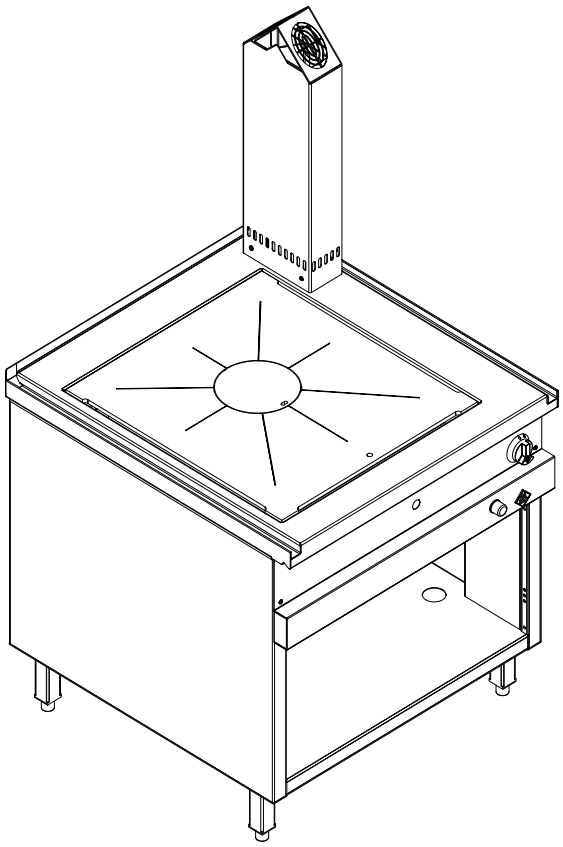
Read the operating instructions prior to commissioning

Installation instructions

Cooker



Unit	Type of energy	Unit type	Model
Cooker with simmer plate	Gas	Floor-standing unit	OPGHEG1...

Translation from the original document • 2063501-00AIDE-A • 07/07/2015

Manufacturer

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Germany

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1 Introduction

1.1 About this manual

The instruction manual is part of the unit and contains information on safe installation of the unit.

Observe and adhere to the following instructions:

- Read the instruction manual in its entirety prior to installation.
- Make the instruction manual available to the installer at the operating site at all times.
- Preserve the installation manual throughout the service life of the unit.
- Insert any supplements from the manufacturer.
- Pass on the installation manual to any subsequent operator of the unit.

Target group The target group for the installation manual is trained technical personnel that is familiar with installing and operating the unit.

Figures All figures in this manual are intended as examples. Discrepancies between these and the actual unit can arise.

1.1.1 Explanation of signs

DANGER
Imminent threat of danger

Failure to comply will lead to death or very severe injuries.

WARNING
Possible threat of danger

Failure to comply can lead to death or very severe injuries.

CAUTION
Dangerous situation

Failure to observe precautions can result in slight to moderately severe injuries.

ATTENTION
Material damage

Failure to comply can cause material damage.

Notes for better understanding and operation of the unit.

Symbol / sign	Meaning
•	Listing of information.
→	Action steps, which can be performed in any sequence.
1. 2.	Action steps, which must be performed in the specified sequence.
↳	Result of an action performed.

1.2 Use of the unit

This unit is intended to be used solely for commercial purposes, particularly in commercial kitchens.

This unit is not intended for the US and Canadian markets. It is not permitted to be used there.

1.3 Warranty

The warranty is void and safety is no longer assured in the event of:

- Modifications or technical changes to the unit,
- Improper use,
- Incorrect startup, operation or maintenance of the unit,
- Problems resulting from failure to observe these instructions.

2 Safety information

The unit complies with applicable safety standards. Residual risks associated with operation or risks resulting from incorrect operation cannot be ruled out and are mentioned specifically in the safety instructions and warnings.

The installer must be familiar with regional regulations and observe them.

The installer must observe the safety instructions in these mounting instructions and in the "Safety information" chapter of the operating instructions.

Ensuring conformity with standards

Observe applicable international, European and national laws, regulations, standards and directives for the unit when transporting, setting up and connecting it.

Improper installation

Risk of property damage and personal injury from improper installation

- Install the unit only as specified in these installation instructions.
- Do not add anything to the unit or modify the unit.
- Use only original spare parts.

Transportation and storage

Risk of personal injury and property damage from improper transportation and improper storage

- Store the unit in a dry, frost-free environment.
- Observe the safety regulations for the lifting gear used.
- Attach the unit to the lifting gear securely during transport and setup, and prevent it from dropping.
- Transport the unit in an upright position, do not tilt or stack.
- Pay attention to protruding parts when transporting the unit without packaging.

Fire prevention

Risk of fire from combustible surfaces

- Observe general fire prevention regulations.
- Set up the unit only on a non-combustible surface.
- When setting up the unit in close proximity to heat-sensitive substances or substances that pose a risk of fire, observe fire prevention regulations.
- Ceilings above the unit must be noncombustible.

Risk of fire from objects

- Do not obstruct the exhaust gas duct.

Risk of fire from combustion gases and hot surfaces

- Install the unit such that there is no contact with combustible surfaces.

- Maintain an adequate distance from grease filters on ventilation systems.

Organisational measures

Risk of property damage and personal injury from lack of organizational measures

- Identify hazard areas when transporting, setting up and connecting the unit.
- Prior to starting the installation work, notify any operators present about the procedure.
- Prior to starting the installation work, discuss how to behave in an emergency.
- Use equipment and protective gear suitable for the activity.
- Brace housing components to prevent them from falling over and dropping.

Setup

Risk of property damage and personal injury from improper setup

- Ensure that the installation area has adequate load-bearing capacity.
- Ensure that the unit is stable when set up and aligned.
- Where safety shoes and protective gloves.

Gas connection

Risk of explosion and fire from improper connection

- Observe applicable regional regulations of the gas utility.
- Ensure that only a tradesman licensed by the gas supplier connects the unit to the gas supply.
- Prior to working on the gas system, switch off the unit, close the gas supply from the gas system and secure it against being reopened. When bleeding air or degassing, ensure that the air and gas are discharged to the outside in a technically correct manner and without creating a risk.
- Observe the information on the nameplate and *Gas type* supplemental label.
- Check for leaks.
- When working on the gas system and units in buildings, ensure that a hazardous gas-air mixture cannot form in the rooms.

Risk of poisoning from exhaust gases

- Ensure that exhaust gases are discharged properly and that the necessary amount of combustion air is supplied.
- Ensure that a maximum CO content of < 0.1 vol. % or < 1000 ppm is achieved in undiluted exhaust gas.

Equipotential bonding

Risk of electric shock

- Ensure that only an electrician approved by the electric utility connects the unit.
- The unit must be incorporated into the potential equalisation circuit through use of the specified minimum wire sizes.

Additional connection work

Risk of physical damage and personal injury from improper connection

- Prior to working on the unit, switch off the unit, close the gas supply and secure it against being reopened.
- Route connection lines such that they cannot be damaged from heat.

Concluding activities

Risk of damage to property and personal injury from improper connections

- Reactivate all safety devices and check that they function properly.

Commissioning

Risk of property damage and personal injury from improper commissioning

- Read the operating instructions prior to commissioning. Observe the safety instructions in this installation manual and in the "Safety information" chapter of the operating instructions.
- Put the unit into service only after a successful function test following assembly.
- Put the unit into service only after it has reached room temperature.
- Observe the units during operation.

3 Description of the unit

3.1 Overview of the unit

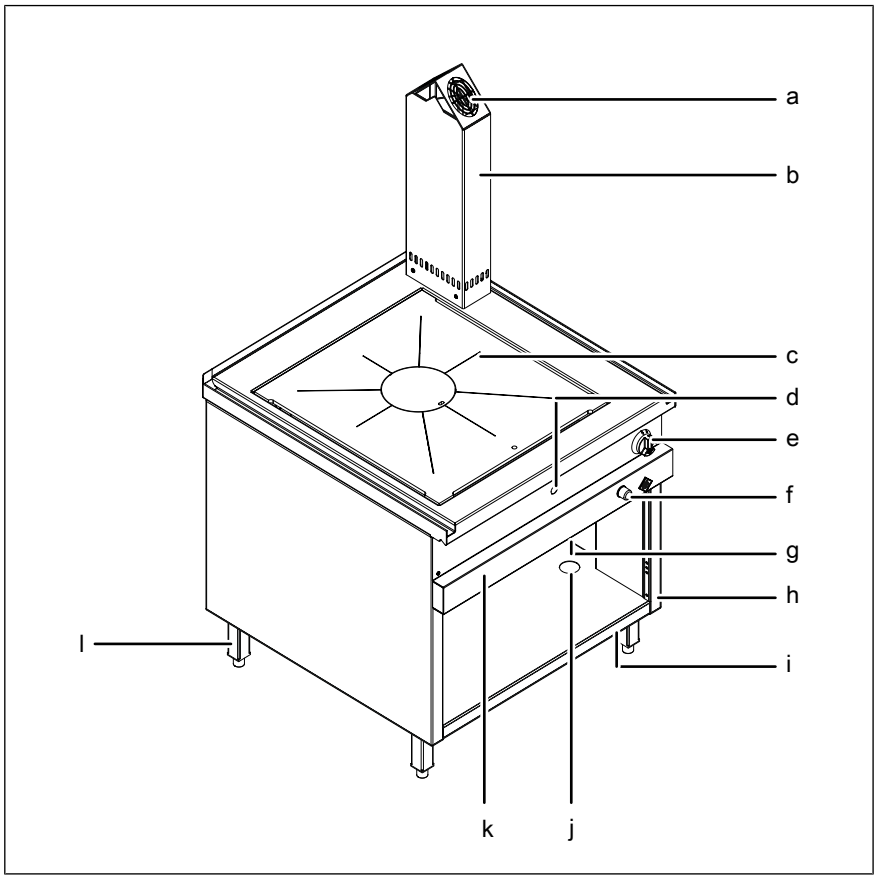

Image: Cooker with simmer plate

a	Exhaust gas opening	g	Gas connection
b	Exhaust gas duct	h	Housing
c	Simmer plate	i	Nameplate and supplementary label for the gas type
d	Inspection port	j	Housing opening
e	Burner control knob	k	Control panel
f	Piezo pilot ignitor	l	Equipment leg

