÉSERVE DE MODIFICATIONS TECHNIQUES !

**IT** CI RISERVIAMO LA POSSIBILITÀ DI INTRODURRE MODIFICHE TECNICHE!

**ES** ¡SE RESERVA EL DERECHO A INTRODUCIR MODIFICACIONES TÉCNICAS!

**PT** SUJEITO A ALTERAÇÕES TÉCNICAS!

**NL** TECHNISCHE WIJZIGINGEN VOORBEHOUDEN!

**PL** WPROWADZANIE ZMIAN TECHNICZNYCH ZASTRZEŻONE!

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### 3. SAFETY



**Read carefully the guidelines and instructions in the instruction manual before you use the device.**

The instruction manual contains general information on how to safely use and maintain the appliance.

Retain the manual for future reference.

The manufacturer took extra care when designing and manufacturing to prevent any safety or health hazard to the personnel operating the appliance.

Please read carefully the guidelines in the instruction manual and instructions placed directly onto the appliance. Above all, observe all the safety instructions.

Do not intervene in or remove the protective appliances installed in the appliance. Non-compliance may lead to severe safety and health hazard against people. We recommend to perform a few tests to know the layout and main functions of the control panel, particularly those to switch the appliance on and off.

The appliance is intended only for the use it has been designed for and any other use is considered as the use not in compliance with the intended use.

The manufacturer is not liable for material damage or damage to person caused by misapplication or incorrect application of the appliance.

Any maintenance work that requires special technical license or special skills may be performed by qualified personnel only.

To provide hygiene and protect foods from dirt, all the elements that have direct or indirect contact with the foods and all border areas must be thoroughly cleaned. Use only the cleaning agents intended for use in contact with food and avoid using flammable agents or harmful to health.



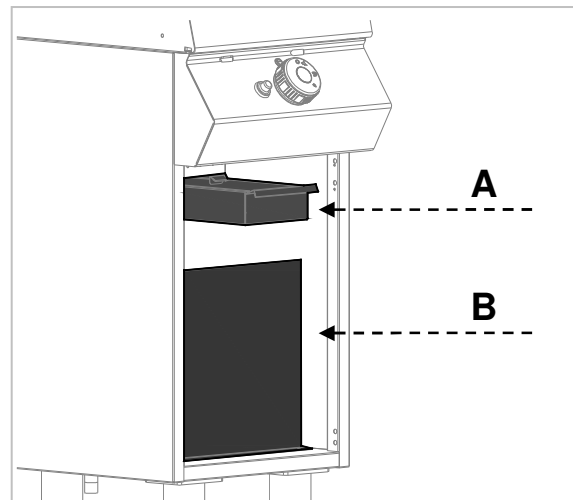
**After every use of the device, make sure that the burner is switched off, control elements are deactivated and gas supply line is disconnected.**



During the installation, setting and connection of the device to the gas supply (Chapter 8 „**INSTALLATION**“) appropriate safety measures need to be taken.



In case of prolonged interval in using the device disconnect all power supply cables and thoroughly clean the inside and outside elements of the device (Chapter 6 „**CLEANING AND MAINTENANCE**“).



**During the operation, a drip container (A) should be always installed inside the device.**



Never remove or change the inner cover of the cabinet shelves (B).



Never clean the device with jets of water.

## 4. GENERAL INFORMATION AND WARNINGS

### 4.1. General guidelines

The manual has been edited by the manufacturer to provide the authorized personnel with the information necessary to work with the device.

We recommend the intended readers to read the manual carefully and comply with the information. By reading the information contained in the manual, hazards against people health and safety may be prevented.

Retain the manual in an easily available place throughout the time of use of the device to have access and refer to the required information at any time.

Special symbols, described below, have been used to stress important information or draw attention to essential data:

#### Warning



**Indicate important safety instructions. You should acquire the proper conduct to prevent hazard against people health and safety or not to cause any damage.**

#### Caution

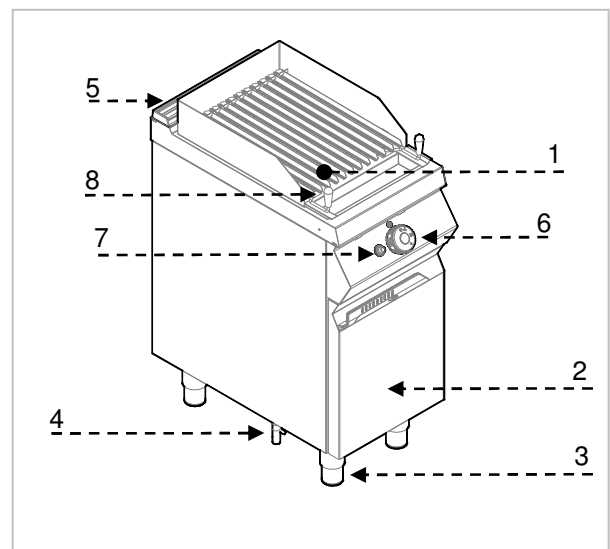


**Indicate essentials technical data that you cannot ignore.**

### 4.2. Description of the device

This device, which is called a GAS LAVA ROCK GRILL, has been designed and manufactured for professional gastronomy.

- 1) Grill grid (V-type)
- 2) Doors
- 3) Height-adjusted feet
- 4) Gas connection
- 5) Extractor: Fume extraction
- 6) Power control knob: it regulates the burner's power (min. - max.)
- 7) Burner ignition: Piezo igniter
- 8) Handle for height adjustment of the grill grid



### 4.3. Elements and accessories

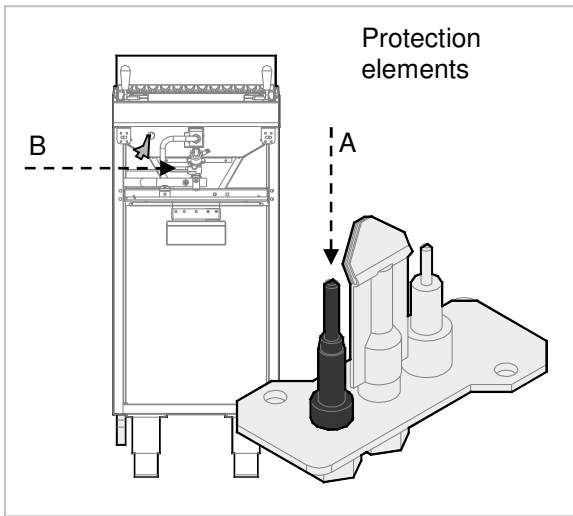
The device is delivered with the following elements:

- V-type grid for meat

On order, we can provide the following accessories:

- Round bar grid for fish

#### 4.4. Protection elements



The device is equipped with the protection systems. Placement of devices is shown on the drawing.

- A. Safety thermocouple:** it blocks the gas supply if the flame goes out.
- B. Gas supply tap:** to open and close the gas pipe.

