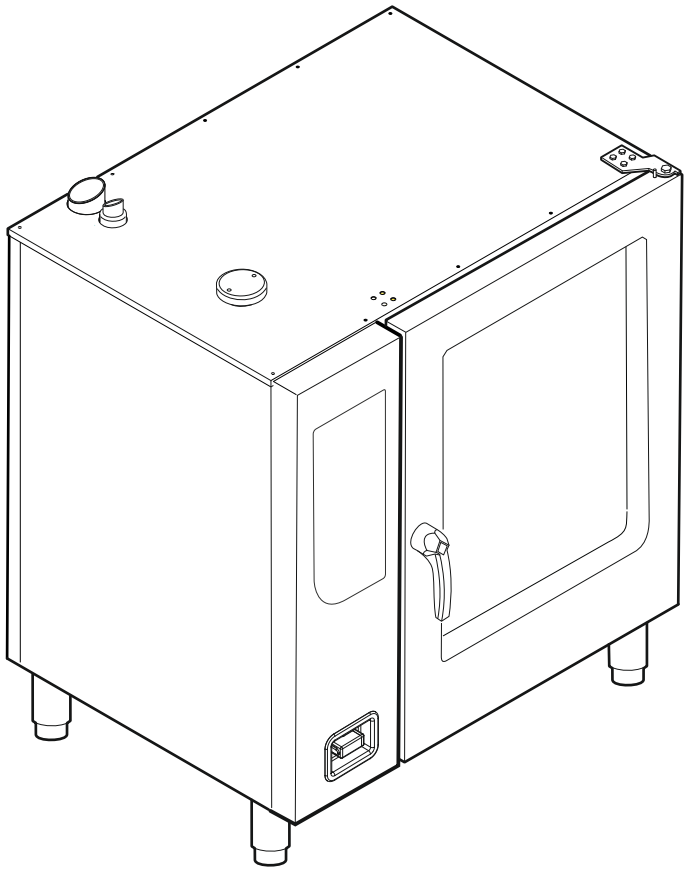
Read the operating instructions prior to commissioning

Installation instructions

Combisteamer



Unit	Model	Type of energy	Device type
FlexiCombi Classic	6.15, 6.21, 10.15, 10.21	Gas	Countertop unit
	20.15, 20.21		Floor-standing unit

Translation from the original document • 10014471-0AIDE-A • 08/01/2016

Manufacturer

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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 comply can cause minor or moderate 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 prescribed sequence.
↳	Result of a listed action.

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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

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.
- When setting up the unit in close proximity to heat-sensitive substances or substances that pose a risk of fire, observe fire prevention regulations.
- The room's ceiling above the unit must be non-combustible.

Risk of fire from objects

- Do not obstruct the exhaust gas duct.

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.

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Setup

Risk of property damage and personal injury from improper setup

- Ensure that the installation area has adequate load-bearing capacity.
- Wear safety shoes and protective gloves.

Electrical connection

Risk of fire from improper connection

- Observe applicable regional regulations of the electrical utility.
- Ensure that only licensed electricians connect the unit.
- Ensure that the electrical system is earthed by a protective earthing conductor.
- Note the information on the nameplate.

Risk of electric shock from live components.

- Prior to working on the electrical system, switch off the unit, disconnect the electrical system from the mains and prevent power from being switched on again. Check to ensure absence of voltage.
- Use only insulated tools.

Gas connection

Risk of explosion and fire from improper connection

- Observe applicable regional regulations of the gas utility.
- Ensure that only a licensed tradesman 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 value of < 0.1 vol. % or < 1000 ppm is achieved in undiluted exhaust gas.

Risk of fire from combustion gases and hot surfaces

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

Additional connection work

Risk of physical damage and personal injury from improper connection

- Prior to working on the unit, switch off the unit, disconnect the unit from the mains and prevent power from being switched on again. Check to ensure absence of voltage.
- 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.

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

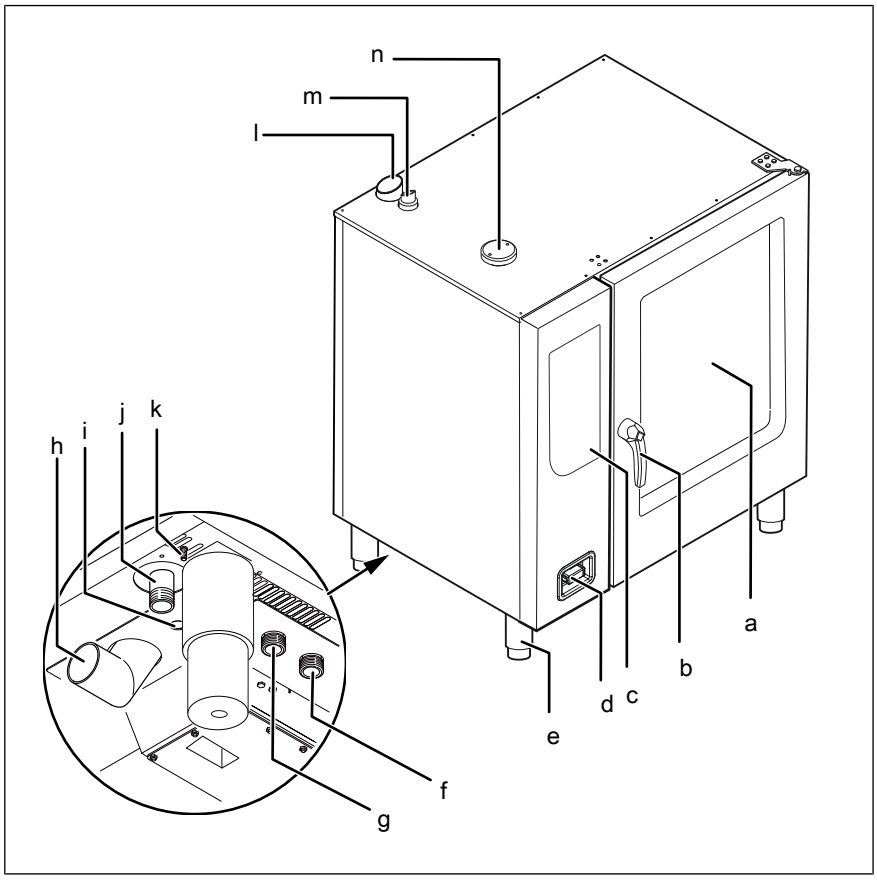

Image: Gas-FlexiCombi Classic, unit size 10

a	Cooking zone door	h	Wastewater connection
b	Door handle	i	Opening for power connection
c	Operating elements	j	Gas connection on unit
d	Hand shower	k	Potential equalisation connection
e	Equipment leg, vertically adjustable	l	Steam outlet connection fitting
f	Hard water connection	m	Waste gas connection
g	Soft water connection	n	Air intake connection fitting

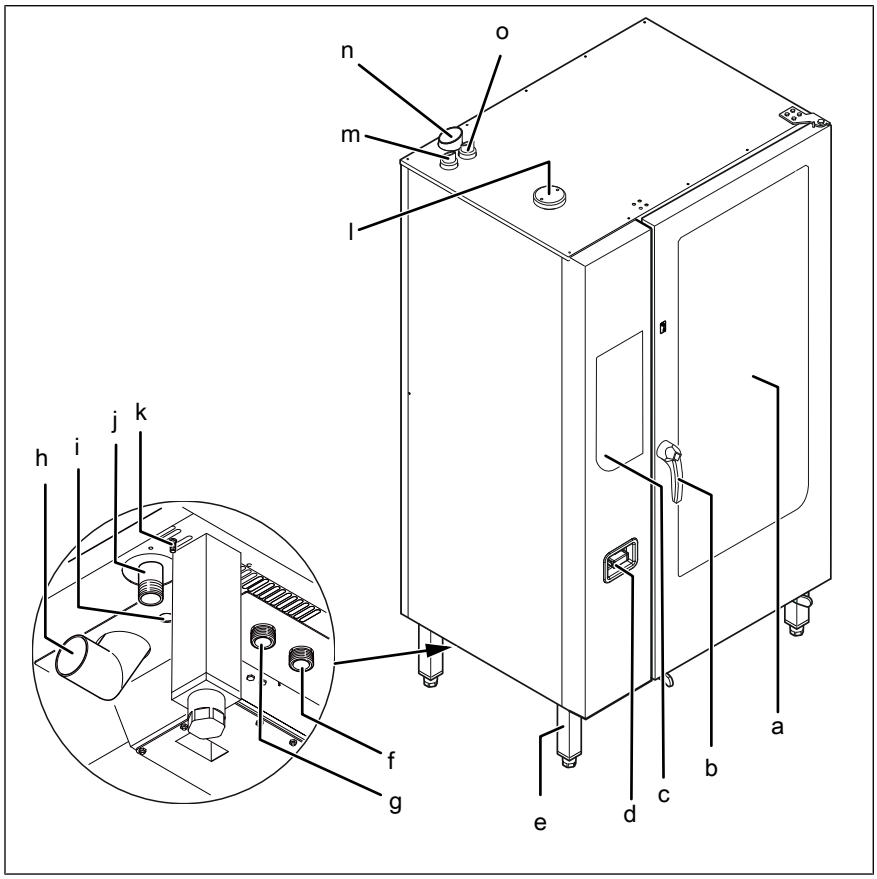

Image: Gas-FlexiCombi Classic, size 20

a	Cooking zone door	i	Opening for power connection
b	Door handle	j	Gas connection on unit
c	Operating elements	k	Potential equalisation connection
d	Hand shower	l	Air intake connection fitting
e	Equipment leg, vertically adjustable	m	Waste gas connection, burner 2
f	Hard water connection	n	Steam outlet connection fitting
g	Soft water connection	o	Waste gas connection, upper fan-assisted gas burner
h	Wastewater connection		