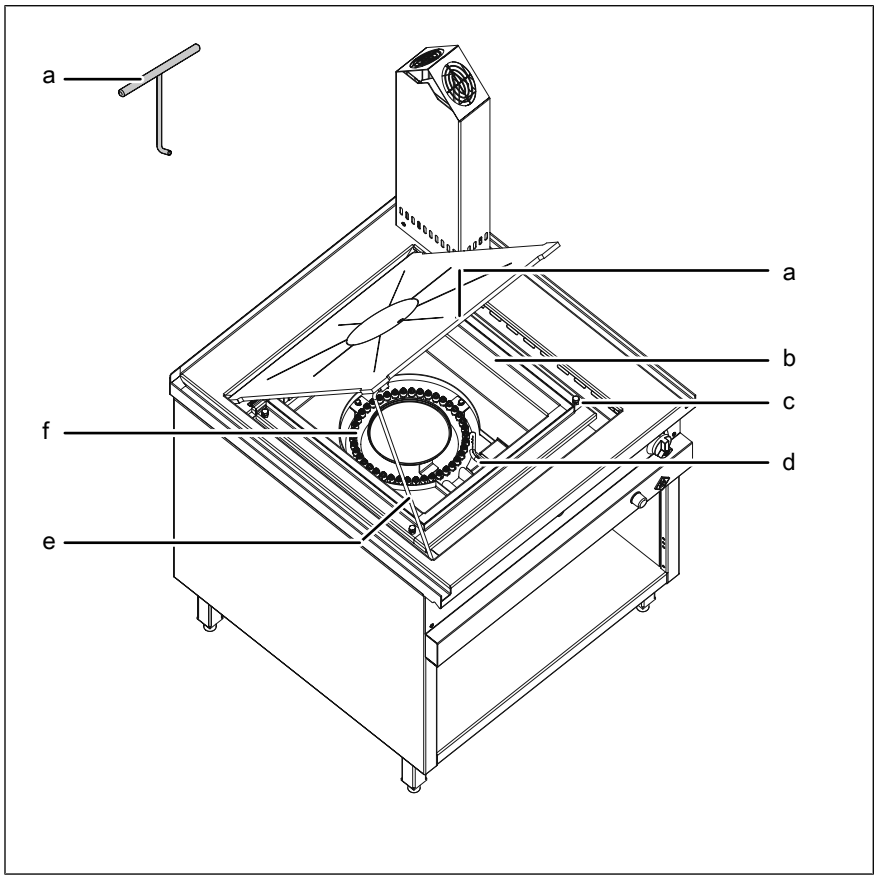

Image: Cooker with simmer plate, "open" simmer plate

a	Extraction handle	d	Pilot burner
b	Burner chamber	e	Swivel mechanism locking lever
c	Adjustable setscrew	f	Burner

3.2 Planning drawing

3.2.1 Floor-standing unit

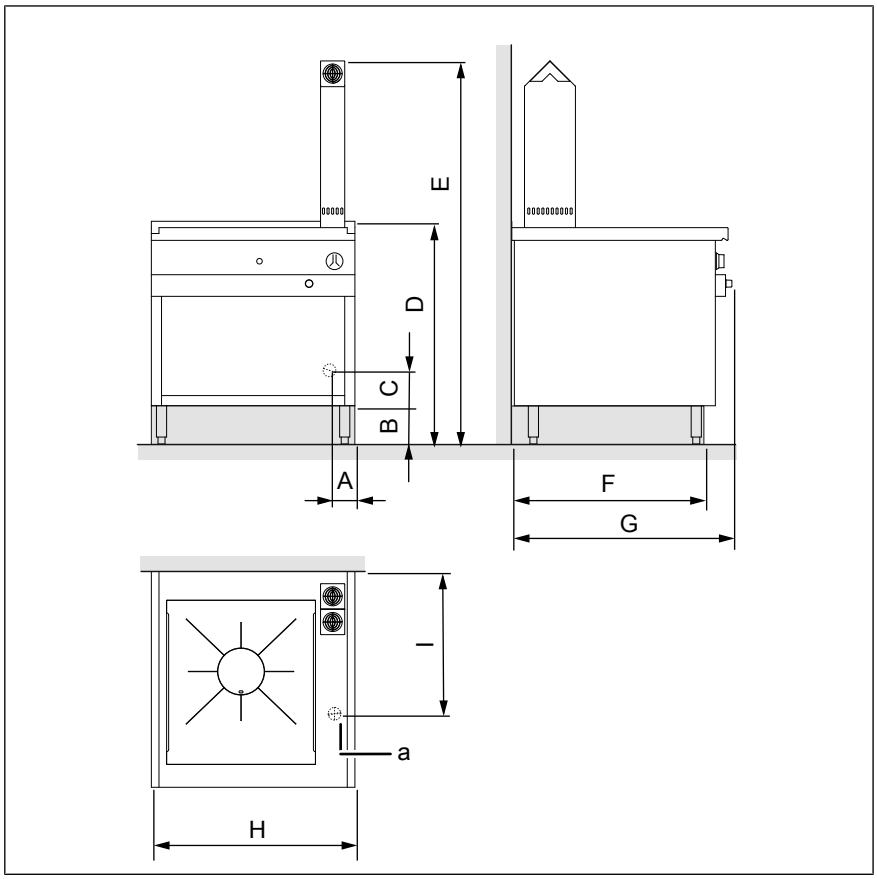

Image: Cooker with simmer plate (floor-standing unit)

a Gas connection
A Distance from gas connection to side wall
B Height of base, height of equipment legs
C Distance from gas connection to bottom of unit
D Height of simmer plate
E Height of unit
F Depth of base
G Depth of unit
H Length of unit
I Distance from gas connection to wall

Model	Cooker with simmer plate								
	Optima 850								
	A	B	C	D	E	F	G	H	I
OPGHEG1...	100	150	140	850	1505	760	850	800	560
	All dimensions in mm								

3.3 Equipment and connection data

Equipment and connection data

Gas cooker with simmer plate	OPGHEG1...
Dimensions	
Unit Length x width x height (mm)	800 x 850 x 700
Unit with packaging Length x width x height (mm)	860 x 980 x 1300
Weight	
Unit (kg)	128
Unit with packaging (kg)	144
Heat output	
Latent (W)	1500
Sensible (W)	3750
Noise level (db (A))	< 70
Ambient climate	5 – 40 °C, 95 % relative humidity, non-condensing
Gas connection	
Rated heat input (kW)	12.5
Gas type	The gas type, for which the unit is set, is indicated on the supplementary label for the gas type.
Connection dimension in accordance with EN10226-1 (")	R 3/4
Connection pressure (mbar) ** Natural gas 2H, 2E, 2L, 2LL	20
Connection pressure (mbar) ** Liquefied gas 3B/P, 3P	50
Natural gas E/H, G20 (m^3/h) *	1.32
Natural gas LL/L, G25 (m^3/h) *	1.54
Liquefied gas B, G30 (kg/h)	0.99
Liquefied gas P G31 (kg/h)	0.97
Combustion air (m^3/h) *	22.7
Supply air and exhaust gas routing	
Type of unit	A1
* Information applies at 15 °C and 1013.25 mbar ** Information is country-specific and applies to Germany, for further information see "Checking connection pressure"	

Gas connection pressure

Gas type	Connection pressure (mbar)	Connection pressure range (mbar)
Germany:		
Natural gas 2H, 2E, 2L (LL)	20	17 (18) - 25
Liquefied gas (LPG) 3B/P, 3P	50	42.5 - 57.5
Europe:		
Natural gas 2E, 2H, (LL)	20	17 (18) - 25
Natural gas 2E+, (2L)	20/25 (25)	17 (20) - 30
Liquefied gas (LPG) 3B/P, 3P	50	42.5 - 57.5
Liquefied gas (LPG) 3B/P (3P)	29 (30)	25 - 35
Liquefied gas (LPG) 3+ (3P)	28 - 30/37 (37)	20 (25) - 45
Liquefied gas (LPG) 3B	29	20 - 35

Nozzle table

Gas cooker with simmer plate	Rated heat input 12.5 kW					
Gas type	**Natural gas E/H**	**Natural gas LL/L**	**Natural gas L**	**Natural gas E+**	**Liquefied gas B/P**	**Liquefied gas B/P**
Symbol	G20	G25	G25	G20/G25	G30/G31	G30/G31
Wobbe index (kWh/m^3)*	15.0	12.4	12.4	15.0/12.4	25.7/22.5	25.7/22.5
Wobbe index range (kWh/m^3)*	12.0 – 16.1	10.0 – 13.1	10.0 – 13.1	10.0 – 16.1	21.4 – 25.7	21.4 – 25.7
Connection pressure (mbar)	20	20	25	20/25	50	30
Primary air gap (mm)	25					
CO content (ppm)**	< 1000 (optimal < 500)					
Burner nozzle						
Diameter, full load (1/100 mm)	230	230	230	230	115	130
Diameter, partial load (1/100 mm)	90	90	90	90	90	90
Quantity, full load (number)	2					
Quantity, partial load (number)	1					
Nozzle pressure, full load (mbar)	8.7	12.0	12.0	20/25***	50/67***	28 – 30/37**
Nozzle pressure, partial load (mbar)	2.5	3.0	3.0	2.5	****	****
Pilot burner nozzle						
Diameter (1/100 mm)	60	60	60	60	40	40
Quantity (number)	1					

* Information applies at 0 °C and 1013.25 mbar
** In undiluted exhaust gas
*** Gas pressure regulator disabled
**** Burner nozzle for partial load is fully effective, turned clockwise as far as possible.

4 Transporting the unit

4.1 Transporting the unit to the installation site

CAUTION
Risk of property damage and personnel injury from tipping equipment

- Do not linger next to or behind raised equipment.
- Move raised equipment carefully.

ATTENTION
Risk of physical damage from improper transport

- Transport the unit upright.
- Do not tilt or stack the unit.
- Pay attention to protruding parts when transporting the unpacked unit.

ATTENTION
Risk of physical damage from improper transport

- Lift unpacked floor-standing unit in the vicinity of the equipment legs.

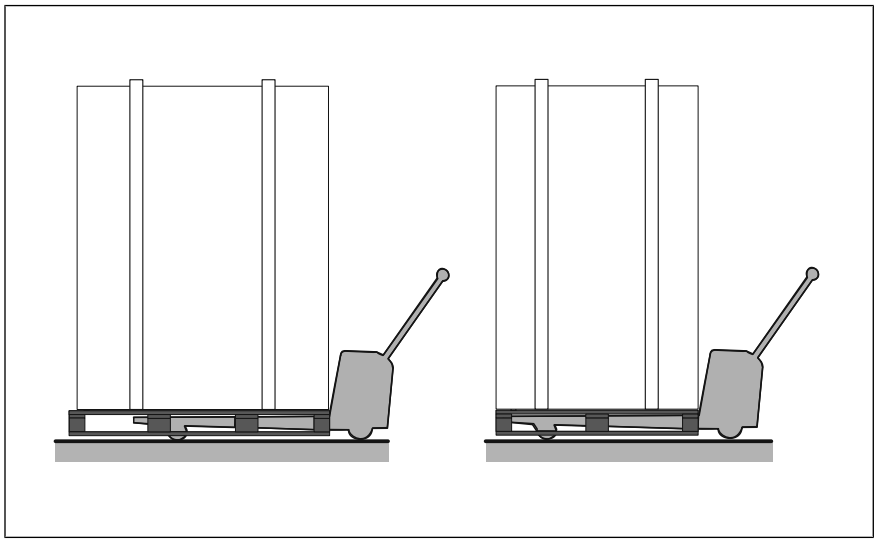

Image: Lengthwise and crosswise transport on pallet

→ Use suitable transport means to move unit to installation site.

4.2 Unpacking the unit

CAUTION
Risk of injury from sharp edges

- Wear protective gloves.

When unpacking the unit, inspect it for transport damage.

Do not install damaged units or put into service.

1. Remove the packaging.
2. Pull the protective film off the unit.
3. Clean the unit (see "Cleaning and maintaining the unit" in the operating instructions).
4. Enter the information from the nameplate into the commissioning report.

5 Setting up the unit

CAUTION
Crushing risk from heavy weight

- Use suitable lifting gear to raise and lower the unit.

CAUTION
Risk of crushing from improper setup

- Protect the unit and work area during setup and alignment.