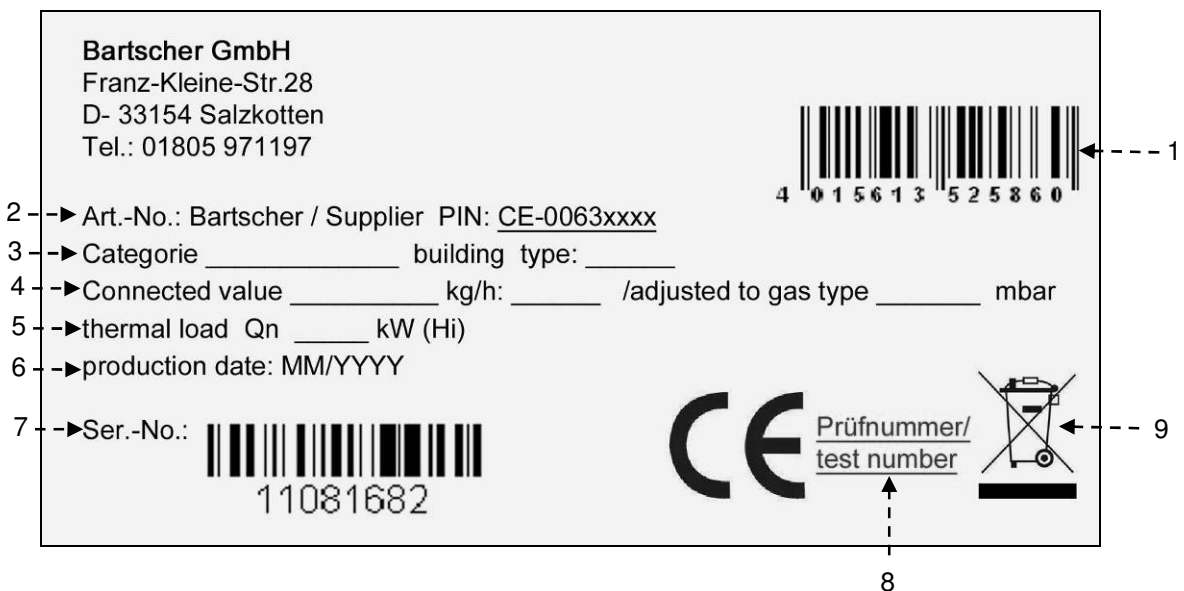


**Check daily that the protection elements are mounted correctly and operational.**

#### 4.5. Index plate

The rating plate shown in the drawing is fixed directly on the device. It includes all guidelines and information required for safe use.

- 1) EAN number
- 2) Art. no./ model no. / CE certificate no.
- 3) Category of device / type of design
- 4) Power / gas consumption / Factory setting for specified gas type
- 5) Heat load
- 6) Production date
- 7) Series no.
- 8) CE Declaration of Conformity
- 9) WEEE symbol



## 4.6. Installation of the appliance in a line



**Before exchange of the component switch on all the existing protection devices. First of all, switch off the gas valve and prevent access to the appliance, which in the case of activation may lead to unexpected situations endangering the safety and health of people.**

If necessary, exchange the used components to the original spare parts.



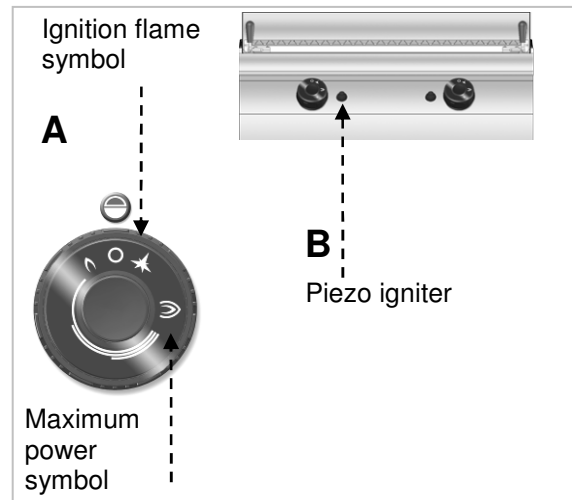
We are not liable for personal injury or damage to the components that arise due to application of other spare parts than original or intervention into the device without the manufacturer's consent that may have altered the safety requirements.

## 5. USE AND OPERATION

### 5.1. Description of the controls.

The elements controlling the essential functions are located on the control panel of the device.

- A) **Power control knob:** it regulates the gas supply and changes the oil temperature.
- B) **Piezo igniter:** for igniting the ignition flame of the burner.



### 5.2. Burner ignition

**ON**

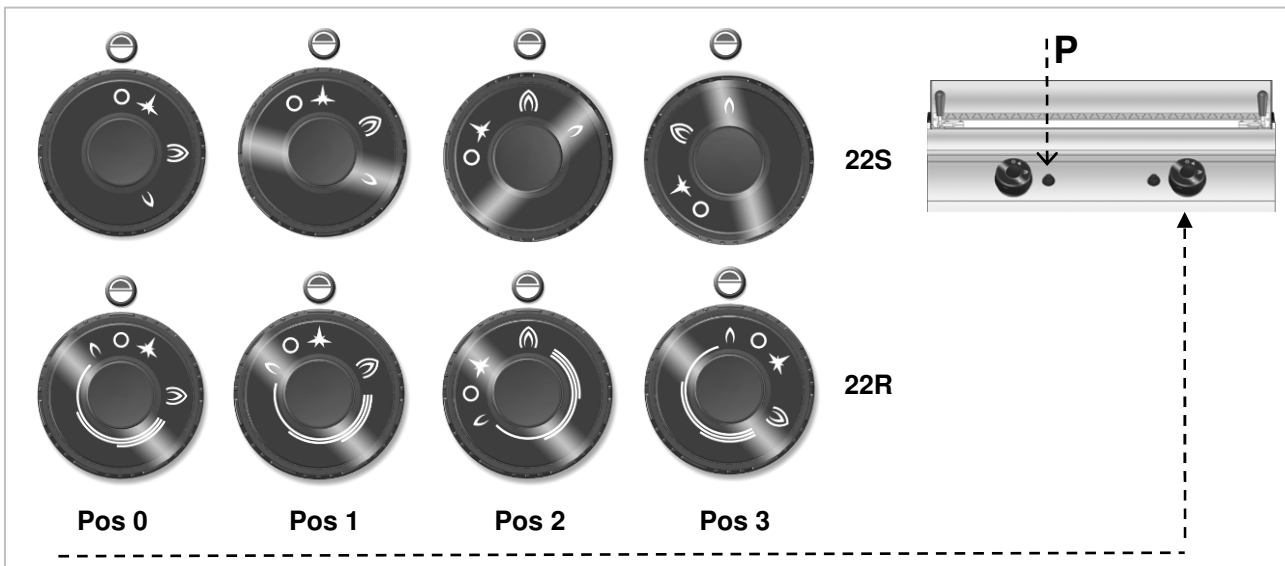
- A) Press the power control knob and turn it left (position 1) (fig. page 7); at the same time press the **P** button to ignite the ignition flame.
- B) Hold the power control knob for ca. 10 seconds in order to heat up the heating element, then release the knob.
- C) To activate the gas burner, turn the power control knob left (**position 2**).
- D) Set the power of the gas burner (**position 3**).