3.2 Planning drawing

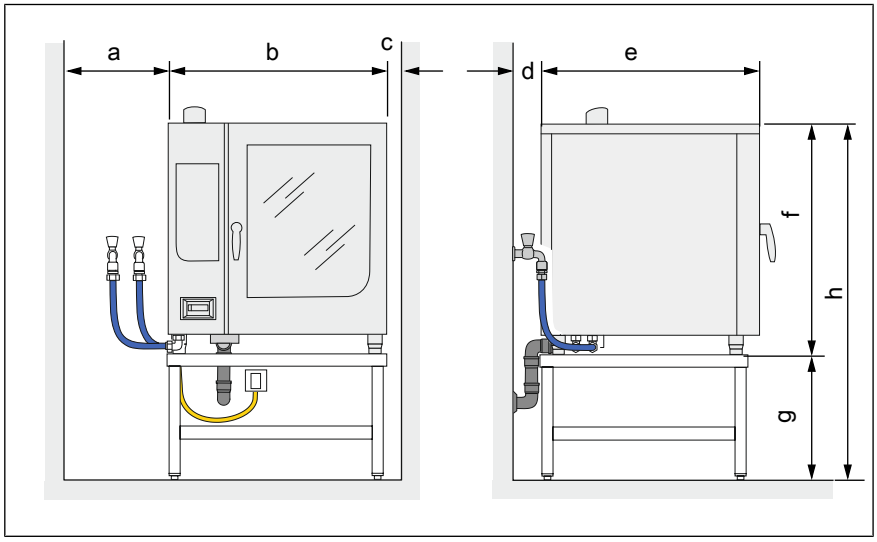

Image: Unit sizes 6 and 10

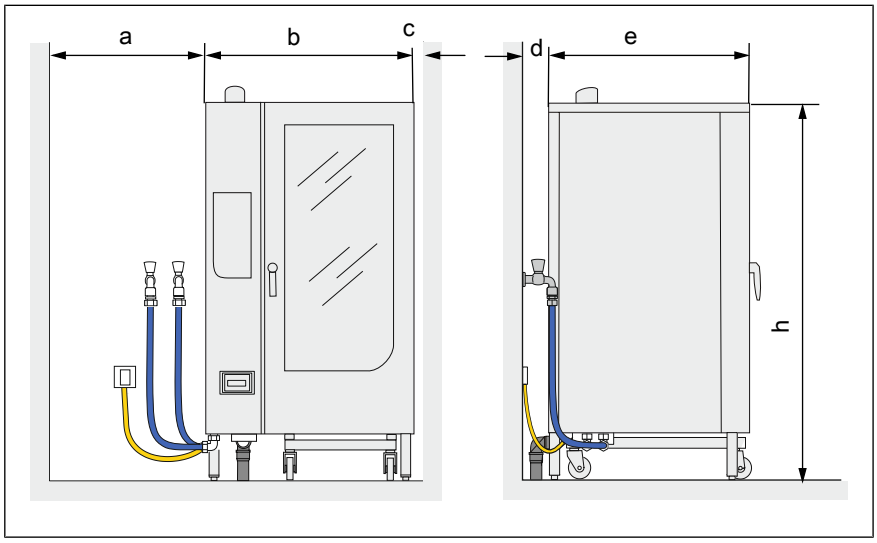

Image: Unit size 20

Unit size	a	b	c	d	e	f	g	h
6.15, 6.21	50	1020	50	50	799	790	850	1640
10.15, 10.21	50	1020	50	50	799	1060	580	1640
20.15, 20.21	50	1075	50	50	813	---	---	1960
a-h= mm								

3.3 Equipment and connection data

	Unit size					
	6.15	**6.21**	**10.15**	**10.21**	**20.15**	**20.21**
Dimensions						
Unpacked unit Length x width x height (cm)	102 x 80 x 79	102 x 80 x 79	102 x 80 x 106	102 x 80 x 106	108 x 82 x 196	108 x 82 x 196
Packaged unit Length x width x height (cm)	96 x 108 x 102	96 x 108 x 102	96 x 108 x 128	96 x 108 x 128	96 x 116 x 220	96 x 116 x 220
Weight						
Unpacked unit (kg)	137	142	167	187	355	355
Packaged unit (kg)	170	170	195	195	375	375
Heat output						
Latent (W)	2200	3400	3600	5200	7200	10400
Sensible (W)	1700	2600	2700	3900	5400	7800
Noise level (db(A))	< 70					
Ambient climate	5 – 40 °C, 95 % relative humidity, non-condensing					
Power connection						
Type of connection	1NPE 220 – 240 V AC 50/60Hz					
	2PE 220 – 240 V AC 50/60 Hz					
	1NPE 100 V AC 50/60 Hz					
Protection class	IPX5					
Connected load (kW)	0.6			1.0		
Recommended fuse (A)	16					
Soft water connection						
Carbonate hardness $CaCO_3$ (mmol/l)	< 0.9					
Chloride Cl (mg/l)	< 50					
Iron Fe (mg/l)	< 0.1					
Connection pressure (hPa), (bar)	200 – 600, 2 – 6					
Connection (inches)	R 3/4, male thread					
Hard water connection						
Carbonate hardness $CaCO_3$ (mmol/l)	< 4					
Connection pressure (hPa), (bar)	200 – 600, 2 – 6					
Connection (inches)	R 3/4, male thread					
Wastewater connection						
Discharge temperature (°C)	< 80					
Connection (mm)	Connection fitting, 50 mm diameter					
Gas connection						

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	Unit size					
	6.15	**6.21**	**10.15**	**10.21**	**20.15**	**20.21**
Rated heat input (kW)	11	17	18	26	36	52
Gas type	The gas type for which the unit is set is indicated on the gas type supplemental label.					
Gas connection (inches)	R 3/4, male thread EN 10226-1					
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) *	1.14	1.76	1.87	2.70	3.74	5.40
Natural gas LL/L, G25 (m^3/h) *	1.33	2.05	2.17	3.14	4.35	6.28
Natural gas 13A, G21 (kcal/h)	9500	14600	15500	22400	31000	44700
Liquefied gas B, G30 (kg/h)	0.87	1.34	1.42	2.05	2.84	4.10
Liquefied gas P G31 (kg/h)	0.85	1.32	1.40	2.02	2.80	4.04
LP gas B/P G30/G31 (kg/h)	0.87	1.34	1.42	2.05	2.84	4.10
Combustion air (m^3/h) *	15.0	22.5	22.5	32.5	45.0	65.0
Supply air and exhaust gas routing						
Required delivery pressure B_{13BS} (Pa)	0 – 5					
Exhaust gas temperature B_{13BS} (°C)	170	230	195	240	205	250
Exhaust gas mass flow rate B_{13BS} (kg/h)	30	47	49	71	99	142
Primary air gap (cm)	3 – 5					
*) Information applies at 15 °C and 1013.25 mbar **) Information is country-specific and applies in Germany; for further information, see "Checking the connection pressure"						

3.3.1 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 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 3B/P, 3P	50	42.5 – 57.5
Liquefied gas 3B/P (3P)	29 (30)	25 – 35
Liquefied gas 3+ (3P)	28 – 30/37 (37)	20 (25) – 45
Liquefied gas 3B	29	20 – 35
Asia:		
Natural gas13A	20	10 – 25
LP gas B/P	28	23 – 33

3.3.2 Speed of the fan-assisted gas burner

Unit size	Gas blower speed (rpm)	
	High output (HI)	Low output (LO)
6.15	5050 *	4800
6.21	6700	4800
10.15	5050	2800
10.21	6700	2800
20.15	5050	2800
20.21	6700	2800
* In deviation from the table, for unit size 6.15 the gas blower speed at the described setting and upon verification of the rated heat input is **5500 rpm.**		

3.3.3 Exhaust gas values

Gas type	Output	Unit size	CO_2 (vol. %) *		p_{offset} (hPa) **		CO (ppm) ***	
			Range	optimal	Range	optimal	Range	optimal
Natural gas	HI	All units	8.6 - 9.6	9.2	---	---	0 - 1000	<100
	LO	6.1, 6.2	0.5 - 1.0	0.6	-0.8 - 0	-0.55		
	LO	10.1, 10.2, 20.1, 20.2	0.5 - 1.0	0.6	-0.4 - 0	-0.15		
Liquefied gas, propane	HI	All units	10.0 - 10.6	10.3	---	---		
	LO	6.1, 6.2	0.5 - 1.0	1.0	-0.8 - 0	-0.55		
	LO	10.1, 10.2, 20.1, 20.2	0.5 - 1.0	1.0	-0.4 - 0	-0.15		
Liquefied gas, butane	HI	All units	11.5 - 12.5	11.8	---	---		
	LO	6.1, 6.2	0.5 - 1.0	1.0	-0.8 - 0	-0.55		
	LO	10.1, 10.2, 20.1, 20.2	0.5 - 1.0	1.0	-0.4 - 0	-0.15		

* At low output (LO) 0.5 - 1.0 lower than at high output (HI)

** Adjustment aid, offset pressure applies only at low output (LO)

** Undiluted exhaust gas

3.3.4 Gas orifice diameter

Unit size	Orifice size (1/100 mm)			
	Natural gas E/H G20	Natural gas LL/L G25	Natural gas13A G21	Liquefied gas B/P G30/G31
6.15	650	720	N/A*	470
6.21	600	680	N/A*	460
10.15	565	650	N/A*	420
10.21	565	630	N/A*	420
20.15	565	650	N/A*	420
20.21	565	630	N/A*	420

*) For information on manually setting the rated heat input, see "Adjusting the basic gas setting".