Supply air and exhaust gas openings

The supply air and exhaust gas openings in the unit must not be obstructed or closed.

Equipotential bonding

The unit must be included in a potential equalisation system.

5.1 Placing the unit on the equipment legs

ATTENTION

Risk of physical damage from improper transport

- When transporting the unit without packaging, pay attention to protruding equipment components (e. g. handles).

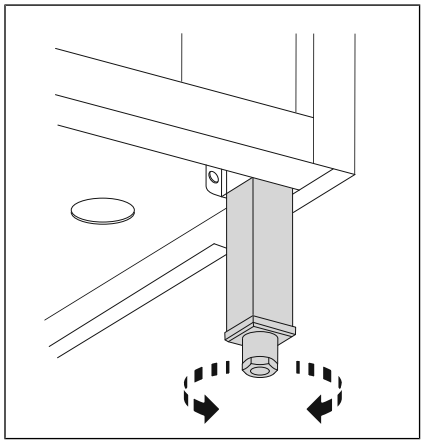

Image: Placing the unit on the equipment legs

Requirement The floor must support the weight of the unit

1. Use appropriate lifting gear to lift the unit.
2. Set up the unit in accordance with the planning drawing.
3. Align the unit lengthwise and crosswise (see "Aligning the unit").

5.2 Setting up the unit on the base

ATTENTION
Risk of physical damage from improper transport

- Lift unpacked floor-standing unit in the vicinity of the equipment legs.

ATTENTION

Risk of physical damage from improper transport

- When transporting the unit without packaging, pay attention to protruding equipment components (e. g. handles).

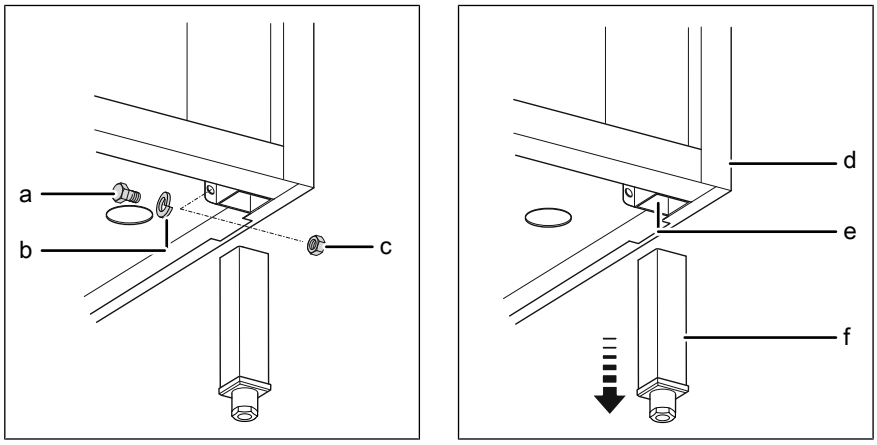

Image: Removing equipment leg

a	Screw	d	Unit
b	Washer	e	Leg socket
c	Nut	f	Equipment leg

Requirement The floor must support the weight of the unit

1. If the base is not horizontal, identify the highest area of the base and start the setting-up procedure there.
2. Use appropriate lifting gear to lift the unit.
3. Lift the unit over the power connection cables and set it up in accordance with the planning drawing.
4. Align the unit lengthwise and crosswise (see "Aligning the unit").

5.3 Aligning the unit

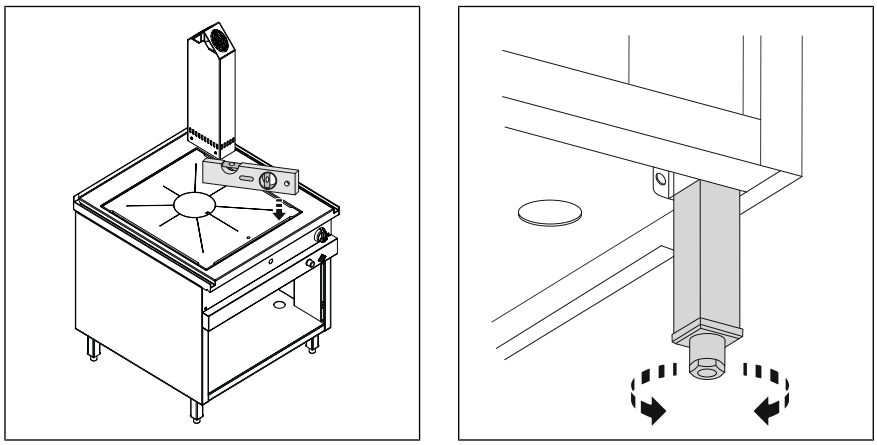

Image: Aligning floor-standing unit

Requirement Floor level

1. Place a spirit level on the covering of the unit.
2. Level the unit by screwing the equipment legs in or out.

5.4 Aligning the simmer plate

CAUTION
Risk of crushing injuries when lifting and lowering the simmer plate

- Lift and lower the simmer plate carefully with the extraction handle.
- Always secure the simmer plate against falling by means of the swivel mechanism locking lever.

The correct alignment of the simmer plate must be checked after transporting.

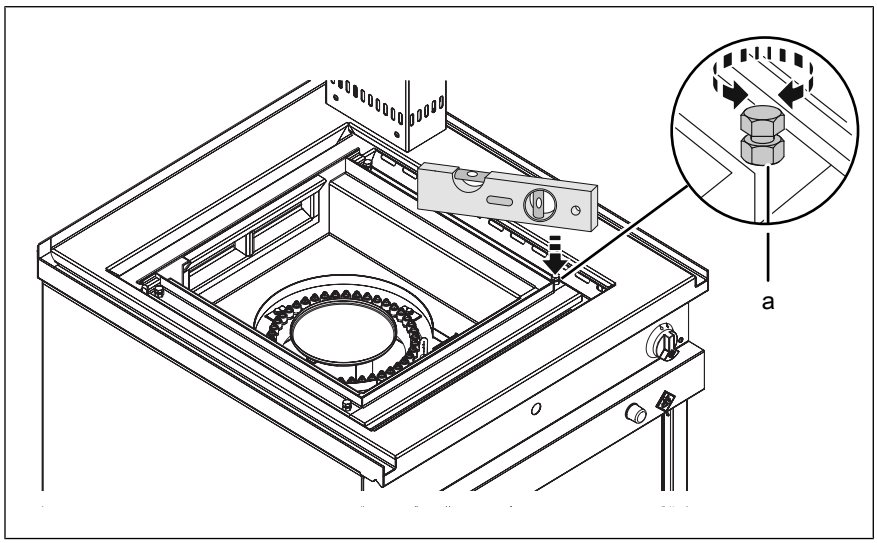

Image: Adjustable setscrew

a Adjustable setscrew

Requirement Unit switched off
Unit is aligned
Unit is cold
Simmer plate is closed

1. Place the spirit level on the simmer plate.
   ↳ The simmer plate is not aligned horizontally.
2. Open and secure the simmer plate (see "Opening and closing the housing").
3. Align the simmer plate horizontally by screwing the adjustable setscrews in or out.
4. Release and close the simmer plate (see "Opening and closing the housing").
5. Put the unit into service (see Operating instructions).

5.5 Connecting the unit

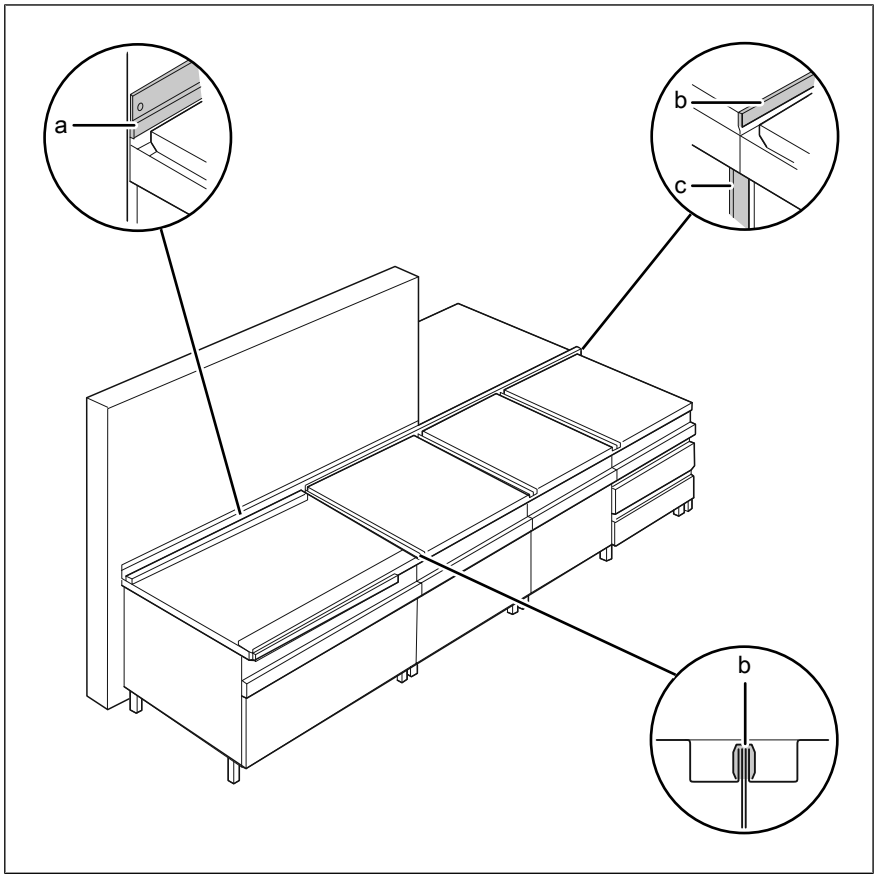

Image: Connecting a floor-standing unit

a Wall attachment profile
b Connecting profile
c Cover plate

→ When setting up with other equipment from the same manufacturer, use end and connecting profiles.

6 Connecting the unit

6.1 Opening and closing the housing

CAUTION
Risk of injury from sharp edges
- Wear protective gloves.

ATTENTION
Risk of physical damage from damage to the lines
- Remove and attach housing components carefully.

ATTENTION
Risk of physical damage from damage to the seals
- Check seals when attaching the housing parts.
- Change damaged seals.

6.1.1 Removing and attaching the control panel

Removing the control panel

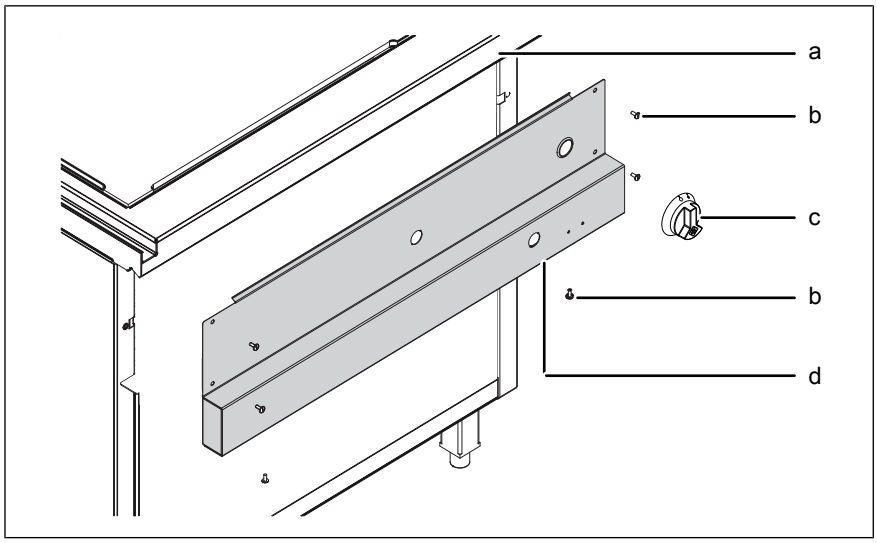

Image: Control panel of cooker

a Covering
b Screw
c Burner control knob
d Control panel

Requirement Gas shut-off valve closed
Control knob removed

1. Unscrew the screws at the left and right on the control panel.
2. Unscrew the screws at the left and right under the control panel.
3. Carefully pull the control panel downwards.