**OFF**

A) Turn the power control knob right to switch the gas burner off (position **1**); the ignition flame is still on.

B) Turn the power control knob right to extinguish the ignition flame (position **0**).



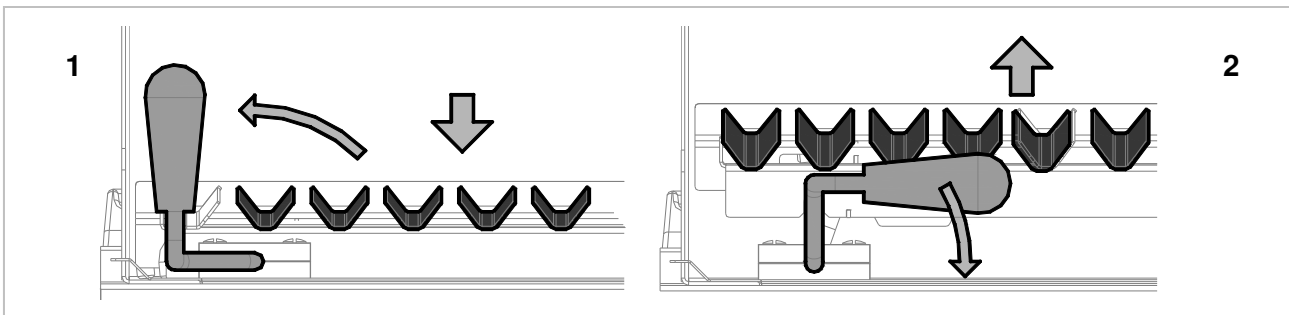
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**5.3. Setting of the grill grid**

The grill grid may be adjusted with the use of a front handle for height adjustment.

There are two settings available:

1. Lowered grill grid (adjustment handle in vertical position)
2. Raised grill grid (adjustment handle in horizontal position)

**5.4. Guidelines on how to use the device**

If the device is not used for prolonged time, please follow these instructions:

1. Close the gas supply by closing the gas valve.
2. Thoroughly clean the appliance and adjacent surfaces.
3. Apply the vaseline oil on the stainless steel surfaces.
4. Perform all maintenance works.

To guarantee the proper operation of the device, follow these instructions:

- Use only equipment recommended by the manufacturer;
- Do not use the device for heating pans or pots, because this may damage the grill grid.

**i** Before activating the device add a bit of water to the drip container. This will facilitate its cleaning.

## 6. CLEANING AND MAINTENANCE

### 6.1. Guidelines on cleaning and maintenance



Before you start maintenance works, turn on all the mounted protective devices.

First of all, switch off the gas valve and prevent access to the appliance, which in the case of activation may lead to unexpected situations endangering the safety and health of people.

### 6.2. Correct maintenance

Proper maintenance includes daily cleaning of all components which have contact with food products, and regular maintenance of drain pipes.

Careful maintenance ensures the best performance, longer life of the device and proper operation of the protective devices.

Never direct the water stream or high pressure jet towards the device.

To clean the stainless steel, do not use iron wool or iron brush as they may leave iron particles on the surface that form rust in result of oxidation.

Use the wooden or plastic spatula, or soft cleaning sponge to remove the dried remains.

If the appliance is not used for a prolonged time, apply the Vaseline oil on all stainless steel parts and air the room regularly.



**Do not use any clearing agents that contain substances hazardous or harmful to health (solvents, petrol. etc.).**

At the end of **each working day** thoroughly clean the following elements

- grill grid
- device;
- drip container.

**Regularly** instruct the specialist personnel to perform the following maintenance works:

- Installation pressure and tightness control;
- Thermocouples functionality control;
- Control of operation of the extractor and possible cleaning.

### 6.3. Cleaning of the griddle plate

Follow the instructions below:

1. Remove food residues from the griddle plate with a spatula (particular caution is required in case of chrome-plated griddle).
2. Apply the fat dissolving agent to the griddle plate and leave for a few minutes.
3. Close the drain outlet with appropriate plug.
4. Pour hot water on the griddle plate and leave for a few minutes.
5. Remove the drip container.

6. Put the receiving container under the drain outlet.
7. Remove the plug and wait for water to drain.
8. Thoroughly clean and dry the griddle plate afterwards.



We recommend washing the accessories in a dishwasher.






Thoroughly dry the griddle plate to avoid rust and apply the protective layer of Vaseline oil.

## 7. PROBLEMS DURING OPERATION

The information below is provided to recognize and repair any failures that may occur when operating the device.

Some of the failures can be repaired by the user, others require thorough specialist knowledge. Such problems may be solved exclusively by the qualified personnel.

Problem	Cause	Possible solution
Gas smell	The smell is sometimes released when extinguishing the flame	Close the gas valve and air the room.
Ignition flame does not start.	The igniter does not work.	Check the operation of the igniter. Ignite the flame manually.
	Air in the pipes in connection with the long downtime.	 <b>contact the technical service.</b>
The ignition flame burns, but the igniter does not ignite the burner.		Check the working thermostat.  <b>If the problem continues, contact the technical service.</b>
Yellow flame.	Contaminated burner or blocked extractor.	Clean the burner and leave to dry off.  <b>If the problem continues, contact the customer service.</b>

GB

## 8. INSTALLATION

### 8.1. Packaging and unpacking

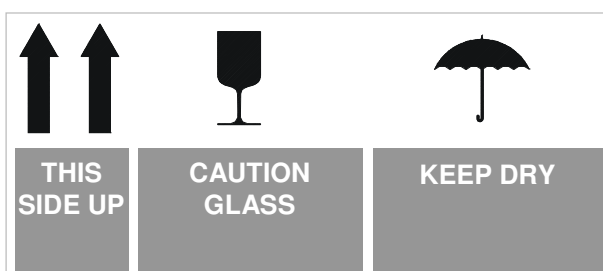
During unloading and when installing the device follow the information from the manufacturer placed directly on the packaging and in this manual.

To lift and transport the product plan to use a fork lift or stacker, and pay attention to even weight distribution to avoid a risk of tilting of the packaging (avoid excessive incline!).



**While using the elevator pay attention to the gas supply hoses and position of feet.**

The packaging consists of the carton packaging and wooden pallet. There are symbols printed on the carton packaging that according to the international agreements inform about the regulations to follow when loading and unloading, transporting and storing the appliance.



When collecting the goods check if the packaging is complete and has not been damaged during transport.

Any damage should be immediately reported to the shipping company.

Unpack the device as soon as possible to check if the device is not damaged.

Do not use a sharp object to cut the carton box. It may damage the stainless steel inside the box.

Remove the carton packaging from bottom to top.

When unpacked check if the device is according to the order.