3.3.5 Status messages

Burner operation	
Display	**Meaning**
HI **CO2** **G1F1**	HI = High output
	CO2 = CO_2 measurement
	G1 = Gas supply open (gas solenoid valve open)
	F1 = Flame present (burner on)
85°C **CO2** **2800**	85°C = Current cooking zone temperature
	CO2 = CO_2 measurement
	2800 = Gas blower speed (rpm)

Burner status messages	
Display	**Meaning**
HI **CO2** **G0F0**	G0 = Gas supply closed (gas solenoid valve closed)
	F0 = No flame (burner off)
HI **CO2** **G1F0**	G1 = Gas supply open (gas solenoid valve open)
	F0 = No flame (burner off)
HI **CO2** **G1F1**	G1 = Gas supply open (gas solenoid valve open)
	F1 = Flame present (burner on)

Burner error messages			
Display	**Meaning**	**Possible cause**	**Remedy**
Err **CO2** **71**	Err = Error	Gas valve closed. Air in the gas line.	Open the gas valve and repeat ignition.
	CO2 = CO_2 measurement		
	71 = No gas		
Err **CO2** **72**	Err = Error	Power supply interrupted. Error in the control electronics.	Contact customer service
	CO2 = CO_2 measurement		
	72 = Blower not running		
Err **CO2** **73**	Err = Error	Wrong gas quality	Contact customer service
	CO2 = CO_2 measurement		
	73 = General gas error		

4 Transporting the unit

4.1 Transport information

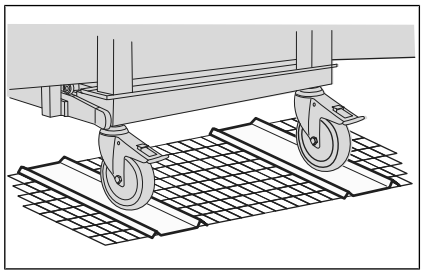

Image: Crossing a grate with the tray trolley

Prior to transporting the unit to the installation site, ensure that:

- The route has adequate load-bearing capacity; place rails or metal plates underneath if necessary.
- Wall openings are large enough. Removing the packaging reduces the clear width required (see "Equipment and connection data"). “

4.2 Transporting 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.

4.2.1 Transporting on a pallet

1. Move the pallet truck under the pallet.
2. Raise the unit on the pallet.

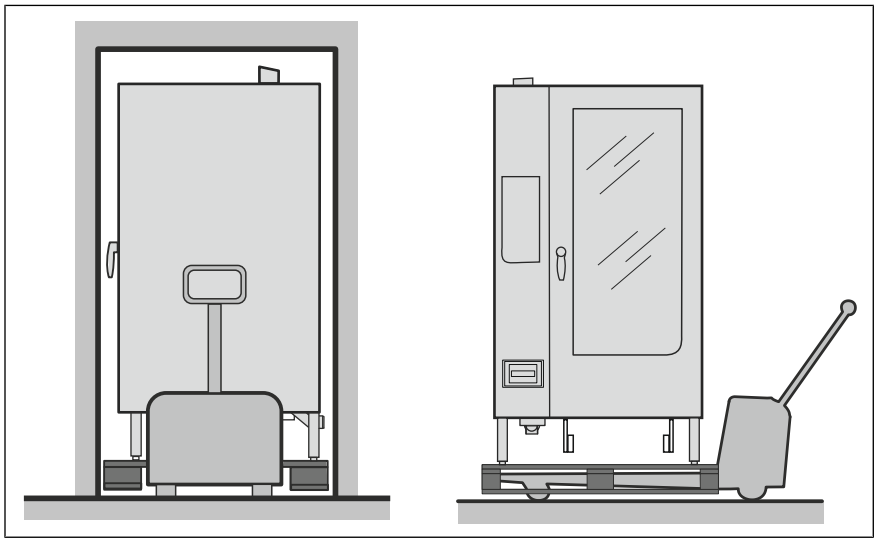

Image: Transporting the unit on a pallet

3. Move the unit to the installation site.

4.2.2 Transporting without a pallet

ATTENTION
Risk of physical damage from improper lifting of the unit

- Lift size 6 and size 10 units only with the aid of wooden beams placed underneath.

Unit sizes 6 and 10

Requirement Packaging removed except for the pallet

1. Move the pallet truck under the unit from the right.
2. Place the wooden beams on the lift forks and slide under the unit.
3. Lift the unit off the pallet.

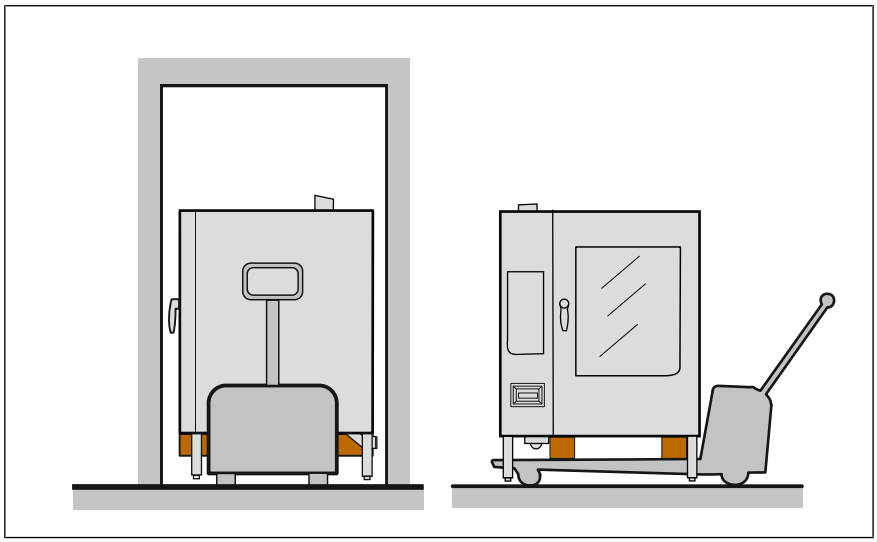

Image: Transporting unit sizes 6 and 10 without a pallet

4. Move the unit to the installation site.

Unit size 20

Requirement Packaging removed except for the pallet

1. Move the pallet truck under the guide rails of the unit from the right.
2. Lift the unit off the pallet.

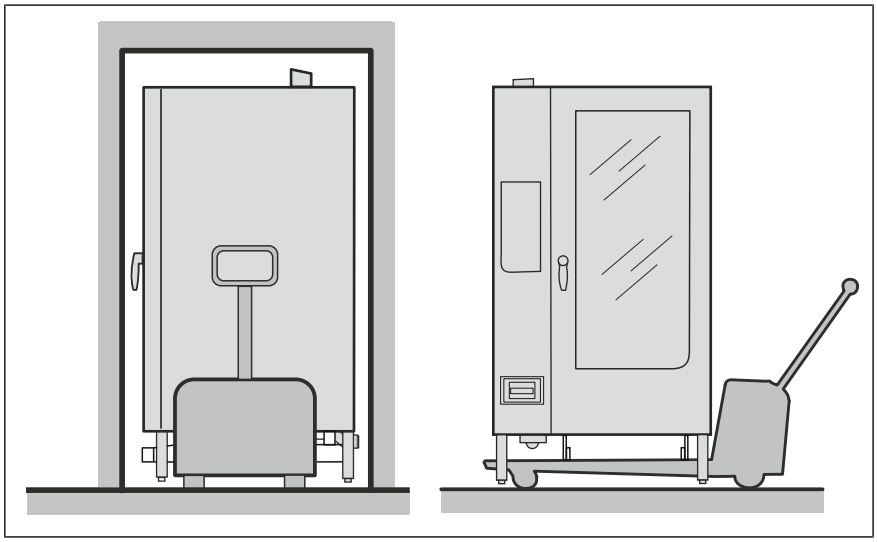

Image: Transporting unit size 20 without a pallet

3. Move the unit to the installation site.

4.2.3 Transporting by raising and lowering

DANGER
Risk of fatal injury from falling unit

- Do not linger under a suspended load.
- Cordon off hazard area in compliance with regulations.

ATTENTION
Risk of physical damage from tightened lifting straps

- Always lift the unit with lifting straps and a spreader bar.

1. Guide the lifting straps under the pallet and attach them to the spreader bar.
2. Brace the unit to prevent tipping.
3. Carefully lift the unit onto the pallet.

4.3 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. Enter the information from the nameplate into the commissioning report.

1. Remove the packaging.
2. Pull the protective film off the unit.
3. Remove the packaging material from the cooking zone completely.
4. Lift the unit off the pallet and place in position.
5. Clean the unit (see "Cleaning and maintaining the unit").
6. Separate and dispose of the packaging material.

5 Setting up the unit

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

WARNING
Risk of burns from spraying hot fat

- Set up deep fat fryers outside the range of the hand shower.

CAUTION
Risk of crushing from improper setup

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

CAUTION
Risk of fire from failure to observe applicable regional fire prevention regulations

- Observe applicable regional fire prevention regulations.

ATTENTION
Risk of physical damage from overheating of the unit

- Do not set up the unit close to heat sources.

5.1 Lifting the unit off the pallet

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 lifting the unit incorrectly

- Place the forks of the lift truck next to the waste trap.

Requirement Unit unpacked
Protective film removed
Unit cleaned

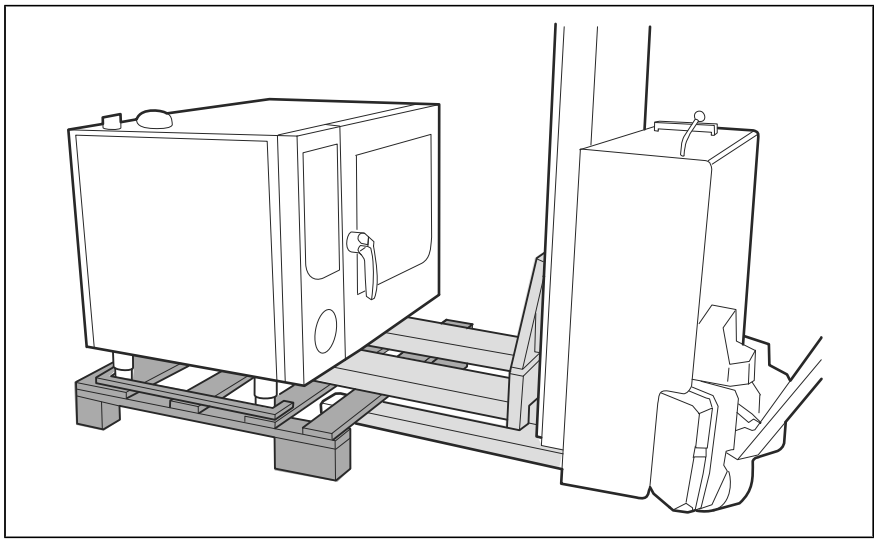

Image: Lifting the unit off the pallet

1. Slide the forks of the pallet truck under the unit and to the right of the waste trap.
2. Lift the unit off the pallet.