Attaching the control panel

Ensure that no lines are pinched.

Requirement Gas shut-off valve closed
Control knob removed

1. Insert the control panel behind the edge of the covering and press in at the bottom.
2. Fasten the control panel at the front and below with the screws.

6.1.2 Opening and closing the simmer plate

Opening the simmer plate

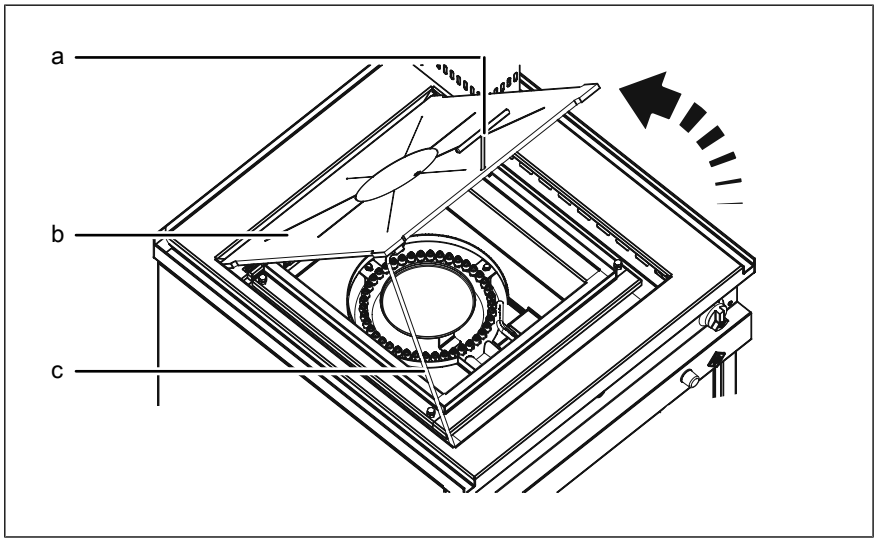

Image: Opening the simmer plate

a Extraction handle
b Simmer plate
c Swivel mechanism locking lever

Requirement Unit switched off
Unit is cold

1. Lift the simmer plate with the extraction handle.
2. Secure the simmer plate in the "open" position with the swivel mechanism locking lever.

Closing the simmer plate

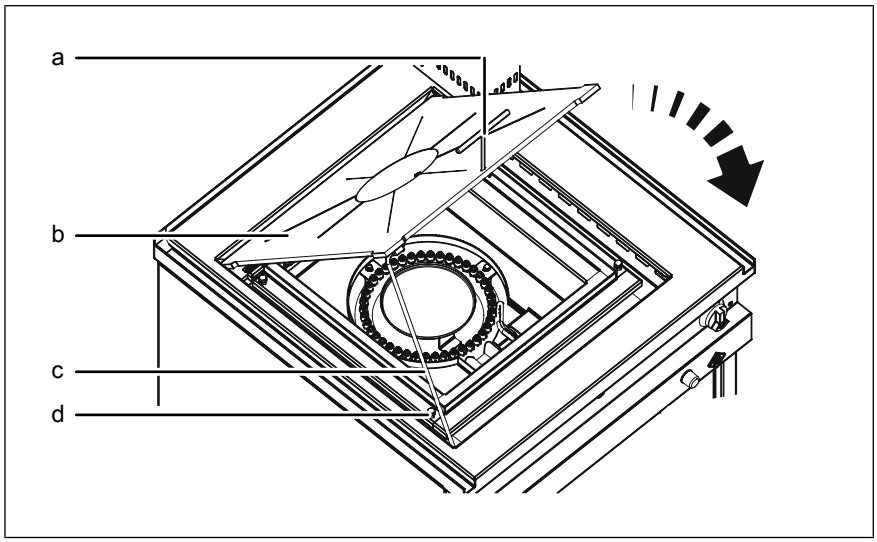

Image: Closing the simmer plate

a	Extraction handle	c	Swivel mechanism locking lever
b	Simmer plate	d	Adjusting screw

Requirement Unit switched off
Unit is cold

1. Hook the extraction handle into the simmer plate.
2. Release the swivel mechanism locking lever.
3. Lay the simmer plate onto the adjustable setscrews and support.

CAUTION
Risk of crushing injuries when lifting and lowering the simmer plate

- Lift and lower the simmer plate carefully with the extraction handle.
- Always secure the simmer plate against falling by means of the swivel mechanism locking lever.

6.2 Checking the supply air and exhaust gas routing

Routing of the supply air and exhaust gas must comply with the national and regional laws, regulations, standards and directives.

6.2.1 Description of the supply air and exhaust gas routing

WARNING
Risk of poisoning from exhaust gases

- Ensure that exhaust gases are routed to the outside.
- Install the unit below or at ventilation systems.
- For type B devices: Connect unit to ventilation system or chimney.
- Ensure that the unit can be operated only when the ventilation system is switched on.

WARNING
Risk of burns and fire from the high temperature of the exhaust gas

The temperature of the exhaust gas can be up to 400 °C.

- Do not touch the exhaust gas opening or its cover.
- Do not place any objects in close proximity to the exhaust gas opening or on the unit.

Installation room requirements

- An adequate supply air from outside joints and openings to the outside or an HVAC system is assured.
- Routing of exhaust gas to the outside is assured.
- Routing of the supply air and exhaust gas must not impair proper operation (for example by underpressure).
- A safety device must ensure that gas can be supplied only when the ventilation system is switched on.
- Routing of the exhaust gas depends on the type of unit (see "Equipment and connection data"):
  - Type A unit: Indirect routing of exhaust gas via ventilation systems such as a ventilated ceiling or ventilation hood.
  - Type B unit: Direct routing of exhaust gas via ventilation system or chimney
    or indirect routing of exhaust gas via ventilation systems such as ventilated ceiling or ventilation hood.

1. Ensure that all conditions in this section are satisfied.
2. Ensure that the supply air and exhaust gas routing is unobstructed.
3. Ensure that supply air and exhaust gas routing functions properly.
4. Fill out the commissioning report.

6.3 Connecting the potential equalisation

Equipotential bonding

The unit must be included in a potential equalisation system.

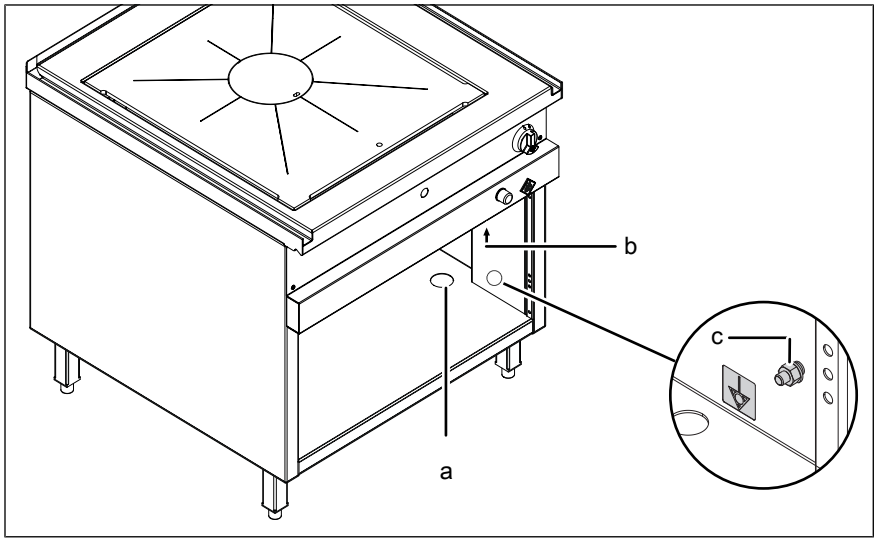

Image: Gas connection and potential equalisation

a Housing opening
b Gas connection
c Potential equalisation

1. Run and attach potential equalisation line to the identified terminal.
2. Fill out the commissioning report.

6.4 Connecting the gas

DANGER
Risk of fatal injury from operating the unit with the wrong gas type

- Ensure that the gas type for which the unit is set (see gas type supplemental label) matches the gas type available at the site.
- Ensure that the unit is suitable for the available gas type (see nameplate).

The unit is a Category II multi-gas unit and is intended for operation with natural gas or liquefied gas (LPG).

The unit must be connected on the basis of the information on the nameplate, gas type supplemental label and this manual.

Nameplate and gas type supplemental label

The gas type for which the unit is set is indicated on the gas type supplemental label.

The connection pressure and the category are indicated on the nameplate. The gas types for which the unit is intended can be identified from the category.

Conditions

Before the gas connection line can be connected to the unit, the following conditions must be satisfied:

- The gas type for which the unit is set must match the gas type available at the site. If this is not the case, the unit must be converted to the gas type available (see "Converting the gas type"). Based on the category, check whether the unit is intended for the gas type available.
- All parts of the gas system must be approved for use with gas.
- The gas shut-off valve for the unit must be readily accessible.
- The diameter of the gas connection line must not be smaller than that of the connection on the unit.
- The gas connection and the gas connection line must be positioned such that they cannot be damaged by heat.

Installation work

Gas installation work on the gas system and the unit may be performed only by a licensed tradesman approved by the gas utility.

Observe the applicable regional regulations of the gas utility.

Permanent connection

The unit is intended for a permanent connection. The connection can be rigid or flexible. Route the flexible gas connection line or gas hose in accordance with the manufacturer's specification without being stressed, kinked or twisted.

Shut-off device

The unit or the gas connection line must be equipped with a thermally activated shut-off. In strictly commercial buildings, a thermally activated shut-off is not necessary if the objective of providing fire and explosion safety is achieved by other means.