In case of any difference inform the sales agent immediately.



**Do not store the packaging materials (nylon bags, polystyrene foam, clips ...) in the reach of children!**

Remove the protective PVC layer from the out and inner surfaces. If possible, do not use any metal tools.

## 8.2. Installation (service technician)

All the stages of the installation must be carefully planned.

The location should be equipped with all supply connections and production waste outlet. The location should also be properly lit and comply with all hygiene and sanitary requirements according to the binding regulations.

The appliance should be installed with the minimum 5 cm clearance from the wall, if the wall is not resistant to the minimum temperature of 150 °C.

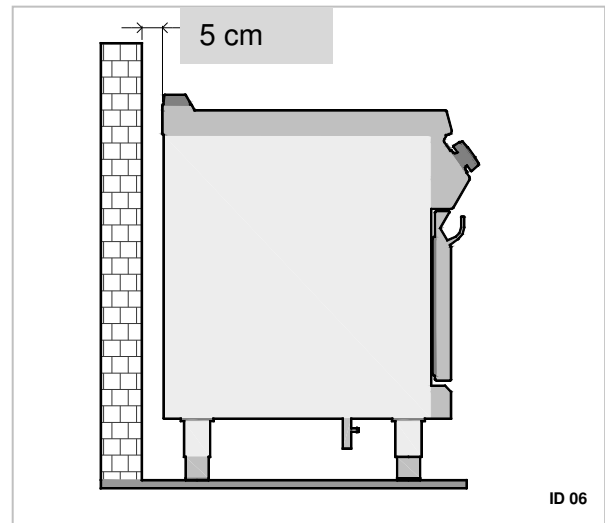


**When the device is to be installed near the walls, partitions, kitchen cabinets, decorative elements, etc., they must be made from non-flammable materials or covered with suitable non-flammable materials.**

Locate the device in the horizontal position by adjusting the individual feet.



**To ensure the correct operation of the device, the device must be installed and operated in the thoroughly ventilated room only.**



Internal installation of the gas supply and the rooms in which the appliance is housed, must comply with the local regulations applicable in the country in which the appliance is used (Regulation of 12 June 96 and UNI-CIG 87/23).

In order to ensure the proper gas burning in the igniters, the required volume of air, that is ca. 2 cubic meters per hour for every kW of installed power, must be supplied.

## 8.3. Gas connection (service technician)

A gas connection must be performed in compliance with the applicable regulations.

Before connecting the appliance, check the technical data, type of gas, working pressure and flow rate which are provided on the rating plate.

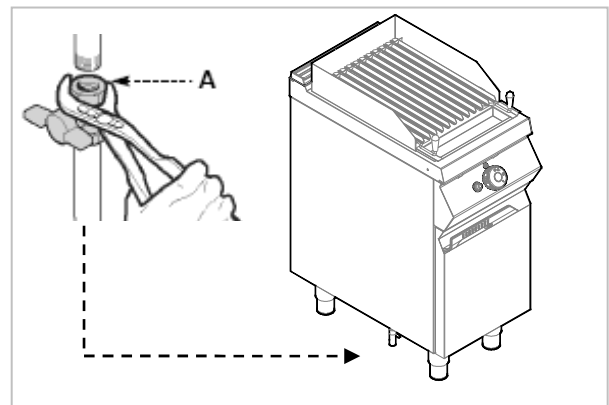
The installation is performed by connecting the connection pipe of the appliance with a pipe of the gas distribution network. A shut-off valve must be installed on the connection to shut the gas supply off if necessary.

If there are significant pressure differences in the gas supply installation, it is recommended to install a pressure regulator.

After the installation, check the gas connection for tightness.



**When looking for gas leaks do not use the open flame!**




## 8.4. Extraction of fumes


Installation of the type “A” devices does not envisage connection to the fume exhaust system, but to the appropriate extraction hood which discharges the fumes to outside.

### Installation under the extraction hood (A)

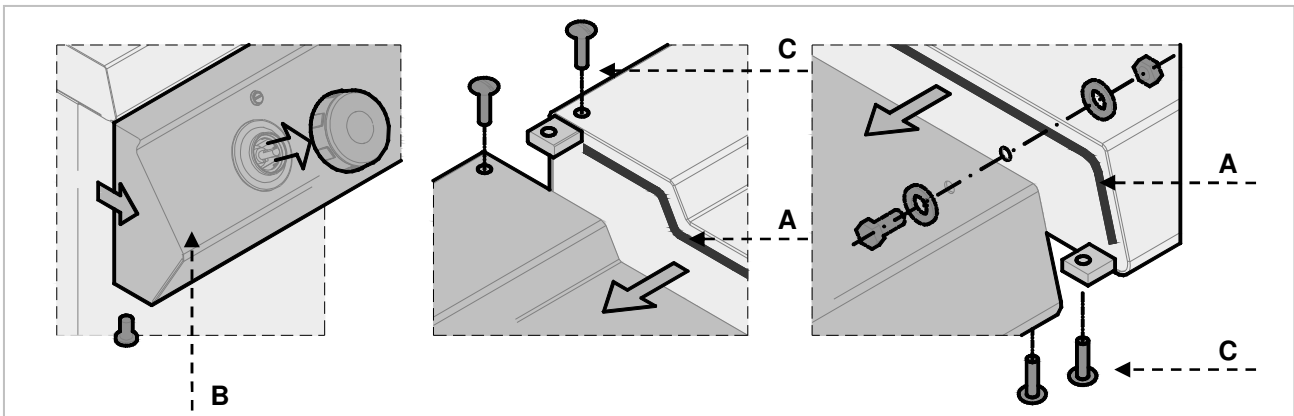
Place the device under the extraction hood (1) and attach a pipe to the device outlet of the size as shown on the figures.

The end of the fume extraction pipe should be located at least 1.8m above the surface on which the device is placed.

 **Gas supply of the device should be directly subjected to forced extraction system: blocking of the fan must shut the gas supply off.**

 **The fan must switch on automatically when the gas valve is open.**

## 8.5. Installation of the appliance in a line



To install the device in a line (neighboring) follow the steps:

1. Dismantle the control panel (B), and remove the cast iron frame from the chimney if necessary.
2. Apply the sealing tape (A) onto the joining sides.

3. Place the devices next to each other and in a horizontal position (by adjusting the feet).
4. Connect the devices with the joining elements (C).

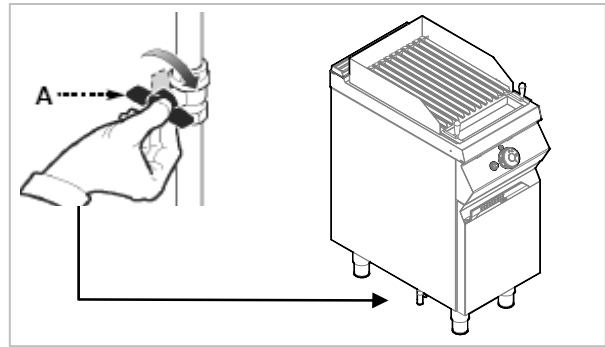
## 8.6. Modification for other type of gas (service technician)

The device has been checked by the manufacturer for the type of gas shown on the rating plate. If a different type of gas is used, follow these instructions.