5.2 Placing the unit on the equipment legs

Requirement The floor must carry the weight of the unit

1. Lift the unit with the pallet truck.
2. Move the unit to the installation site.
3. Place the unit on the floor.
4. Set up the unit in accordance with the planning drawing Planning drawing .

5.3 Setting up the unit on a work surface

Requirement The base frame must carry the weight of the unit

Base frame levelled

Base frame set up in accordance with the planning drawing Planning drawing

1. Lift the unit.

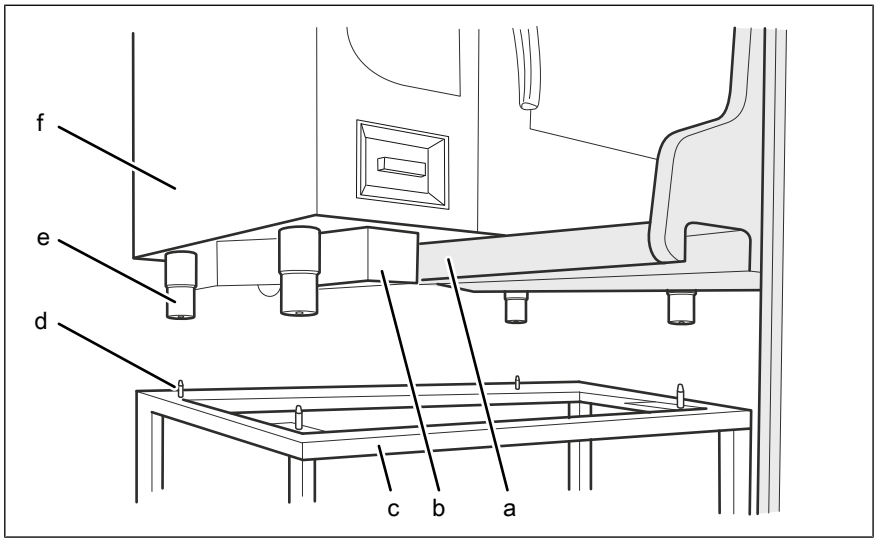

Image: Setting up the unit on a work surface

a	Lift fork	d	Stud bolt
b	Waste trap on the unit	e	Equipment leg
c	Base frame	f	Unit

2. Place the unit over the stud bolts on the work surface.

CAUTION
Risk of burns from missing stickers

- Attach stickers if the upper insertion rails are higher than 1.60 m.

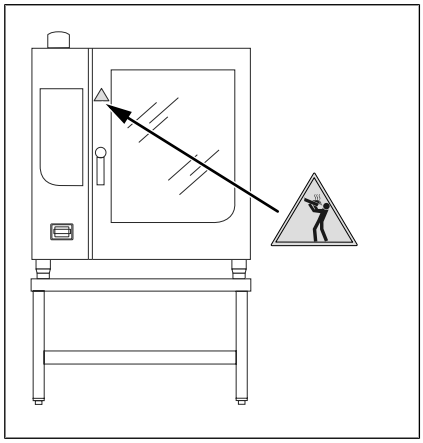

Image: Attach warning sign regarding insertion height

3. Clean the adhesion surface for the sticker.
4. Attach the sticker to the cooking zone door at a height of 1.6 m.

5.4 Aligning the unit

5.4.1 Aligning countertop units

Requirement Base frame levelled

1. Place a spirit level on the unit.
2. Screw the equipment legs in or out to level the unit.

5.4.2 Aligning floor-standing units

The tray trolley is needed to align a floor-standing unit.

Prepare the tray trolley.

ATTENTION
Risk of water discharge from leaking cooking zone

The cooking zone will leak if the tray trolley is not aligned.
- Operate a floor-standing unit only with the tray trolley.
- Align the tray trolley carefully.

1. Screw the equipment legs in or out to align the unit.
2. Open the cooking zone door.

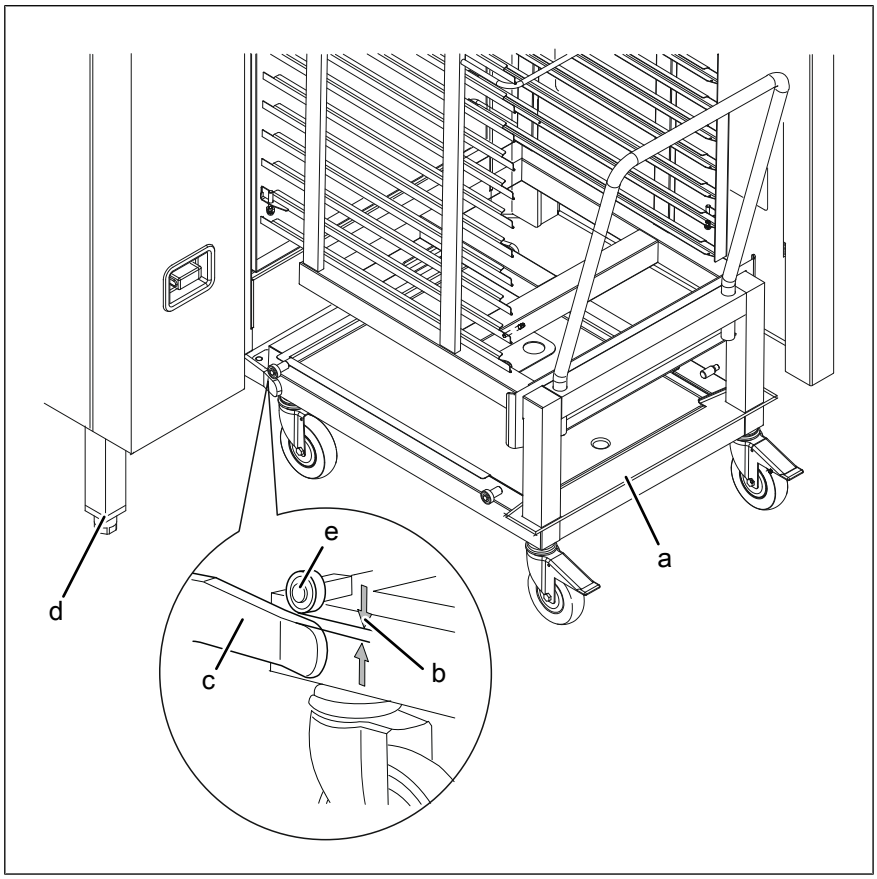

Image: Aligning the unit with the tray trolley

a Tray trolley
b Distance between roller and support rail
c Support rail
d Equipment leg
e Roller

3. Place the tray trolley against the support rails.
4. Screw the equipment legs in or out until the rollers are 1 to 5 mm above the support rails.
5. Retract the tray trolley.
6. Level the support rails.
7. Push the tray trolley against the unit until it stops.
8. Remove the push handle.
9. Close the cooking zone door.

↳ The unit is aligned correctly.

5.5 Maintaining minimum clearances

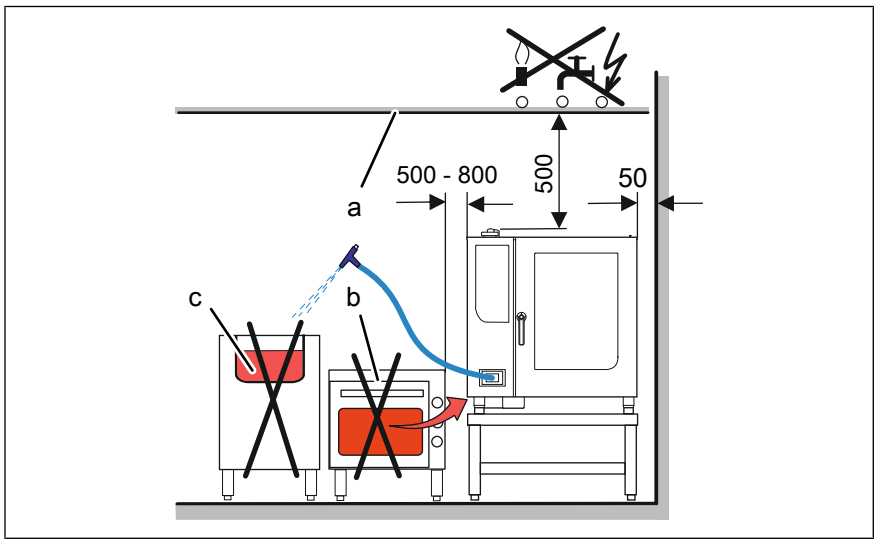

Image: FlexiCombi minimum clearances

a Ceiling
b Baking oven
c Deep-fat fryer

The following clearances from walls, ceilings or other equipment must be provided when setting up the unit:

- Left, right and behind: at least 50 mm.
- For service work, 500 mm at left recommended.
- For parking the tray trolley, 800 mm at left.
- From heat sources (baking ovens), 500 mm at the left so that the cooling air for the unit is not heated.
- Distance to deep-fat fryers, left and right, at least one length of the hand shower so that no water can be sprayed into the hot deep-fat fryer.
- To ceilings, at least 500 mm. There must be no water, gas or electric lines in the ceiling above the unit.

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6 Connecting the unit

6.1 Opening and closing the housing

DANGER
Risk of personal injury and physical damage from electric shock

- Prior to working on the unit, ensure that the unit has been disconnected from the mains.
- Do not operate the unit with the housing open.

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.

6.1.1 Removing and attaching the side panel

Removing the side panel

1. Unscrew the bolts on the bottom of the side panel.
2. Pull the bottom of the side panel forward.

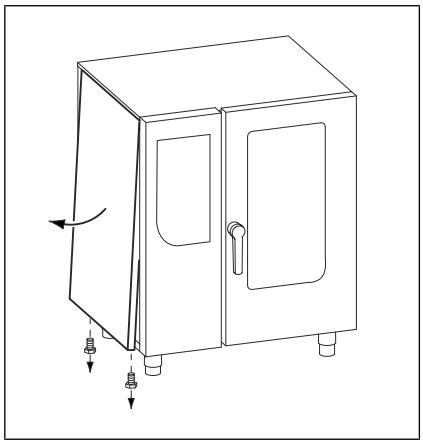

Image: Removing and attaching the side panel

3. Remove the side panel.

Attaching the side panel

ATTENTION
Risk of physical damage from squeezing the lines

When attaching the side panel, make sure that no lines are squeezed.