6.4.1 Description of the gas connection

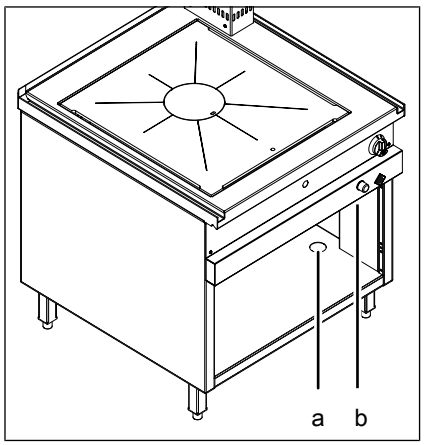

Image: Description of the gas connection

a Housing opening
b Gas connection

6.4.2 Connecting the gas connection line

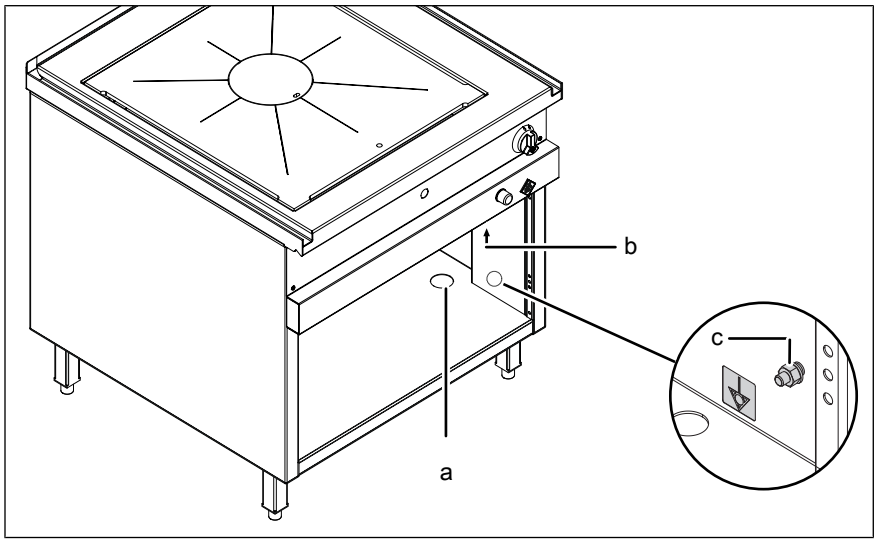

Image: Gas connection and potential equalisation of floor-standing cooker with simmer plate

a Housing opening
b Gas connection
c Potential equalisation

Requirement Gas shut-off valve closed
Control panel removed

1. Guide the gas connection line through the opening in the housing.
2. Connect the unit to the gas connection line.

ATTENTION
Risk of physical damage from excessively high pressure

- When opening the gas shut-off valve on the unit, ensure that the pressure in the gas connection line is <150 mbar.
- If the pressure is >150 mbar, close the gas supply, reduce the pressure in a technically correct manner and notify the gas utility.

3. Open the gas shut-off valve on the unit, while paying attention to the pressure in the gas connection line.

DANGER
Risk of explosion and fire from escaping gas

- When bleeding air from or degassing the gas system and the unit, ensure that the air and gas are discharged to the outside in a technically correct manner and without creating a risk.

4. Bleed air from the gas system and unit in a technically correct manner.
5. Check for leaks outside the unit (see "Checking for leaks").

WARNING
Risk of poisoning from exhaust gases

- Ensure that exhaust gases are discharged properly and that the necessary amount of combustion air is supplied.
- Ensure that a maximum CO content of < 0.1 vol. % or < 1000 ppm is achieved in undiluted exhaust gas.

6. Switch on the unit (see Operating instructions).
7. Check the connection pressure (see "Checking the connection pressure").
8. Check for leaks inside the unit (see "Checking for leaks").
9. Check the ignition behaviour (see "Checking the ignition behaviour").
10. Check the flame pattern (see "Checking the flame pattern").
11. Check the basic gas setting (see "Checking the basic gas setting").
12. Switch off the unit (See Operating instructions).
13. Close the housing (see "Opening and closing the housing").
14. Fill out the commissioning report.

6.4.3 Checking for leaks

DANGER
Risk of explosion and fire from leaking, gas-conducting parts

- Check the gas connection line and all gas-conducting parts for leaks at the operating pressure.
- Use only bubble-forming agents and gas leak detectors approved for use with gas.

Gas leak detectors respond to almost all combustible gases, even CO.

For this reason, ensure that the zero-point calibration of the gas leak detector was performed in fresh air, free of combustible gases. Observe the manufacturer's information.

Requirement Gas connection line connected

Control panel removed

1. Check for leaks outside the unit.
2. Check for leaks inside the unit.

Checking for leaks outside the unit

1. Open the gas shut-off valve.
2. Before putting the unit into service at operating pressure, check the gas connection line and all gas-conducting parts outside the unit for leaks with a bubble-forming agent or gas leak detector in accordance with the Technical Regulations for Gas Installations.
3. Fill out the commissioning report.

Checking for leaks inside the unit

1. Switch on the unit.
2. Check the connection pressure.
3. Before putting the unit into service at operating pressure, check the gas connection line and all gas-conducting parts inside the unit for leaks with a bubble-forming agent or gas leak detector in accordance with the Technical Regulations for Gas Installations.
4. Switch off the unit.
5. Fill out the commissioning report.

6.4.4 Checking the connection pressure

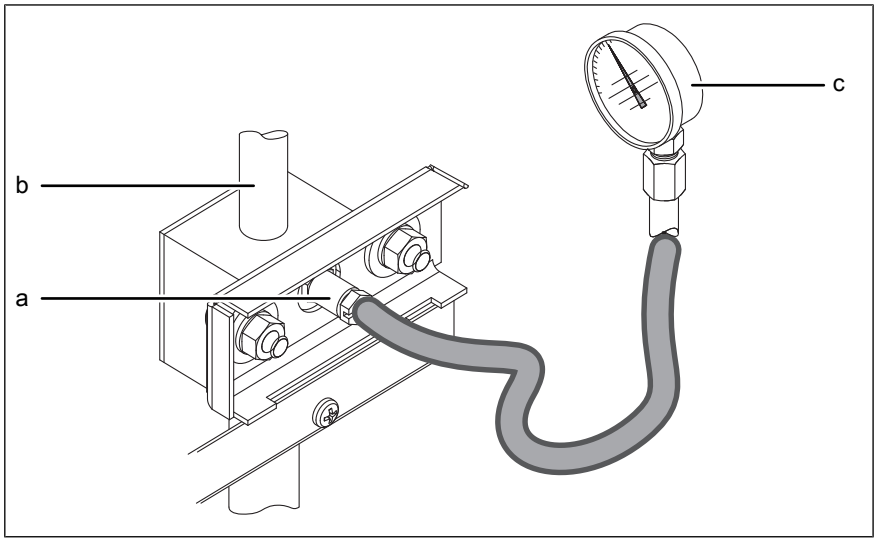

Image: Checking the connection pressure

a Connection pressure measuring point
b Distributor pipe for cooker with simmer plate
c Pressure measuring device

Requirement Gas connection line connected

Control panel removed

Check for leaks outside the unit conducted

Measuring accuracy of the pressure measuring device at least 0.1 mbar

1. Close the gas shut-off valve on the unit.
2. Unscrew the sealing plug from the connection pressure measuring point.
3. Connect the pressure measuring device.

ATTENTION
Risk of physical damage from excessively high pressure

- When opening the gas shut-off valve on the unit, ensure that the pressure in the gas connection line is <150 mbar.
- If the pressure is >150 mbar, close the gas supply, reduce the pressure in a technically correct manner and notify the gas utility.

4. Open the gas shut-off valve on the unit, while paying attention to the pressure in the gas connection line.

DANGER
Risk of explosion and fire from escaping gas

- When bleeding air from or degassing the gas system and the unit, ensure that the air and gas are discharged to the outside in a technically correct manner and without creating a risk.

5. Bleed air from the gas system and unit in a technically correct manner.
6. Switch on the unit.
7. Set maximum output.
   ↳ The unit operates at maximum output.
8. Measure the connection pressure.

DANGER
Risk of fatal injury from operating the unit at a connection pressure outside the specified range

- Do not put the unit into service.
- Notify the gas utility.

9. Check whether the measured connection pressure is within the specified range (see "Equipment and connection data").
10. Switch off the unit.
11. Close the gas shut-off valve on the unit.
12. Disconnect the pressure measuring device.
13. Tightly screw the sealing plug into the connection pressure measuring point.
14. Open the gas shut-off valve on the unit.
15. Check the connection pressure measuring point for leaks.
16. Fill out the commissioning report.

6.4.5 Checking the basic gas setting

Requirement Gas connection line connected
Check for leaktightness outside the unit conducted
Connection pressure checked
Check for leaktightness inside the unit conducted
Control panel removed

1. Check the rated heat input.
2. Check the primary air quantity.
3. Check the exhaust gas values.

Checking the rated heat input under full load

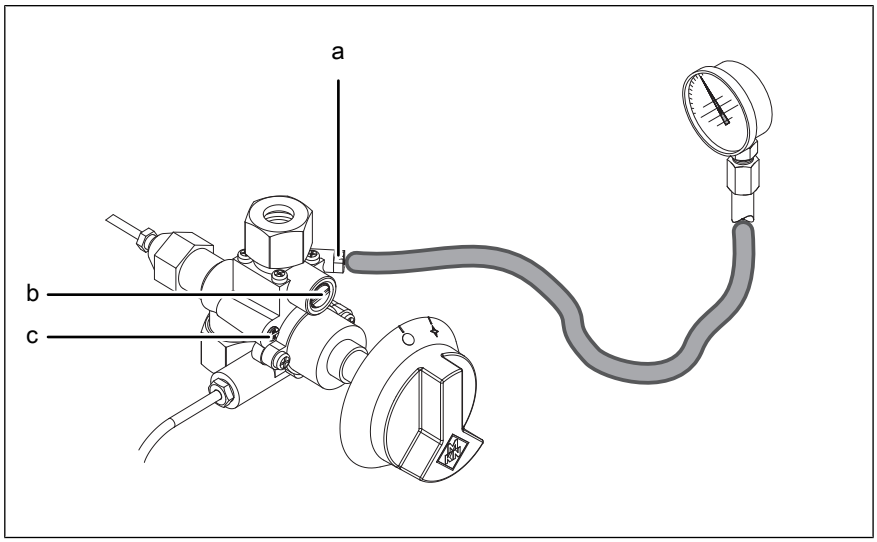

Image: Checking the rated heat input

a Nozzle pressure measuring point
b Burner nozzle for full load
c Burner nozzle for partial load

Requirement

Control panel removed

Checked for leaks outside the unit

Connection pressure checked

Checked for leaks inside the unit

Measuring accuracy of the pressure measuring device used is at least 0.1 mbar

1. Close the gas shut-off valve on the unit.
2. Unscrew the sealing plug from the nozzle pressure measuring point.
3. Connect the pressure measuring device.
4. Open the gas shut-off valve on the unit.
5. Switch on the unit (see Operating instructions).
6. Set the maximum output.
   ↳ The unit operates at full load.
   ↳ After approx. 10 minutes, the unit has reached operating temperature.
7. Measure the nozzle pressure with the unit at operating temperature (see "Equipment and connection data").
8. Check whether the measured nozzle pressure matches the specified value (see "Equipment and connection data").
9. Measure the nozzle pressure.
   ↳ The pressure lies in the specified range (see "Equipment and connection data").
   ↳ If the nozzle pressure does not match the specified value, adjust the rated heat input under full load (see "Adjusting the basic gas setting").

10. Switch off the unit.
11. Close the gas shut-off valve on the unit.
12. Disconnect the pressure measuring device.
13. Tightly screw the sealing plug into the nozzle pressure measuring point.
14. Open the gas shut-off valve on the unit.
15. Check the nozzle pressure measuring point for leaks.
16. Check partial load (see "Checking the rated heat input under partial load").
17. Check the ignition load (see "Checking the rated heat input under ignition load").
18. Fill out the commissioning report.