1. Close the gas supply tap (A)
2. Replace the burner nozzle (see chapter 9.2)

3. Replace the nozzle of the ignition flame burner (see chapter 9.4)
4. Set a minimum value on the gas burner control knob (see chapter 9.1)

5. If necessary, adjust the primary air supply to the burner.
6. Remove the sticker from the rating plate and apply a new sticker which includes the used gas type (item 4 of the rating plate).



## 8.7. Inspection (service technician)

Before starting the device, the installation check-up should be run to evaluate the working conditions of every single component and identify any errors.

It is recommended to run the following check-ups:

1. Open the gas valve and check the tightness of connections;
2. Check whether the igniter starts and burns properly.
3. Check and adjust, if necessary, the gas pressure and flow rate in Max and Min positions (see chapter 9.1)
4. Check whether the safety thermostat operates properly.
5. Check gas pipes for leakages.

## 9. SETTINGS (service technician)



**Before setting the appliance, first of all switch on all the protection devices.**

**In particular deactivate the gas valve and prevent access to the appliance, which in the case of activation may lead to unexpected situations endangering the safety and health of people.**



After completing all calibration and adjustment work, check the gas installation for leakages and whether the device operates properly.

Make sure that the flame is stable at minimum and maximum output pressure.

After adjustments, attach the prepared sealing marks and/or seal calibration screws.

### 9.1. Setting of the minimum value on the gas tap



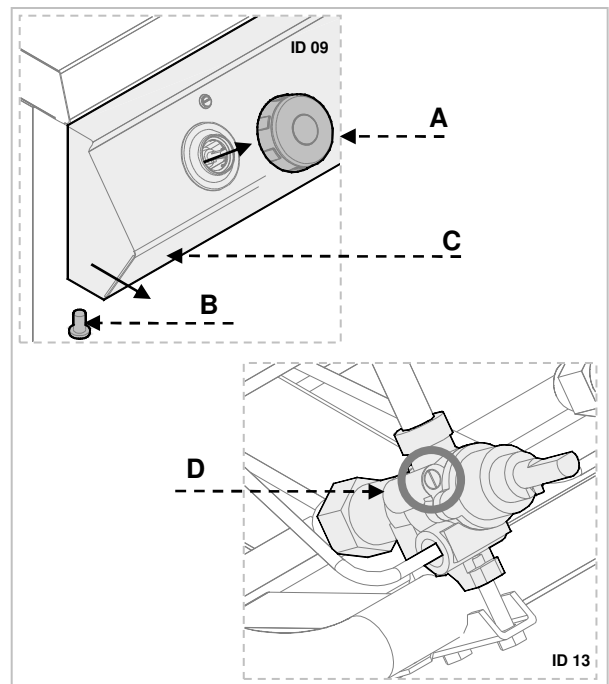
These settings are required only if the connected type of gas differs from the checked gas, after the change of the supply system.



Before performing this setting, check whether the gas pressure is compliant with the value of nominal pressure (see table in attachments).

Follow these instructions.

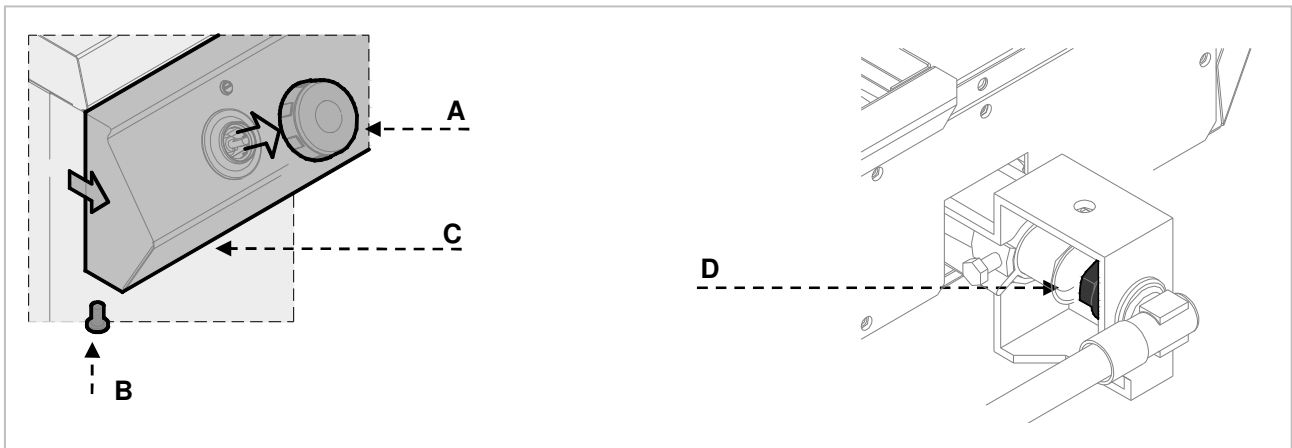
1. Close the gas supply tap.
2. Remove the control knob (A).
3. Loosen the screws (B) and remove the control panel (C).
4. Set the bypass screw D and replace it with a new one appropriate for the used type of gas (see attachment). After the setting seal the screw.
5. Finally, reattach the control panel (C) and the power control knob (A).



## 9.2. Replacement of the burner nozzle

Follow these instructions.

1. Close the gas supply tap.
2. Remove the control knob (A).
3. Loosen the screws (B) and remove the control panel (C).
4. Replace the nozzle (D) with a nozzle appropriate for the used gas (see attachments).
5. Finally, set the device to the initial status.

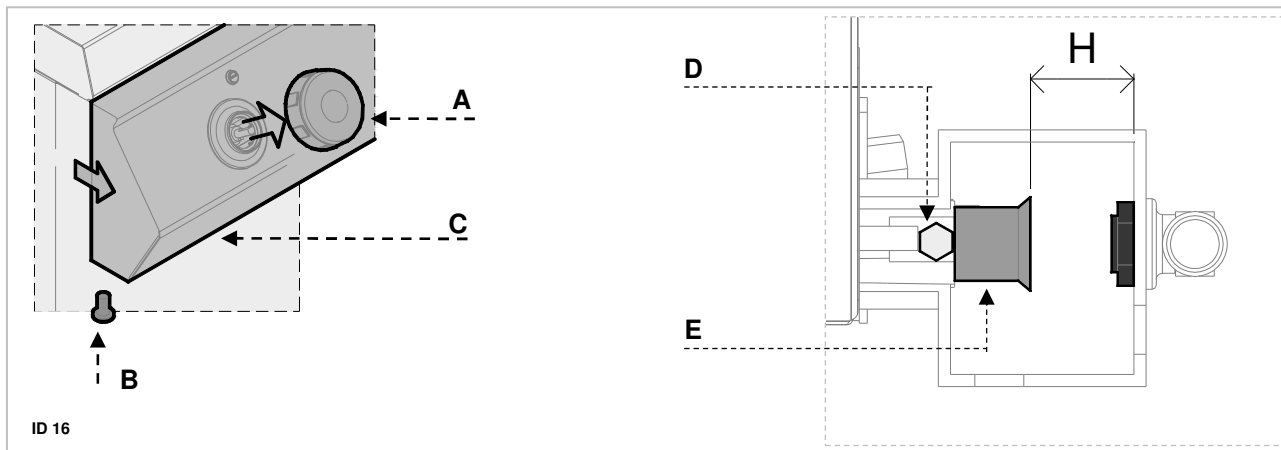


### 9.3. Setting the air inlet on the burner

Follow these instructions.