1. Insert the top edge of the side panel.

ATTENTION
Risk of physical damage from a loose side panel

- Check seals when attaching the housing parts
- Replace damaged seals
- The side wall must be in contact with the unit on all sides.

2. Carefully push the bottom of the side panel inward.
3. Secure the bottom of the side panel with bolts.
4. Check that the side panel is in contact with the unit on all sides.

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.

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- 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.
- How the exhaust gas is routed depends on the unit type:
  - Type A unit: Indirect routing of exhaust gas via ventilation systems such as a ventilated ceiling or ventilation hood.
  - Type B units: Direct routing of exhaust gas via ventilation system or chimney.

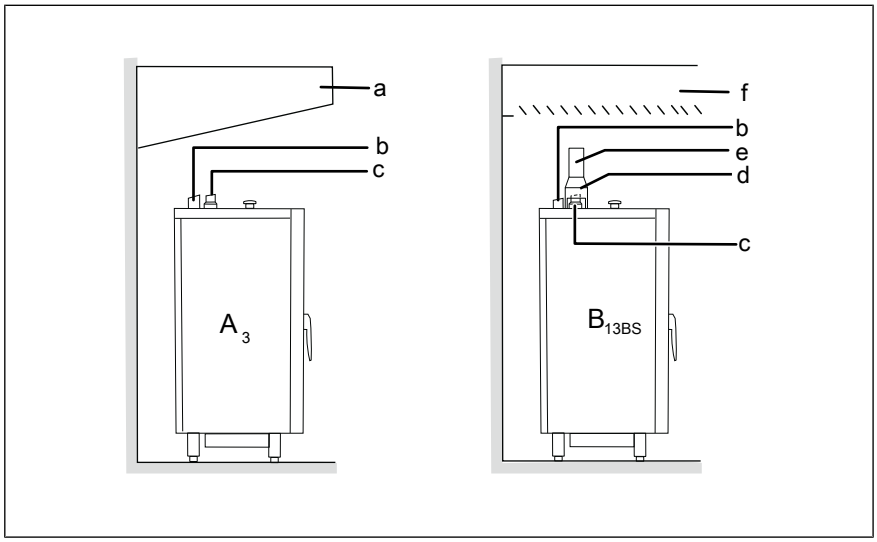

Image: Indirect exhaust gas routing

a Ventilation hood
b Steam outlet connection fitting
c Waste gas connection
d Flow control
e Exhaust gas duct
f Ventilated ceiling

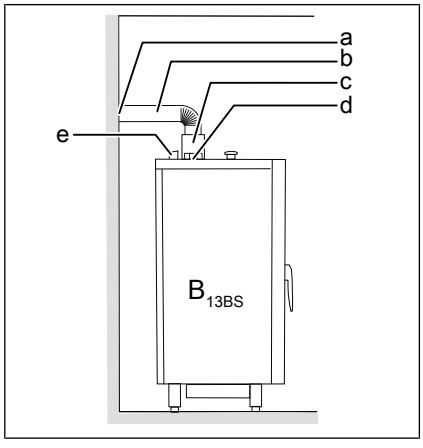

Image: Direct exhaust gas routing

a Ventilation system or chimney
b Exhaust gas duct
c Flow control
d Waste gas connection
e Steam outlet connection

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 Making the electrical connection

6.3.1 Notes regarding the electrical connection

Installation work

Electrical installation work must be performed by a licensed electrician. Comply with the local regulations of the electric utility.

The unit must be connected on the basis of the information on the nameplate and this manual.

Electric power cable

An electric power cable of the type HO7RN-F must be used to connect the unit to the electric mains.

Residual-current protective device

The unit can be connected to a residual-current protective device. The residual-current protective device must incorporate a residual-current protective switch of type B (RCD Type B) in order to detect AC fault currents, pulsating DC currents and continuous DC currents.

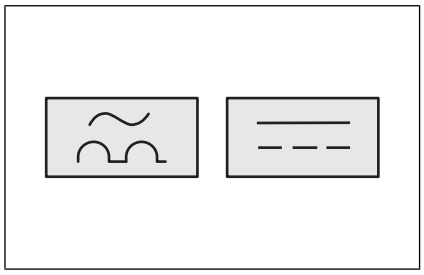

Image: RCD switch type B circuit symbol

The unit generates a small fault current through use of special electronic components. To ensure that the residual current device does not trip during normal operation, each unit must have its own residual current device.

Equipotential bonding

The unit must be incorporated into the potential equalisation circuit through use of the specified minimum wire sizes.

Permanent connection

CAUTION
Risk of property damage and personal injury from improper installation

- In the case of a permanent electrical connection, install an all-phase disconnect switch before the unit.

Install an all-phase disconnect switch if the unit will be connected permanently to the electric mains.

Plug-in connection

CAUTION
Risk of property damage and personal injury from improper installation

- The plug-in connection must be readily accessible.

If the unit will be connected to the electric mains by a plug, use a plug and socket that comply with IEC 60309. The socket must be readily accessible so that the unit can be disconnected from the electric mains at any time.

6.3.2 Connecting the electric power cable to the unit

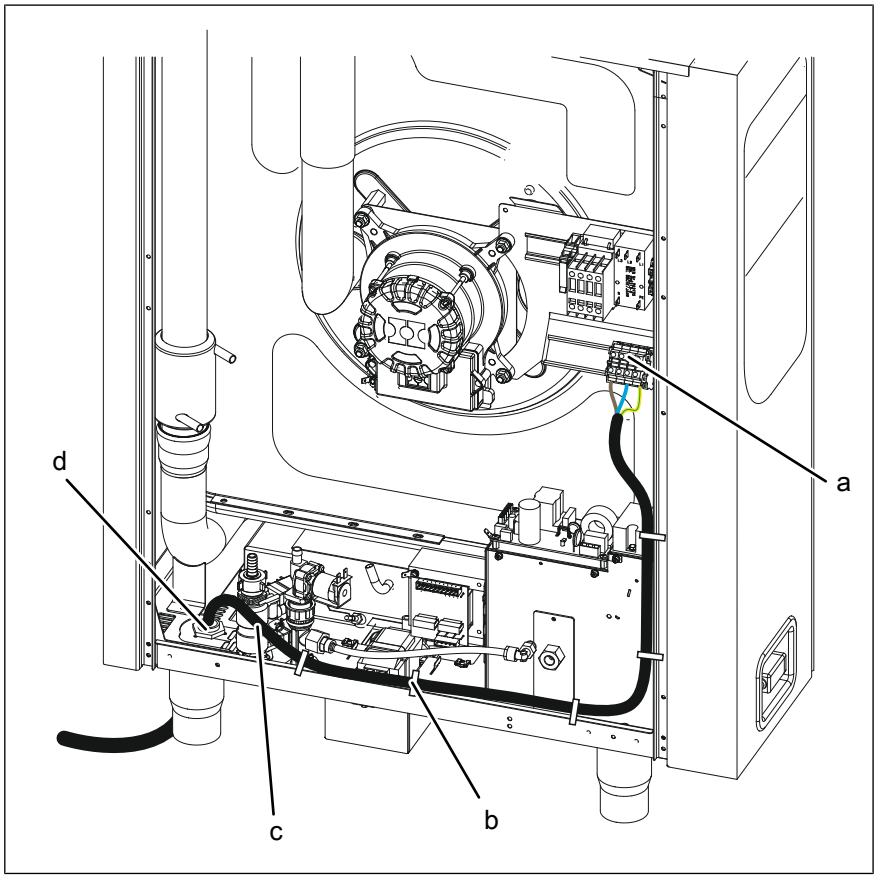

Image: Connecting the electric power cable

a Connection terminals
b Cable tie
c Electric power cable
d Cable gland

Length of connection cable in the unit

Model	Length (mm)
6.15, 6.21	1000
10.15, 10.21	1200
20.15, 20.21	720

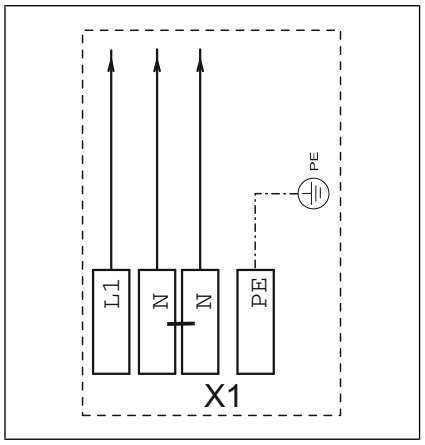

Image: Gas Combisteamer terminal assignment

L1	Phases	PE	Protective earth
N	Neutral conductor	X1	Mains connection

Requirement Electrical connection to the unit matches the information on the nameplate

Housing open

Electric power cable sufficiently long

1. Insert the electric power cable into the unit through the cable gland.
2. Connect the electric power cable in accordance with the terminal diagram.
3. Secure the electric power cable to the unit with cable ties.
4. Tighten the cable gland securely to provide strain relief.

6.3.3 Connecting to the potential equalisation circuit

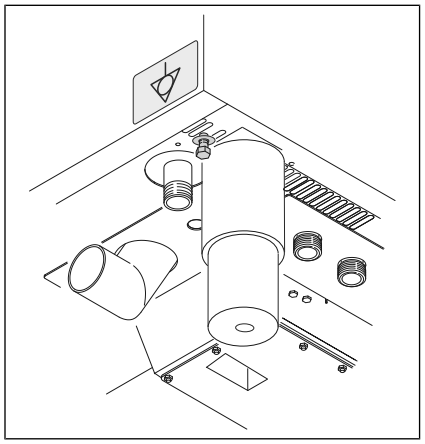

Image: Potential equalisation connection

1. Connect the potential equalisation line to the location on the unit identified with the corresponding symbol.
2. Fill out the commissioning report.