Checking the rated heat input under partial load

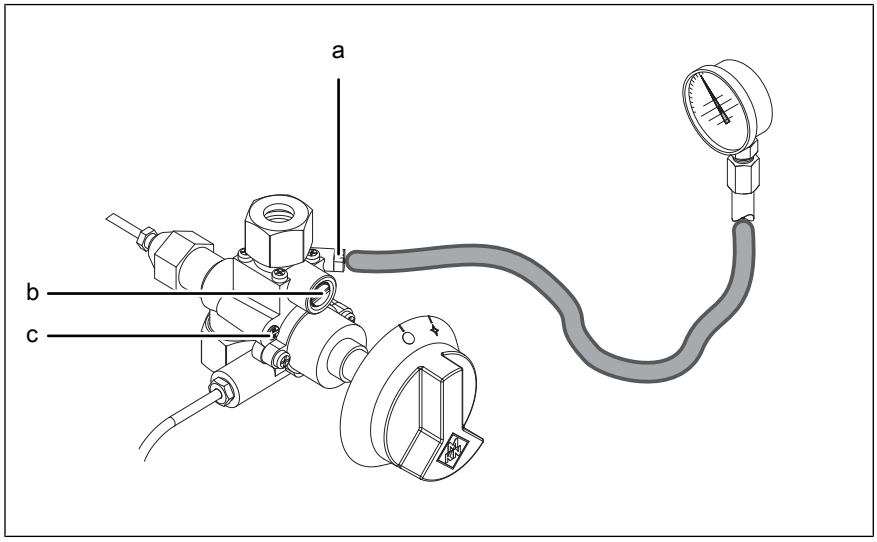

Image: Checking the rated heat input

a Nozzle pressure measuring point
b Burner nozzle for full load
c Burner nozzle for partial load

Requirement Rated heat input checked under full load

1. Check whether the burner nozzle for partial load corresponds to the nozzle diameter for partial load.
   ↳ If the adjusting screw for partial load does not correspond to the specified nozzle diameter for partial load, change the burner nozzle for partial load (see "Changing the burner nozzle for partial load").
2. Unscrew the sealing plug from the nozzle pressure measuring point.
3. Connect the pressure measuring device.
4. Open the gas shut-off valve on the unit.
5. Switch on the unit (see Operating instructions).

6. Set the minimum output.
   ↳ The unit operates at partial load.
   ↳ After approx. 10 minutes, the unit has reached operating temperature.
7. Measure the nozzle pressure.
   ↳ The pressure lies in the specified range (see "Equipment and connection data").
   ↳ If the nozzle pressure does not match the specified value, adjust the rated heat input under partial load (see "Adjusting the basic gas setting").
8. Check the ignition load (see "Checking the rated heat input under ignition load").
9. Fill out the commissioning report.

Checking the rated heat input under ignition load

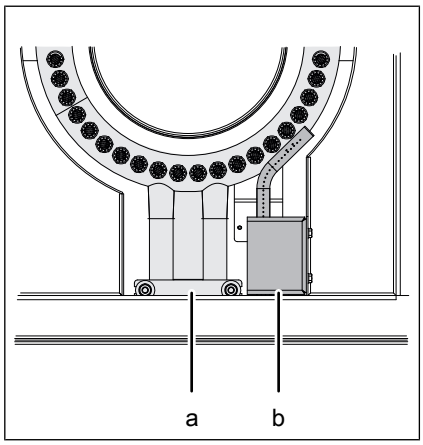

Image: Pilot burner and burner

a Burner
b Pilot burner

Requirement Rated heat input checked under full load
Rated heat input checked under partial load

1. Check that the flame ignites well.
   ↳ If the flame does not ignite well:
   ↳ Check the pilot burner nozzle.
   ↳ Check the primary air.
2. Fill out the commissioning report.

Checking the primary air quantity

Checking the burner primary air quantity

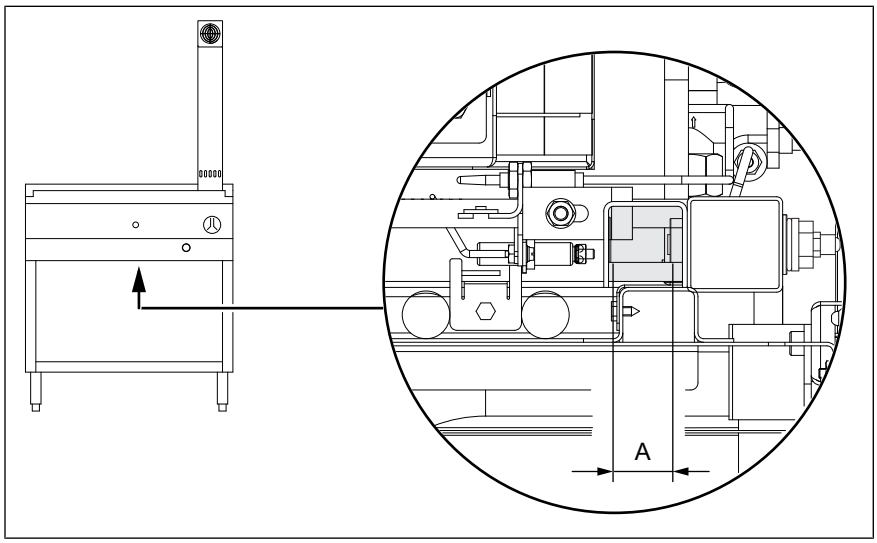

Image: Checking the burner primary air quantity

A Primary air gap

Requirement Rated heat input checked
Burner primary air quantity checked

1. Check whether the primary air gap is free.
   ↳ The primary air gap can not be changed (see "Equipment and connection data").
2. Fill out the commissioning report.

Checking the primary air quantity for the pilot burner

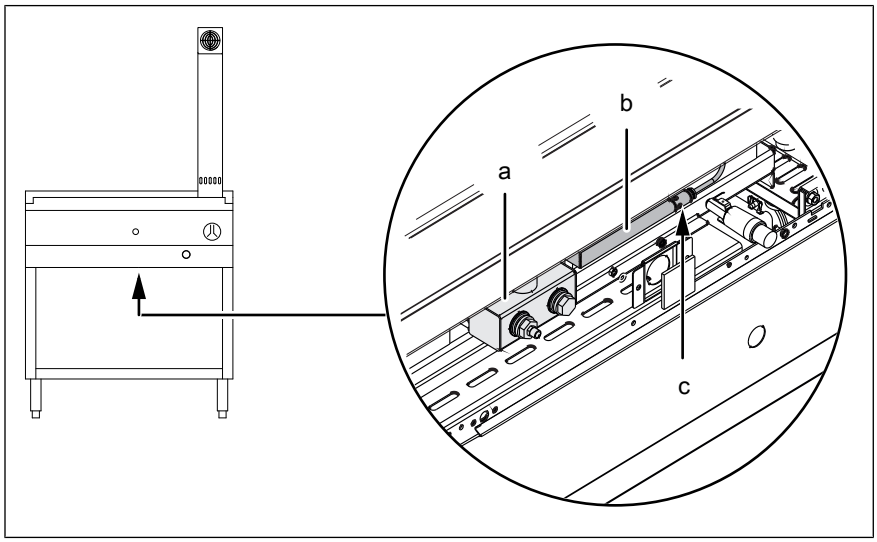

Image: Checking the primary air quantity for the pilot burner

a Burner
b Pilot burner
c Pilot burner primary air

2063501-00AIBE-A

Requirement Rated heat input checked
Burner primary air quantity checked

1. Check whether the primary air gap is free.
   ↳ The primary air gap can not be changed (see "Equipment and connection data").
2. Fill out the commissioning report.

Checking the exhaust gas values

WARNING
Risk of poisoning from exhaust gases

- Ensure that exhaust gases are discharged properly and that the necessary amount of combustion air is supplied.
- Ensure that a maximum CO content of < 0.1 vol. % or < 1000 ppm is achieved in undiluted exhaust gas.

Requirement Gas connection line connected
Checked for leaks outside the unit
Connection pressure checked
Checked for leaks inside the unit
Rated heat input checked
Primary air quantity checked

1. Switch on the unit (see Operating instructions).
2. Set the maximum output.
   ↳ The unit operates at full load.
   ↳ After 10 minutes, the unit has reached operating temperature.
3. Measure the exhaust gas values with an approved exhaust gas measuring device while the unit is at operating temperature.
4. Check whether the measured CO content is within the specified range (see "Equipment and connection data").
   ↳ If the CO content is not within the specified range, adjust the basic gas setting (see "Adjusting the basic gas setting").
5. Switch off the unit.
6. Fill out the commissioning report.

6.4.6 Adjusting the basic gas setting

Requirement Gas connection line connected
Checked for leaks outside the unit
Connection pressure checked
Checked for leaks inside the unit
Basic setting checked
Control panel removed

→ If the rated heat input is checked and not OK: adjust the rated heat input.

WARNING
Risk of poisoning from exhaust gases

- Ensure that exhaust gases are discharged properly and that the necessary amount of combustion air is supplied.
- Ensure that a maximum CO content of < 0.1 vol. % or < 1000 ppm is achieved in undiluted exhaust gas.

Adjusting the rated heat input under full load

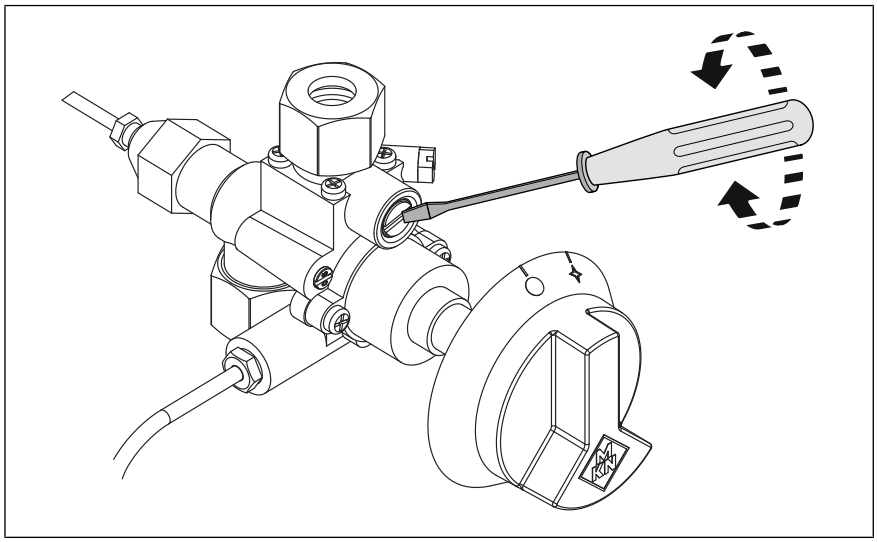

Image: Adjusting the rated heat input under full load

Requirement Rated heat input under full load checked and not OK
Measuring accuracy of the pressure measuring device used is at least 0.1 mbar
Gas shut-off valve on the unit is closed
Control panel removed

1. Unscrew the sealing plug from the nozzle pressure measuring point.
2. Connect the pressure measuring device.
3. Open the gas shut-off valve on the unit.
4. Switch on the unit (see Operating instructions).