1. Close the gas supply tap.
2. Remove the control knob (A).
3. Loosen the screws (B) and remove the control panel (C).

4. Loosen the screw (D) and set the sleeve (E) depending on the type of used gas (see table in attachments).
5. Finally, set the device to the initial status.

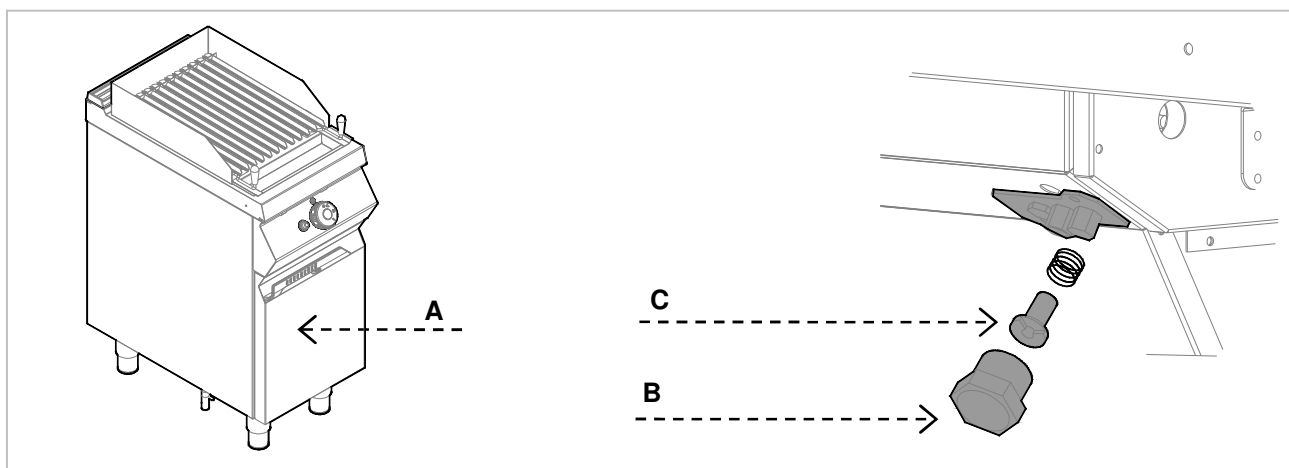


### 9.4. Replacement of the ignition flame nozzle

Follow the instructions.


- Close the gas supply tap.
- Open the cover (A)
- An ignition flame is assigned to the burner.
- Loosen the nut (B).


- Remove the nozzle C and replace it with a nozzle appropriate for the used gas type (see tables in attachments).
- Retighten the nut (B) and set the device to the initial status.
- Close the cover (A).





## 10. APPLIANCE DISPOSAL

 The appliance is marked in conformity with the European Directive 2002/96/EG WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE).

 **By disposing the appliance in accordance with the regulations the user contributes towards prevention of adverse effects on environment and health.**



The symbol on the product or attached manual indicates that the product cannot be considered as ordinary household waste and should be transferred to a special collection point for electrical and electronic appliances for recycling.

Local waste management regulations should be observed.

Further information on procedure, reusing and recycling of the product is available in local offices, waste management unit or with the product sales agent.