6.4 Making the basic control settings

By entering the password "2100", the basic settings for the installation can be displayed and changed.

6.4.1 Opening the Setting menu

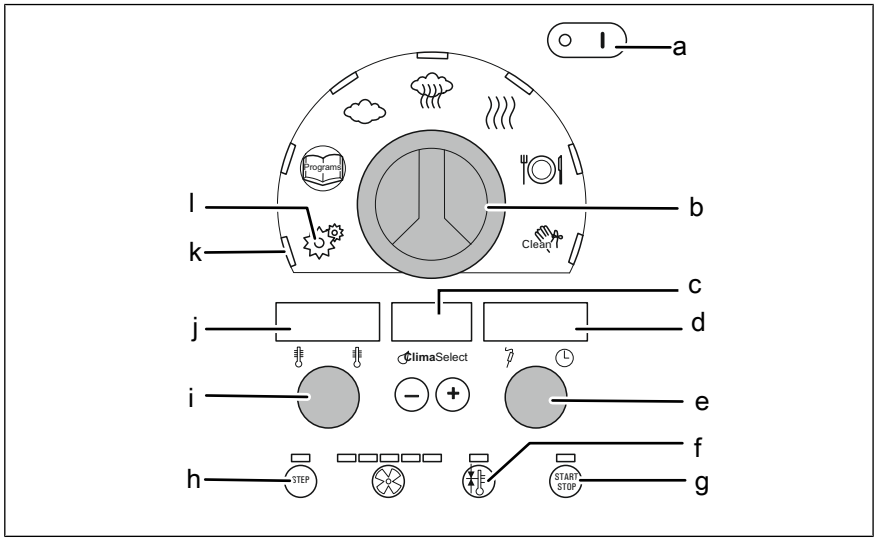

Image: FlexiCombi Classic control panel

a	*On Off* button	g	"START STOP" button
b	*Select* knob	h	"STEP" button
c	Center display	i	Left knob
d	Right display	j	Left display
e	Right knob	k	Indicator light
f	*Ready2cook* button		

Requirement The unit is on

1. Turn the *Select* knob to the *Settings* symbol.
   ↳ The indicator light illuminates.
   ↳ The left display shows "PASS".
   ↳ The right display flashes "0000".
2. Use the right not to set the password.
   ↳ The right display shows the set password.
3. Press the "START STOP" button.
   ↳ The left display flashes "HAC".
4. Use the left knob to select OPt.
   ↳ The left display flashes "OPt".

↳ The basic settings can be changed.

6.4.2 Changing the basic control settings

1. Press the "START STOP" button.
   ↳ The left display flashes the first number of the basic setting; refer to the of basic settings table.
   ↳ The centre display shows "OPt".
   ↳ The right display shows the first set value.
2. Turn the left knob.
   ↳ Set number.
3. Press the "START STOP" button.
   ↳ The basic setting can be adapted.
4. Turn the right knob.
   ↳ Set new value.
5. Press the "START STOP" button.
   ↳ Accept changes.
6. Press and hold the "STEP" button for 3 seconds.
   ↳ The changes are saved.
   ↳ The left display flashes "OPt".
   ↳ The centre display shows "Stor".
7. Press the "STEP" button to leave the Settings menu.

Parameter no.	Description	Standard value	Input range
1	Temperature unit setting	0	0 = °C
			1 = °F
2	Setup height	0	0 = 0 - 999 m
			1 = 1000 - 1999 m
			2 = 2000 - 2499 m
			3 = 2500 m or higher
4	Ready2Cook pre-heating temperature	15 %	0 - 30 %
5	Exhaust hood run time extension	60 s	0 - 600 s
33	Audible signal volume	0	0 = quiet
			1 = loud
37	Hold time after reaching the Ready2Cook-tem-perature	240 min	0 - 600 min

6.5 Making the water connection

Installation work involving drinking water must be performed by an authorised plumbing contractor. Observe applicable regional regulations with regard to drinking water installations and connection data (see "Equipment and connection data").

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6.5.1 Connecting hard and soft water

The unit is equipped with a connection for:

- Soft water for generating steam
- Hard water for cooling, rinsing and WaveClean

CAUTION
Hygiene risk from contaminated drinking water

- The connection to the drinking water supply must be equipped with a backflow preventer.

Always connect both water connections to the unit.

ATTENTION
Risk of physical damage from the wrong water quality

- Ensure that the water quality complies with the equipment and connection data.

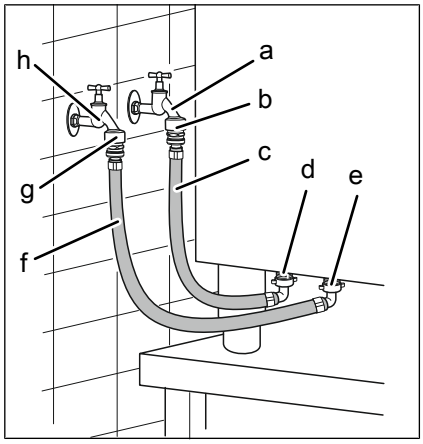

Image: Hard and soft water connection

a	Soft water tap	e	Hard water connection
b	Backflow preventer, installed	f	Hard water hose
c	Hose, soft water	g	Backflow preventer, installed
d	Soft water connection	h	Hard water tap

Requirement Water quality meets specifications
Backflow preventers installed
Required water pressure available
Pressure-resistant hoses suitable for drinking water available

1. Connect the hoses to the water taps.
2. Open the water taps and flush the hoses.
3. Insert a dirt filter into the hard and soft water connections.
4. Connect hoses to the unit.
5. Open the water taps and check the threaded fittings for leaks.

6.5.2 Connecting soft water twice

If only a soft water connection is available at the installation site, the hard water connection and the soft water connection must be connected by means of a T-piece.

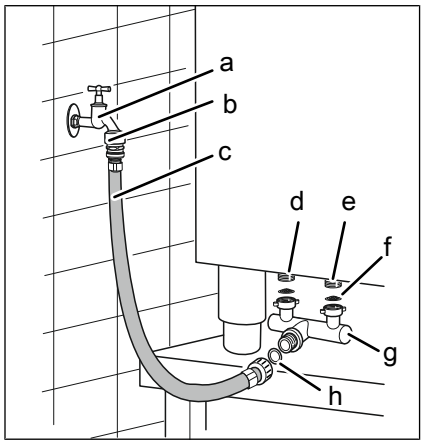

Image: Connect saltwater connection twice

a	Soft water tap	e	Hard water connection
b	Backflow preventer	f	Dirt filter
c	Hose, soft water	g	T-piece
d	Soft water connection	h	Seal

Requirement Hose connected to soft water tap

1. Insert a dirt filter into the hard and soft water connections.
2. Connect the T-piece with seals.
3. Connect hose with seal to the T-piece.
4. Open the soft water tap and check the threaded fittings for leaks.

6.6 Making the wastewater connection

Installation work involving wastewater must be performed by an authorised plumbing contractor. Observe the applicable regional regulations of the sewage utility involved.

6.6.1 Identifying the cleaning system

FlexiCombi Classic units can be equipped with either an automatic or manual cleaning system. The pictogram on the control panel shows which cleaning system is installed.

Cleaning system	Sewer system connection
WaveClean Automatic cleaning system Pictogram on control panel	Permanent connection, with on-site waste trap: Install a vacuum breaker in the wastewater line.
Clean Manual cleaning system Pictogram on control panel	Unobstructed discharge with funnel waste trap: With an on-site waste trap, connect only discharge funnel.

6.6.2 Connecting the wastewater line to a permanent connection

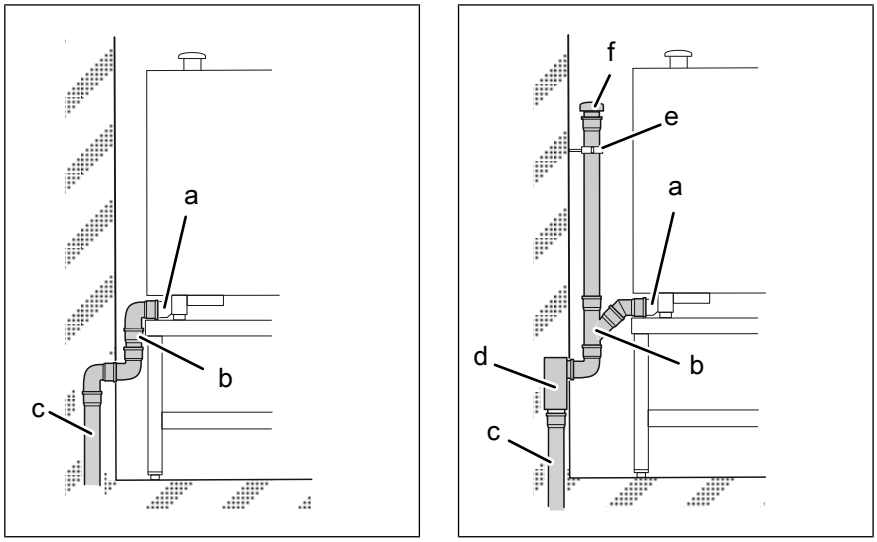

Image: Wastewater line permanent connection

a Wastewater connection
b Wastewater line
c Wastewater system
d Wastewater system trap
e Pipe clamp
f Vacuum breaker valve

If a waste trap is installed in the wastewater system, a vacuum breaker must be installed in the wastewater line.

Requirement Polypropylene (PP) pipes and elbows

- Heat-resistant to 95 °C
- Nominal diameter 50 mm
- Maximum pipe length 1.0 m

1. Install wastewater line up to connection to the sewer system.
2. Secure the wastewater line with clamps.
3. Fill the waste trap on the unit with drinking water.