5. Set the maximum output.
   ↳ The unit operates at full load.
   ↳ After 10 minutes, the unit has reached operating temperature.
6. Adjust the nozzle pressure with the unit at operating temperature.
7. Turn the adjusting screw for full load to adjust the nozzle pressure until the specified value is reached (see "Equipment and connection data").
   ↳ Turn the maximum output adjusting screw clockwise to reduce the pressure. The flame becomes smaller.
   ↳ Turn the maximum output adjusting screw anti-clockwise to increase the pressure. The flame becomes larger.
   ↳ For operation with liquefied gas or natural gas with a pressure pair: Back out the maximum output adjusting screw by turning it anti-clockwise until it is flush. The gas valve is open completely. The nozzle pressure corresponds to the connection pressure.
8. Check the ignition behaviour (see "Checking the ignition behaviour").
9. Check the flame pattern (see "Checking the flame pattern").
10. Check the exhaust gas values (see "Checking the exhaust gas values").
11. Switch off the unit.
12. Close the gas shut-off valve on the unit.
13. Disconnect the pressure measuring device.
14. Tightly screw the sealing plug into the nozzle pressure measuring point.
15. Open the gas shut-off valve on the unit.
16. Check the nozzle pressure measuring point for leaks.
17. Fill out the commissioning report.

Adjusting the rated heat input under partial load

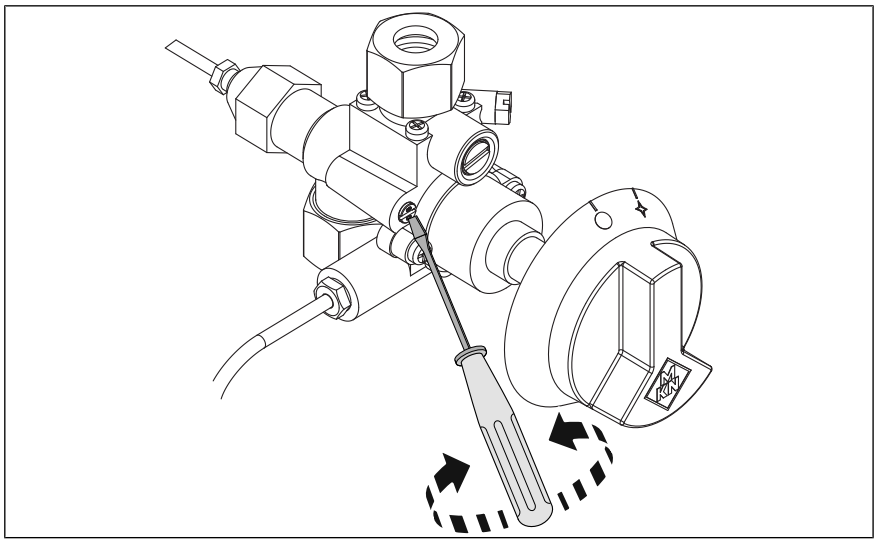

Image: Adjusting the rated heat input under partial load

Requirement Rated heat input under partial load checked and not OK

Measuring accuracy of the pressure measuring device used is at least 0.1 mbar

Gas shut-off valve on the unit is closed

Control panel removed

1. Unscrew the sealing plug from the nozzle pressure measuring point.
2. Connect the pressure measuring device.
3. Open the gas shut-off valve on the unit.
4. Switch on the unit (see Operating instructions).
5. Set the minimum output.
   ↳ The unit operates at partial load.
6. Turn the burner nozzle for partial load to adjust the nozzle pressure until the specified value is reached (see "Equipment and connection data").
   ↳ Turn the burner nozzle for partial load clockwise to reduce the pressure. The flame becomes smaller.
   ↳ Turn the burner nozzle for partial load anti-clockwise to increase the pressure. The flame becomes larger.
   ↳ For operation with liquefied gas, turn the burner nozzle for partial load clockwise as far as possible. The burner nozzle for partial load is fully effective.
7. Switch off the unit.
8. Close the gas shut-off valve on the unit.
9. Disconnect the pressure measuring device.
10. Tightly screw the sealing plug into the nozzle pressure measuring point.
11. Open the gas shut-off valve on the unit.
12. Check the nozzle pressure measuring point for leaks
13. Fill out the commissioning report.

6.5 Converting the gas type

DANGER
Risk of explosion and fire from escaping gas

- When bleeding air from or degassing the gas system and the unit, ensure that the air and gas are discharged to the outside in a technically correct manner and without creating a risk.

Requirement Gas shut-off valve closed

Control panel removed

1. If the unit is already filled with gas: Degas the unit in a technically correct manner.
2. Changing the burner nozzle (See "Changing the burner nozzle").

3. Changing the pilot burner nozzle (see "Changing the pilot burner nozzle").

DANGER
Risk of explosion or fire from operating the unit with the wrong gas type because of missing or incorrect gas type supplemental label

- When converting to a different gas type, replace the gas type supplemental label on the unit with the appropriate gas type supplemental label for the gas type available.

4. Replace the supplementary label for gas type on the unit with the appropriate supplementary label for the gas type available.
5. Guide the gas connection line through the opening in the housing.
6. Connect the unit to the gas connection line.

ATTENTION
Risk of physical damage from excessively high pressure

- When opening the gas shut-off valve on the unit, ensure that the pressure in the gas connection line is <150 mbar.
- If the pressure is >150 mbar, close the gas supply, reduce the pressure in a technically correct manner and notify the gas utility.

7. Open the gas shut-off valve on the unit, while paying attention to the pressure in the gas connection line.
8. Bleed air from the gas system and unit in a technically correct manner.
9. Check for leaks outside the unit (see "Checking for leaks").

WARNING
Risk of poisoning from exhaust gases

- Ensure that exhaust gases are discharged properly and that the necessary amount of combustion air is supplied.
- Ensure that a maximum CO content of < 0.1 vol. % or < 1000 ppm is achieved in undiluted exhaust gas.

10. Switch on the unit (see Operating instructions).
11. Check the connection pressure (see "Checking the connection pressure").
12. Check for leaks inside the unit (see "Checking for leaks").
13. Check the ignition behaviour (see "Checking the ignition behaviour").
14. Check the flame pattern (see "Checking the flame pattern").
15. Check the basic gas setting (see "Checking the basic gas setting").
16. Switch off the unit (See Operating instructions).
17. Close the housing (see "Opening and closing the housing").
18. Fill out the commissioning report.

6.5.1 Changing the burner nozzle for full load

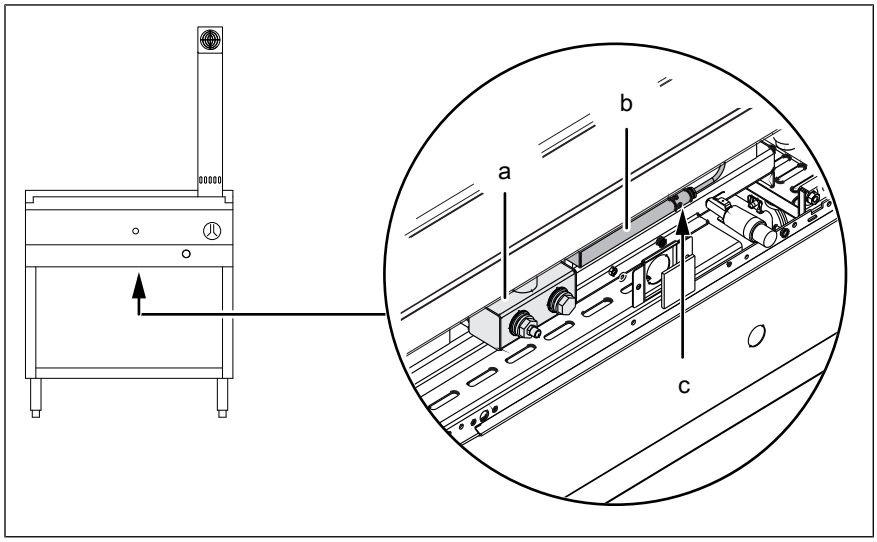

Image: Burner and pilot burner

a Burner
b Pilot burner
c Pilot burner primary air

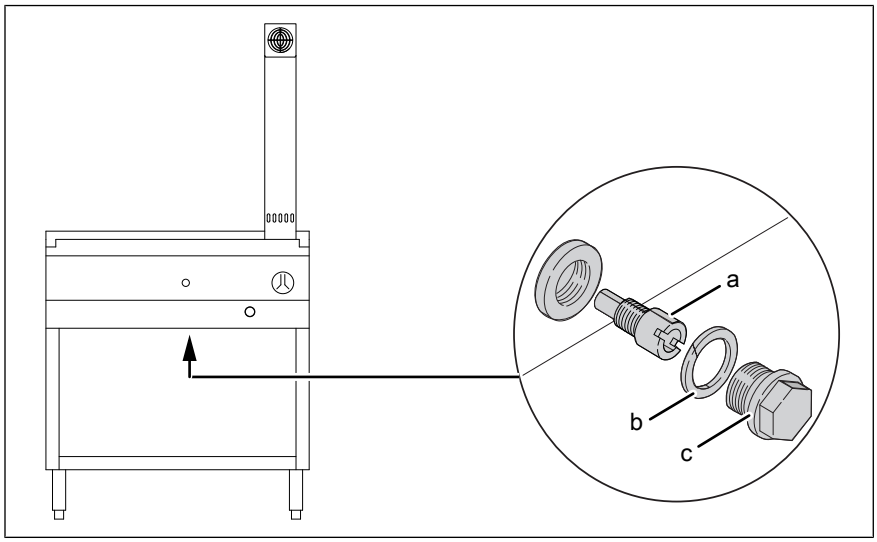

Image: Changing the burner nozzle

a Burner nozzle
b Seal
c Threaded plug

Requirement Gas shut-off valve on the unit is closed
Control panel removed

1. Unscrew the locking screw on the burner bar.
2. Unscrew the burner nozzle with a screwdriver.
3. Screw in the appropriate burner nozzle (see "Equipment and connection data").

DANGER
Risk of asphyxiation and explosion from damaged seals

- Check seals for damage
- Replace damaged seals
- Use only seals that are approved for use with gas

4. Close the burner bar with the locking screw and seal.
5. Check for leaks (see "Checking for leaks").

6.5.2 Changing the burner nozzle for partial load

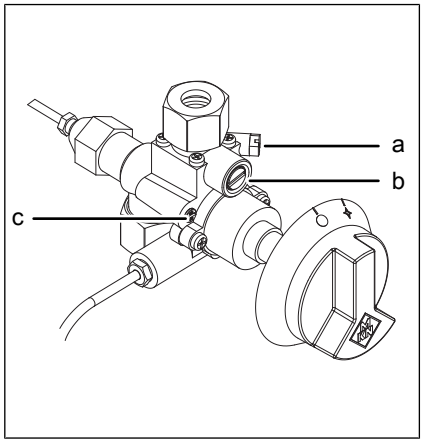

Image: Measuring the nozzle pressure

a Nozzle pressure measuring point
b Adjusting screw for full load
c Burner nozzle for partial load

DANGER
Risk of asphyxiation and explosion from damaged seals

- Check seals for damage
- Replace damaged seals
- Use only seals that are approved for use with gas

Requirement Gas shut-off valve on the unit is closed
Control panel removed

1. Unscrew the burner nozzle for partial load with a screwdriver by turning it anti-clockwise.
2. Screw in the appropriate burner nozzle for partial load (see "Equipment and connection data").
3. Check for leaks (see "Checking for leaks").