**ANLAGEN**

**ATTACHMENTS**

**ANNEXES**

**ALLEGATI**

**ANEXOS**

**ANEXOS**

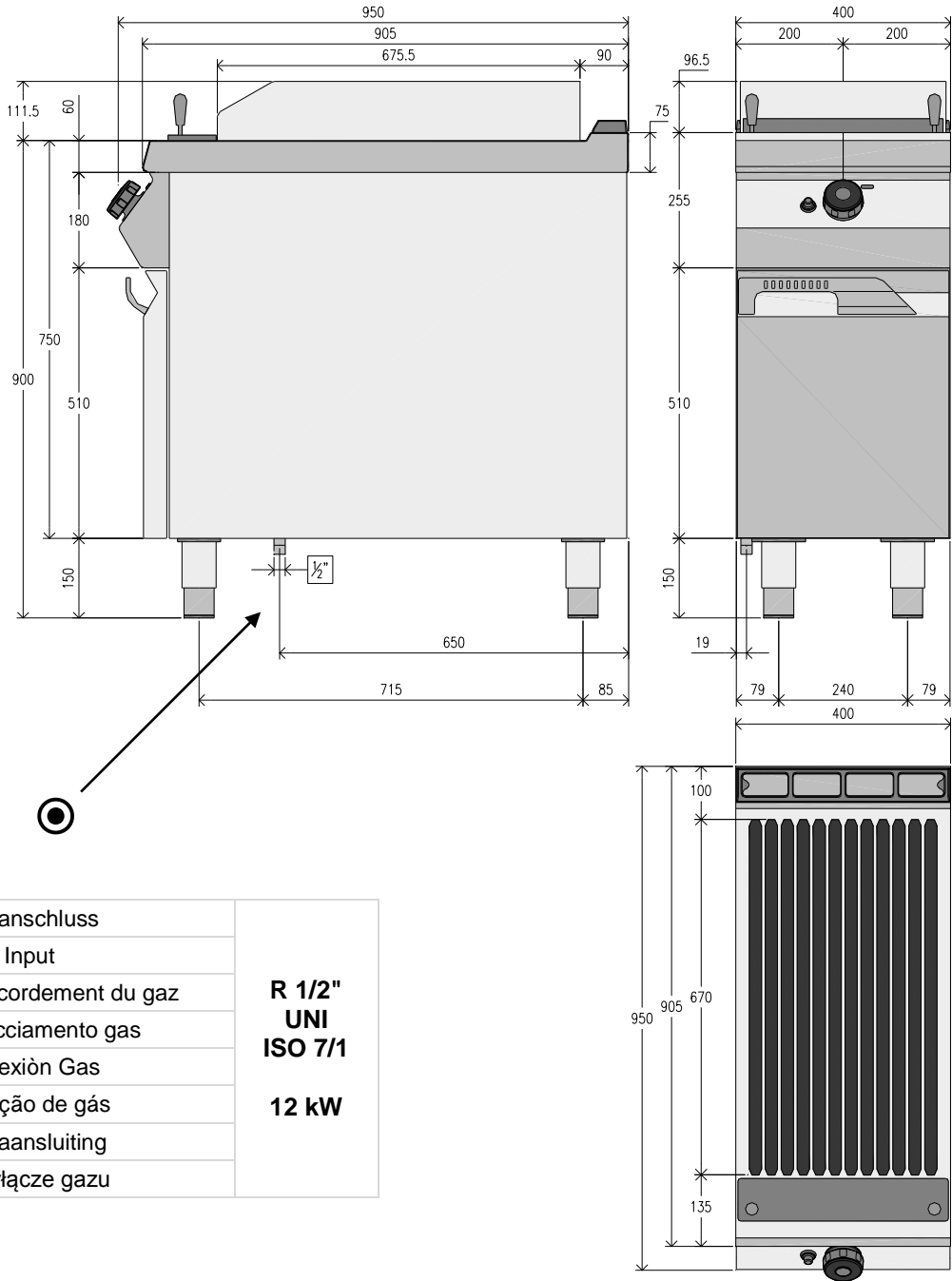
**BIJLAGEN**


**ZAŁĄCZNIKI**

<b>Modelle</b>	Brenner	$\Sigma Q_n$	Gasverbrauch			
<b>Model</b>	Burner		Gas consumption			
<b>Modèle</b>	Brûleur		Consommation de gaz			
<b>Modello</b>	Bruciatore		Consumo gas			
<b>Modelo</b>	Queimador		Consumo de gas			
<b>Modelo</b>	Queimador		Consumo de gás			
<b>Model</b>	Brander		Gasverbruik			
<b>Model</b>	Palnik		Zużycie gazu			
				G20	G25	G30
	9 kW	kW	m <sup>3</sup> /h	m <sup>3</sup> /h	kg/h	kg/h
<b>GPG91M00</b>	1	12	1,27	1,48	0,95	0,93
<b>GPG92M00</b>	2	24	2,54	2,95	1,89	1,86

GPG91M00

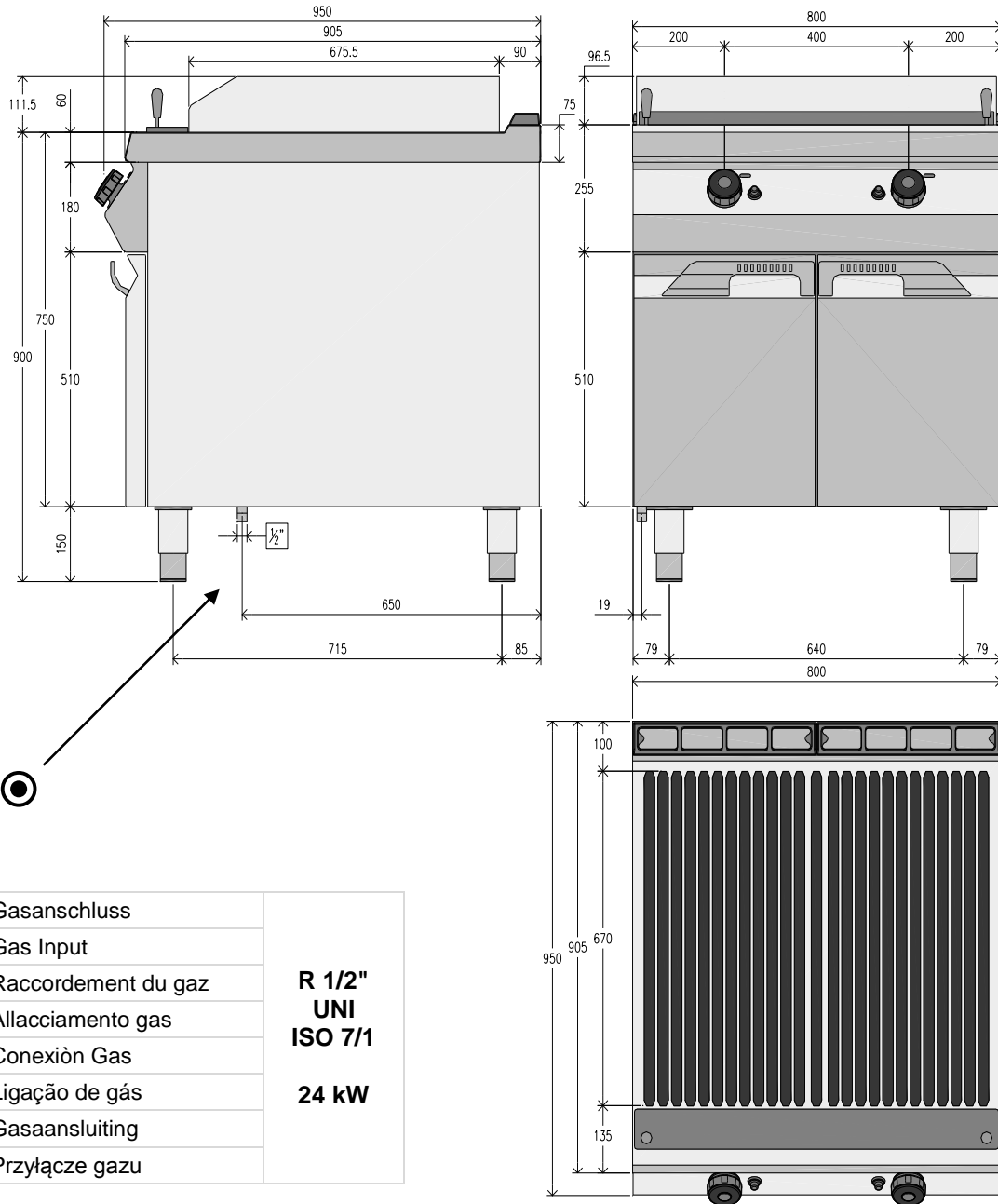
**ANSCHLUSSSCHEMA - CONNECTION CARD - FICHE DES RACCORDEMENTS -  
 SCHEDA ALLACCIAMENTI - FICHA DE ENLACES - ESQUEMA DAS CONEXÕES -  
 PLAN AANSLUITINGEN - SCHEMAT PODŁĄCZENIA**



	Gasanschluss	<b>R 1/2"          UNI          ISO 7/1</b>  <b>12 kW</b>
	Gas Input	
	Raccordement du gaz	
	Allacciamento gas	
	Conexiòn Gas	
	Ligação de gás	
	Gasaansluiting	
Przyłącze gazu		

**GPG92M00**

**ANSCHLUSSSCHEMA - CONNECTION CARD - FICHE DES RACCORDEMENTS -  
 SCHEDA ALLACCIAMENTI - FICHA DE ENLACES - ESQUEMA DAS CONEXÕES -  
 PLAN AANSLUITINGEN - SCHEMAT PODŁĄCZENIA**