6.6.3 Connecting the wastewater line to the discharge funnel

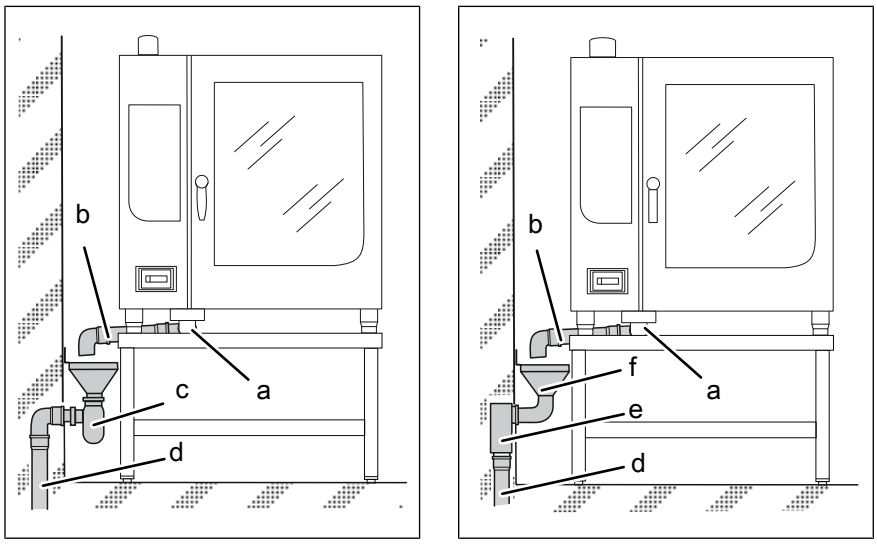

Image: Connecting the wastewater line to the discharge funnel

a	Wastewater connection	d	Wastewater system
b	Wastewater line	e	Wastewater system trap
c	Funnel waste trap	f	Discharge funnel

Connect only the discharge funnel if a wastewater trap is installed in the wastewater system.

Requirement Polypropylene (PP) pipes, elbows, discharge funnel and waste trap

- Heat-resistant to 95 °C.
- Nominal diameter 50 mm
- Maximum pipe length 1.0 m

1. Connect the discharge funnel with waste trap to the wastewater system.
2. Connect the wastewater line to the unit and extend it to the discharge funnel.
3. Secure the wastewater line with clamps.
4. Place the wastewater line discharge 2 cm above the discharge funnel.
5. Fill water into the discharge funnel.

6.7 Connecting the gas

6.7.1 Notes about the gas connection

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.

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.

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.

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.

Permanent connection

The unit is intended for a permanent connection. The connection line must be flexible. Route the flexible gas connection line or gas hose in accordance with the manufacturers 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.

6.7.2 Description of the gas connection

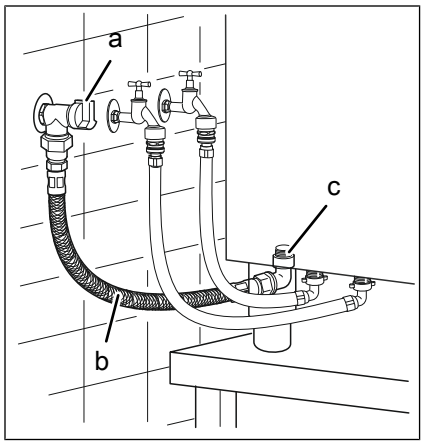

Image: FlexiCombi gas connection

a Gas shut-off valve
b Gas connection line
c Gas connection on unit

6.7.3 Connecting the gas connection line

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

ATTENTION
Risk of physical damage from improper gas connection

- Do not mix up gas connection with water connections.
- If the gas connection was mixed up with the water connections, contact customer service.

Requirement Notes about the gas connection observed
Gas shut-off valve closed
Unit disconnected from power
Left side wall removed

1. Connect 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.

2. 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.

3. Bleed air from the gas system and unit in a technically correct manner.
4. Check for leaks outside the unit.

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.

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

6.7.4 Checking for leaks

Requirement Gas connection line connected

Left side wall removed

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.

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

ATTENTION
Risk of physical damage from electrical short-circuits

- Do not spray bubble-forming agents onto electrical components and wires.

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.

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.

6.7.5 Checking the connection pressure

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

Requirement Gas connection line connected

Check for leaks outside the unit conducted

Measuring accuracy of the pressure measuring device at least 0.1 mbar

Left side wall removed

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.

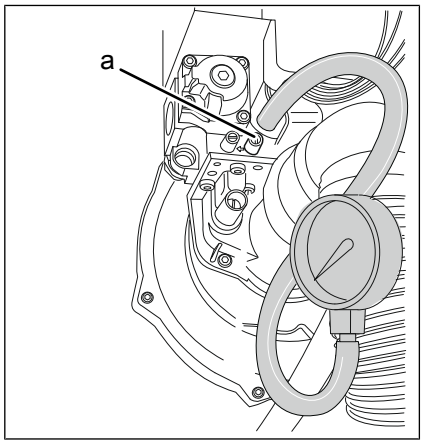

Image: Measuring the connection pressure

a Sealing plug in the connection pressure measuring point

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 the unit to high output (see "Checking the basic gas setting").
   ↳ 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 "Connection pressure").
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.

6.7.6 Checking the basic gas setting

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

Requirement Gas connection line connected

Check for leaks outside the unit conducted

Connection pressure checked

Check for leaks inside the unit conducted

Left side wall removed

Checking 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.

Requirement Gas shut-off valve on the unit open

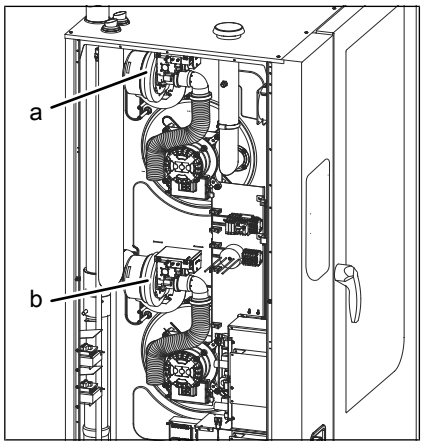

Image: FlexiCombi, unit size 20

a Burner 1 b Burner 2

1. Switch on the unit.
2. Turn the *Select* knob to the Settings symbol.
   ↳ The indicator light illuminates.
   ↳ The left display shows "PASS".
   ↳ The right display flashes "----".
3. Using the right knob, set "0999".
4. Press the "START STOP" button.
   ↳ The left display flashes "CO2".
   ↳ Press the "START STOP" button.
5. Using the left knob, set the burner to high output ("HI").
   ↳ The left display flashes "HI".
   ↳ The centre display shows "CO2".
6. Using the right knob, select the first burner "-1-" (only unit size 20).
   ↳ The right display flashes "-1-".
7. Press the "START STOP" button.
   ↳ The indicator light in the "START STOP" button flashes; the burner starts.
   ↳ The unit operates at maximum output.

8. Press the *Ready2Cook* button.
   ↳ The left display shows the current temperature in the cooking zone.
   ↳ The centre display shows the selected burner "-1-" (only unit size 20).
   ↳ The right display shows the current status of the burner ("G1F1").
9. Press the *Ready2Cook* button.
   ↳ The left display shows the current temperature in the cooking zone.
   ↳ The centre display shows the selected burner "-1-" (only unit size 20).
   ↳ The right display shows the burner's gas blower speed.
10. Check whether the displayed speed matches the unit size (see "Speed of the fan-assisted gas burner").
    ↳ If the displayed speed does not match the speed specified in the table, contact customer service.

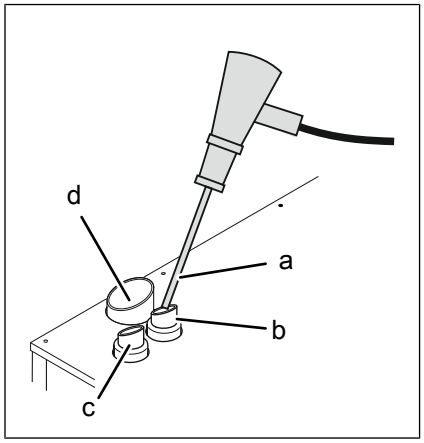

Image: Waste gas measurement – FlexiCombi Classic

a	Exhaust gas measuring device	c	Waste gas connection, burner 2 (only unit size 20)
b	Waste gas connection, burner 1	d	Exhaust gas connection

11. Measure the CO_2 content of the exhaust gas at the exhaust gas connection when the temperature in the cooking zone is between 130-180 °C.
12. Check whether the measured CO_2 content is within the specified range (see "Exhaust gas values").
    ↳ If the CO_2 content is not within the specified range, adjust the basic gas setting (see "Adjusting the basic gas setting").
13. Press the *Ready2Cook* button.
    ↳ The left display flashes "HI".
    ↳ The centre display shows "CO2".

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14. Using the left knob, set the burner to low output ("LO").
    ↳ The left display flashes "LO".
    ↳ The centre display shows "CO2".
15. Using the right knob, select the first burner "-1-" (only unit size 20).
    ↳ The right display flashes "-1-".
16. Press the "START STOP" button.
    ↳ The indicator light in the "START STOP" button flashes; the burner starts.
    ↳ The unit operates at minimum output.
17. Press the *Ready2Cook* button.
    ↳ The left display shows the current temperature in the cooking zone.
    ↳ The centre display shows the selected burner "-1-" (only unit size 20).
    ↳ The right display shows the current status of the burner ("G1F1").
18. Press the *Ready2Cook* button.
    ↳ The left display shows the current temperature in the cooking zone.
    ↳ The centre display shows the selected burner "-1-" (only unit size 20).
    ↳ The right display shows the burner's gas blower speed.
19. Check whether the displayed speed matches the unit size (see "Speed of the fan-assisted gas burner").
    ↳ If the displayed speed does not match the speed specified in the table, contact customer service.
20. Measure the CO_2 content of the exhaust gas at the exhaust gas connection when the temperature in the cooking zone is between 130-180 °C.
21. Check whether the measured CO_2 content is within the specified range (see "Exhaust gas values").
    ↳ If the CO_2 content is not within the specified range, adjust the basic gas setting (see "Adjusting the basic gas setting").
22. Press the *Ready2Cook* button and conduct the measurements for the second burner in the same way (only unit size 20).
23. To end the CO_2 measurement, press the "START STOP" button.
    ↳ The indicator light in the "START STOP" button goes out; the burner is switched off.
24. Switch off the unit.