6.5.3 Changing the pilot burner nozzle

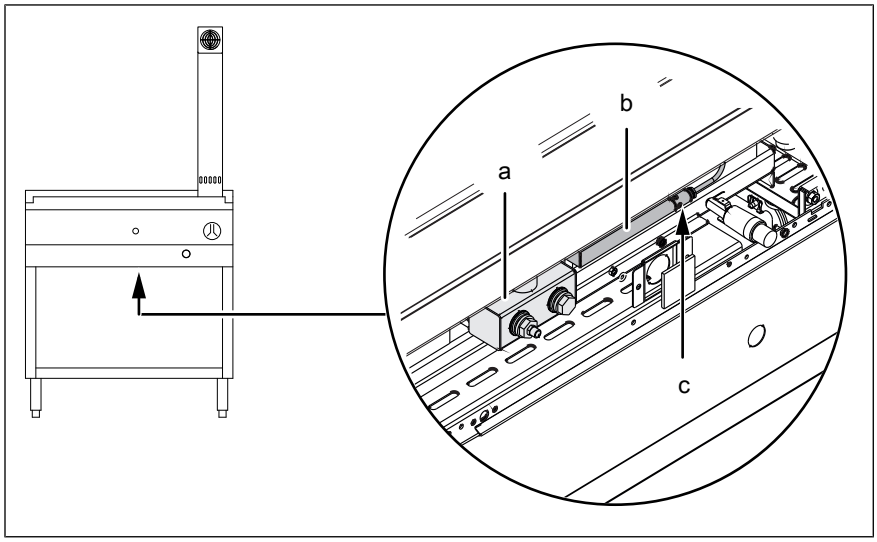

Image: Burner and pilot burner

a Burner
b Pilot burner
c Pilot burner primary air

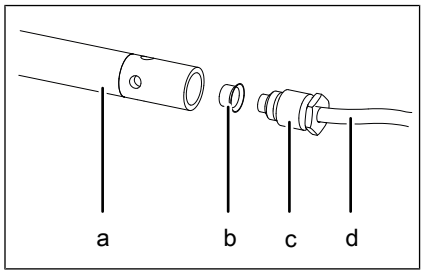

Image: Changing the pilot burner nozzle

a Pilot burner pipe fitting
b Pilot burner nozzle
c Cap nut
d Pilot gas line

Requirement Gas shut-off valve on the unit is closed

Control panel removed

1. Release the pipe fitting on the pilot burner and pull back the pilot gas line.
2. Remove the pilot burner nozzle.
3. Insert the appropriate pilot burner nozzle (see "Equipment and connection data").
4. Fasten the pilot gas line to the pilot burner with the pipe fitting.
5. Check for leaks (see "Checking for leaks").

7 Checking operation

DANGER
Risk of personal injury and physical damage from unsuccessful operational check

- Do not put the unit into service.
- Contact customer service.

Requirement Supply air and exhaust gas routing checked and switched on

Potential equalisation connected

Gas connection line connected

Checked for leaks outside the unit

Connection pressure checked

Checked for leaks inside the unit

Basic gas setting checked

7.1 Checking the exhaust gas routing for leaks

1. Switch on the unit (see "Operating instructions").
2. Set maximum output.
   ↳ The burner ignites.
   ↳ The flame burns stably.
   ↳ The unit operates at maximum output.
3. Check the supply air opening with a condensation mirror or approved backflow testing device for escaping exhaust gas in a technically correct manner.
4. Check exhaust gas-conducting parts for leaks with a condensation mirror or approved backflow testing device in a technically correct manner.
5. Switch off the unit.
   ↳ The flame extinguishes.
   ↳ The burner is off.
6. Fill out the commissioning report.

7.2 Checking the monitoring of the exhaust gas routing

1. Switch on the unit (see Operating instructions).
2. Set maximum output.
   ↳ The burner ignites.
   ↳ The flame burns stably.
   ↳ The unit operates at maximum output.

3. Switch off the ventilation.
   ↳ The gas supply is blocked.
   ↳ The flame extinguishes.
   ↳ The burner is off.
   ↳ The safety device trips within 60 seconds.
   ↳ The monitoring of the exhaust gas routing is functioning.
4. Switch on the ventilation.
5. Switch on the unit (see Operating instructions).
6. Set maximum output.
   ↳ The burner ignites within 20 seconds.
   ↳ The flame burns stably.
   ↳ The unit operates at maximum output.
7. Switch off the unit.
   ↳ The flame extinguishes.
   ↳ The burner is off.
8. Fill out the commissioning report.

7.3 Checking the ignition behaviour

1. Switch on the unit (see Operating instructions).
2. Set the maximum output.
   ↳ The burner ignites.
3. Observe the ignition behaviour at the inspection port until the flame burns stably.
   ↳ The flame burns stably.
   ↳ The unit operates at full load.
4. Ensure that all burner rods ignite and cross-ignite without a delay.
   ↳ Ignition is OK
5. Reduce the output until the flame extinguishes.
   ↳ The flame extinguishes.
   ↳ The burner is off.
6. Repeat steps 1 to 5 several times.
7. Switch off the unit.
   ↳ The flame extinguishes.
   ↳ The burner is off.
8. Fill out the commissioning report.

7.4 Checking the flame pattern

1. Switch on the unit (see Operating instructions).
2. Set the maximum output while observing the flame pattern through the inspection port.
   ↳ The burner ignites.
   ↳ The flame burns stably.
   ↳ The unit operates at full load.
3. Observe the flame pattern through the inspection port.
   ↳ The flame must be pointed at its core.
   ↳ The flame must not generate soot, appear yellow, flash back or lift off.
4. Switch off the unit.
   ↳ The flame extinguishes.
   ↳ The burner is off.
5. Fill out the commissioning report.

7.5 Checking the flame monitoring

1. Switch on the unit (see Operating instructions).
2. Set the maximum output.
   ↳ The burner ignites.
   ↳ The flame burns stably.
   ↳ The unit operates at full load.
3. Close the gas shut-off valve on the unit.
   ↳ The flame extinguishes.
   ↳ The safety device is triggered within 60 seconds.
   ↳ The flame monitoring is functioning.
4. Open the gas shut-off valve on the unit.
5. Switch on the unit (see Operating instructions).
6. Set the maximum output.
   ↳ The burner ignites within 20 seconds.
   ↳ The flame burns stably.
   ↳ The unit operates at full load.
   ↳ The flame monitoring is functioning.
7. Switch off the unit.
   ↳ The flame extinguishes.
   ↳ The burner is off.
8. Fill out the commissioning report.

7.6 Checking the controls

1. Switch on the unit (see Operating instructions).
2. Set the maximum output.
   ↳ The burner ignites.
   ↳ The flame burns stably.
   ↳ The unit operates at full load.
   ↳ The controls under full load are functioning.
3. Set the minimum output.
   ↳ The flame burns smaller.
   ↳ The unit operates at partial load.
   ↳ The controls under partial load are functioning.
4. Switch off the unit.
5. Fill out the commissioning report.

8 Putting the unit into service

DANGER
Risk of personal injury and physical damage from unsuccessful operational check

- Do not put the unit into service.
- Contact customer service.

If the unit is not put into service immediately after being connected and the function check, all inspections must be repeated.

Requirement Supply air and exhaust gas routing checked
Gas connection made
Operation successfully checked
Housing closed

1. Instruct the operator.
2. Fill out the commissioning report.

8.1 Filling out the commissioning report

General	Yes	No
Information from the nameplate entered? SN: _____ Typ: _____ QN (Hi): _____ E: _____ Bez: _____ Item-Nr.: _____ (if listed)	☐	☐
Obvious damage to the unit? What and where?: _____	☐	☐
Unit levelled?	☐	☐
Elements that can tilt have been aligned horizontally? (for example: pans)	☐	☐

Supply air and exhaust gas routing	Yes	No
Supply air and exhaust gas routing complies with regulations?	☐	☐
Supply air and exhaust gas routing connected in a technically correct manner?	☐	☐
Supply air and exhaust gas routing is functioning properly?	☐	☐
Supply air and exhaust gas paths unobstructed?	☐	☐
Unit connected to monitoring of the exhaust gas routing in a technically correct manner?	☐	☐
The monitoring of the exhaust gas routing is functioning?	☐	☐

Equipotential bonding	Yes	No
Potential equalisation connected professionally?	☐	☐

Gas connection		Yes	No
Does the information on the gas type supplemental label match the gas type available?		☐	☐
Information from the gas type supplemental label entered?		☐	☐
Natural gas: ☐ E/H, G20, 20 mbar ☐ LL/L, G25, 20 mbar ☐ L, G25, 25 mbar	**Liquefied gas (LPG):** ☐ B/P, G30/G31, 50 mbar ☐ B/P, G30/G31, 30 mbar		
☐ Other gas type: _____ Connection pressure: _____ mbar			
Gas connection made in a technically correct manner? Gas connection size on unit: _____ ☐ mm or ☐ inches Gas connection line size: _____ ☐ mm or ☐ inches		☐	☐
Thermally activated shut-off installed?		☐	☐
Gas connection line leak-free?		☐	☐
Gas-conducting parts inside the unit leak-free?		☐	☐
Gas pressure OK? Connection pressure: _____ mbar		☐	☐
Nozzle pressure OK?		☐	☐
☐ Measured: _____ mbar	☐ Set: _____ mbar		
Primary air gap OK?		☐	☐
☐ Measured: _____ mm	☐ Set: _____ mm		
Exhaust gas values at maximum output OK?		☐	☐
☐ Measured CO: _____ ppm	☐ Set CO: _____ ppm		
☐ Measured CO_2: _____ vol. %	☐ Set CO_2: _____ vol. %		
Exhaust gas values at minimum output OK?		☐	☐
☐ Measured CO: _____ ppm	☐ Set CO: _____ ppm		
☐ Measured CO_2: _____ vol. %	☐ Set CO_2: _____ vol. %		

Conversion of gas type (if necessary)		Yes	No
Burner nozzle / gas orifice replaced?		☐	☐
Before conversion: Number of nozzles / gas orifices: _____ Coefficient: _____	After conversion: Number of nozzles / gas orifices: _____ Coefficient: _____		
Appropriate gas type supplemental label attached after conversion?		☐	☐

Conversion of gas type (if necessary)		Yes	No
Information from the gas type supplemental label after conversion entered?		☐	☐
Natural gas: ☐ E/H, G20, 20 mbar ☐ LL/L, G25, 20 mbar ☐ L, G25, 25 mbar	**Liquefied gas (LPG):** ☐ B/P, G30/G31, 50 mbar ☐ B/P, G30/G31, 30 mbar		
☐ Other gas type: _____ Connection pressure: _____ mbar			

Function check	Yes	No
Controls are functioning?	☐	☐
Exhaust gas routing is functioning properly?	☐	☐
Exhaust gas routing is leak-free?	☐	☐
The monitoring of the exhaust gas routing is functioning?	☐	☐
Ignition behaviour OK?	☐	☐
Flame pattern OK?	☐	☐
Flame monitoring is functioning?	☐	☐

Final notes	Yes	No
Was the unit put into service?	☐	☐
Comments:		
Operator trained?	☐	☐

The gas was connected by:			
Company	Installer	City, date	Signature

The function check was performed by:			
Company	Installer	City, date	Signature

Operator training was provided by:			
Company	Installer	City, date	Signature


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