	Gasanschluss	<b>R 1/2"          UNI          ISO 7/1</b>  <b>24 kW</b>
	Gas Input	
	Raccordement du gaz	
	Allacciamento gas	
	Conexiòn Gas	
	Ligação de gás	
	Gasaansluiting	
Przyłącze gazu		

Tabelle: Düsen für Brenner - Table: Burner nozzles - Tableau : Buses du brûleur - Tabella: ugelli dei bruciatori - Tabla: Toberas del quemador - Tabel: mondstukken voor de brander - Tabela: Dysze palnika 12 kW

①	②	Gas	Pen mbar	Qn max kW	Qn min kW	I ③	B ④	P ⑤	H mm ⑥
AT	II2H3B/P	G30/G31	50	12	4	150	85	22	13
		G20	20	12	4	260	Adj	27	13
BE	II2E+3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
		G25	25	12	4	270	Adj	27	13
BG	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
CH	II2H3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
	II2H3B/P	G30/G31	50	12	4	150	85	22	13
		G20	20	12	4	260	Adj	27	13
CY	II2H3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
CZ	II2H3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
DE	II2ELL3B/P	G30/G31	50	12	4	150	85	22	13
		G20	20	12	4	260	Adj	27	13
		G25	20	12	4	285	Adj	27	13
DK	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
EE	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
ES	II2H3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
FI	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
FR	II2E+3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
		G25	25	12	4	270	Adj	27	13

Tabelle: Düsen für Brenner - Table: Burner nozzles - Tableau : Buses du brûleur - Tabella: ugelli dei bruciatori - Tabla: Toberas del quemador - Tabel: mondstukken voor de brander - Tabela: Dysze palnika

12 kW

①	②	Gas	Pen mbar	Qn max kW	Qn min kW	I ③	B ④	P ⑤	H mm ⑥
GB	II2H3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
GR	II2H3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
HR	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
IE	II2H3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
IS	I3B/P	G30/G31	30	12	4	170	100	22	13
IT	II2H3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
LT	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
LU	I2E	G20	20	12	4	260	Adj	27	13
LV	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
MT	I3B/P	G30/G31	30	12	4	170	100	22	13
NL	II2L3B/P	G30/G31	30	12	4	170	100	22	13
		G25	25	12	4	270	Adj	27	13
NO	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
PT	II2H3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13

Tabelle: Düsen für Brenner - Table: Burner nozzles - Tableau : Buses du brûleur - Tabella: ugelli dei bruciatori - Tabla: Toberas del quemador - Tabel: mondstukken voor de brander - Tabela: Dysze palnika 12 kW

①	②	Gas	Pen mbar	Qn max kW	Qn min kW	I ③	B ④	P ⑤	H mm ⑥
RO	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
	II2E3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
	II2L3B/P	G30/31	30	12	4	170	100	22	13
		G25	20	12	4	285	Adj	27	13
SE	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
SI	II2H3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
SK	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
TR	II2H3+	G30/G31	28/37	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
	II2H3B/P	G30/G31	30	12	4	170	100	22	13
		G20	20	12	4	260	Adj	27	13
①	Land - Country - Pays - Paese - País - País - Land - Kraj								
②	Kategorie - Category - Catégorie - Categoria - Categoria - Categoria - Categoria								
③	Brennerdüse - Burner nozzles - Buse du brûleur - Ugello del bruciatore - Tobera del quemador - Bico de quemador - Mondstuk van de brander - Dysza palnika								
④	Zündbrennerdüse - Pilot burner nozzles - Buse du brûleur d'allumage - Ugello del bruciatore di accensione - Tobera del quemador de encendido - Bico de quemador piloto - Mondstuk van de ontstekingsbrander - Dysza palnika zapłonowego								
⑤	Druck Brennerdüse - Burner nozzle pressure - Pression de la buse du brûleur - Pressione dell'ugello del bruciatore - Presión de la tobera del quemador - Pressão de bico de quemador - Druk van het mondstuk van de brander - Ciśnienie dyszy palnika								



Tabelle der Gas-Eigenschaften - Table of gas characteristics - Tableau des propriétés du gaz - Tabella: caratteristiche di gas - Tabla de propiedades del gas - Tabela de propriedades de gás - Tabel van gaseigenschappen - Tabela własności gazu

Familie Group Famille Tipi Familia Família Famili Rodzina	Gastypen Group Type de gaz Tipi di gas Tipos de gas Tipos de gás Gastypes Rodzaje gazu	Wobbeindex Wobbe index Indice de Wobbe Indice di Wobbe Índice de Wobbe Índice de Wobbe Wobbe-index Liczba Wobbego	Unterer Heizwert Net calorific value Pouvoir calorifique inférieur Potere calorifico min Valor inferior de combustión Valor calorífico mais baixo Onderste verbrandingswaarde Dolna wartość opałowa			
			MJ/m <sup>3</sup>	Kcal/m <sup>3</sup>	MJ/m <sup>3</sup>	Kcal/m <sup>3</sup>
II	G20	45,67	8129	34,02		
	G25	37,38	6989	29,25		
III	G30	80,58			10908	45,65
	G31	70,69			11073	46,34

Tabelle der Gasdrücke - Table of gas pressure - Tableau des pressions - Tabella pressioni di gas - Tabla de presión del gas - Tabela de pressão de gás - Tabel van gasdruk - Tabela ciśnienia gazu

Land - Country - Pays - Paese - País - País - Land - Kraj	G20 mbar			G25 mbar			G30 mbar			G31 mbar		
	②	①	③	②	①	③	②	①	③	②	①	③
IT-GB-IE-PT-CH GR-ES-CZ	17	20	25	-	-	-	20	30	35	25	37	45
FR-BE	17	20	25	20	25	30	20	28	35	25	37	45
LU	17	20	25	-	-	-	-	-	-	-	-	-
DE	17	20	25	17	20	25	42,5	50	57,5	42,5	50	57,5
AT-CH	17	20	25	-	-	-	42,5	50	57,5	42,5	50	57,5
DK-SE-FI-CZ-SI LV-LT-EE-SK	17	20	25	-	-	-	25	30	35	25	30	35
NL	-	-	-	20	25	30	25	30	35	25	30	35
NO	-	-	-	-	-	-	25	30	35	25	30	35
HU	-	-	-	-	-	-	20	30	35	20	30	35
CY	-	-	-	-	-	-	20	28-30	35	25	37	45
MT	-	-	-	-	-	-	28	30	35	28	30	35
PL	17,5	20	25	-	-	-	-	-	-	-	-	-

- ① Nenndruck - Rate pressure - Pression nominale - Pressione nominale - Presión nominal - Pressão nominal - Nominale druk - Ciśnienie nominalne
- ② Mindestdruck - Minimum pressure - Pression minimale - Pressione minima - Presión mínima - Pressão mínima - Minimumdruck - Ciśnienie minimalne
- ③ Höchstdruck - Maximum pressure - Pression maximale - Pressione massima - Presión máxima - Pressão máxima - Maximumdruck - Ciśnienie maksymalne



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