Checking the primary air quantity

Requirement Left side wall removed

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

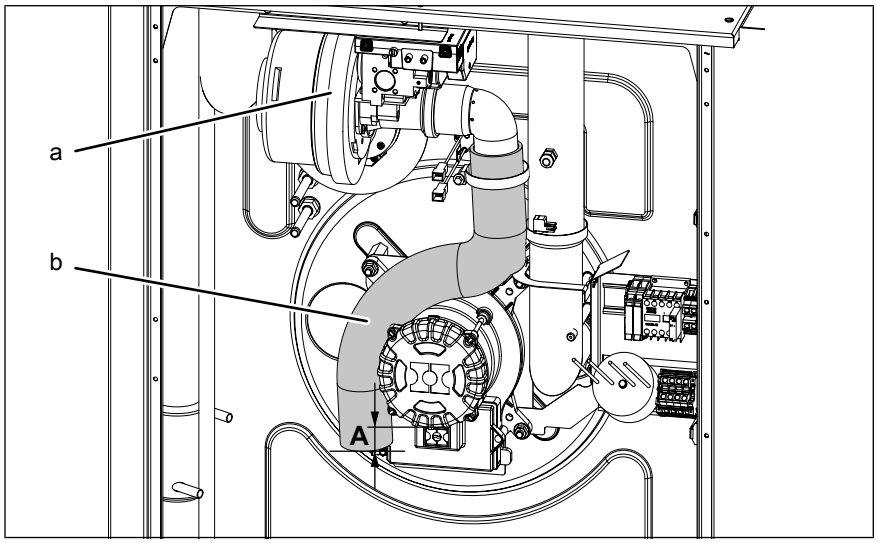

Image: Primary air gap – FlexiCombi

a Burner b Suction hose

1. Check whether the suction hose is routed without kinks in the location and form shown in the figure.
2. Check whether the suction hose is damaged.
3. Check whether the opening in the suction hose is open and unobstructed.
4. Measure the primary air gap (A).
5. Check whether the measured primary air gap is within the specified range (see "Equipment and connection data").

   ↳ If any one of the inspection criteria is not satisfied, adjust the primary air gap (see "Checking the basic gas setting").
6. Check the flame pattern (see "Checking the flame pattern").

   ↳ If the flame pattern is not OK, adjust the primary air gap (see "Adjusting the basic gas setting").
7. 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 Left side wall removed

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

1. Switch on the unit.
2. Set the unit to high output (see "Checking the basic gas setting").
   ↳ The unit operates at maximum output.

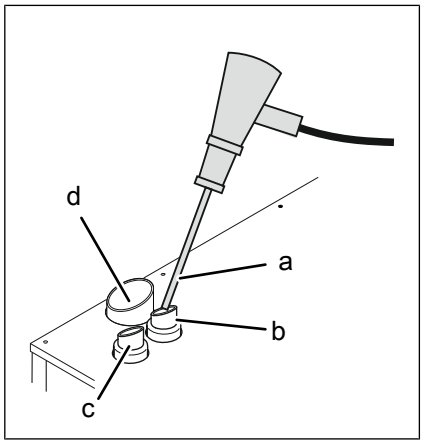

Image: Waste gas measurement – FlexiCombi Classic

a	Exhaust gas measuring device	c	Waste gas connection, burner 2 (only unit size 20)
b	Waste gas connection, burner 1	d	Exhaust gas connection

3. Measure the CO content of the exhaust gas at the exhaust gas connection when the temperature in the cooking zone is between 130-180 °C.
4. Check whether the measured CO content is within the specified range (see "Exhaust gas values").
5. If the CO content is not within the specified range, adjust the basic gas setting (see "Adjusting the basic gas setting").
6. Press the Ready2Cook button and conduct the measurements for the second burner in the same way (only unit size 20).
7. To end the CO measurement, press the "START STOP" button.

8. The indicator light in the "START STOP" button goes out; the burner is switched off.
9. Switch off the unit.
10. Fill out the commissioning report.

6.7.7 Adjusting the basic gas setting

Requirement Gas connection line connected

Check for leaks outside the unit conducted

Connection pressure checked

Check for leaks inside the unit conducted

Left side wall removed

Setting 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.

Requirement Basic gas setting checked and not OK

Left side wall removed

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

The offset pressure can be measured as an adjustment aid at minimum output (see " Adjusting the basic gas setting").

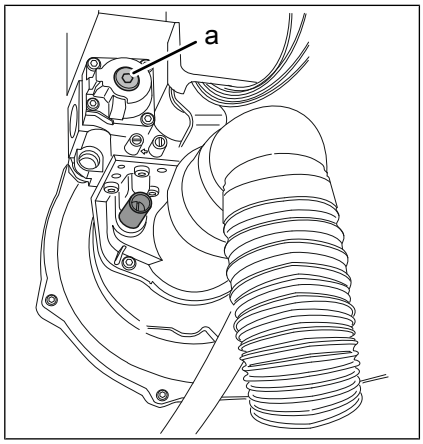

Image: Adjustment screws on the burner

a Adjustment screw for low output (TX40)

1. Open the gas shut-off valve on the unit.
2. Switch on the unit.
3. Set the unit to low output (see "Checking the basic gas setting").
   ↳ The unit operates at minimum output.
4. Measure the CO_2 content of the exhaust gas at the exhaust gas connection when the temperature in the cooking zone is between 130-180 °C.
5. Check whether the measured CO_2 content is within the specified range (see "Exhaust gas values").
6. Using the adjustment screw for low output, adjust the CO_2 content to the specified range for low output (setting is very sensitive).
   ↳ Turning anti-clockwise: CO_2 content is decreased.
   ↳ Turning clockwise: CO_2 content is increased.
7. Set the unit to high output (see "Checking the basic gas setting").
   ↳ The unit operates at maximum output.

8. Check whether the measured CO_2 content is within the specified range (see "Exhaust gas values").
   ↳ If necessary, repeat the adjustment procedure until the CO_2 value at high and at low output is within the specified range.
   ↳ If the CO_2 content at high output cannot be set to the minimum level, the rated heat input must be adjusted manually (see "Adjusting the basic gas setting").
9. Press the Ready2Cook button and conduct the measurements for the second burner in the same way (only unit size 20).
10. Check the waste gas values (see "Checking the basic gas setting").
11. To end the CO_2 measurement, press the "START STOP" button.
12. The indicator light in the "START STOP" button goes out; the burner is switched off.
13. Switch off the unit.
14. Fill out the commissioning report.

Adjusting the primary air quality

Requirement Primary air quantity checked and not OK

Left side wall removed

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

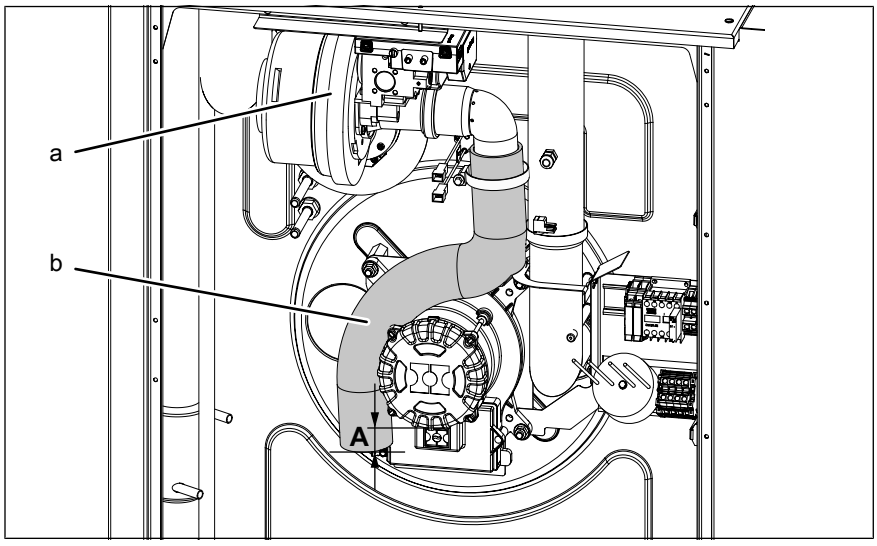

Image: Suction hose position

a Burner b Suction hose

1. If the suction hose is not routed without kinks in the location and form shown in the figure, correct or replace the suction hose.

2. If the suction hose is damaged, replace it.
3. If the opening of the suction hose is blocked, clean the suction hose.
4. Adjust the primary air gap to within the specified range (A) by aligning the suction hose (see "Equipment and connection data").
5. Check the basic gas setting (see "Checking the basic gas setting").
6. Fill out the commissioning report.

Manually adjusting 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.

Requirement Adjustment of basic setting not OK

Gas shut-off valve on the unit closed

Left side wall removed

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

The offset pressure can be measured as an adjustment aid at minimum output (see " Adjusting the basic gas setting").

1. Remove the gas orifice (see "Converting the gas type").

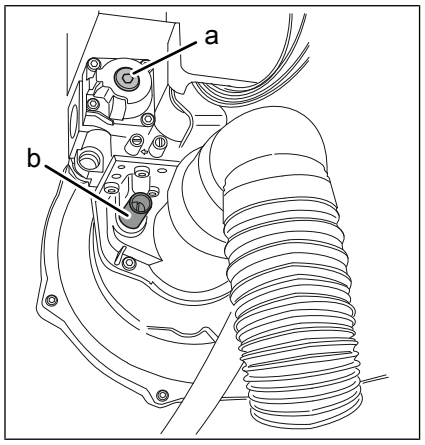

Image: Adjustment screws on the burner

a Adjustment screw for low output (TX40)

b Adjustment screw for high output (4 mm hexagon socket or 1.2 x 6.5 mm screwdriver)

2. Screw in adjustment screw for high output 10 mm (basic setting).
3. Open the gas shut-off valve on the unit.
4. Switch on the unit.
5. Set the unit to low output (see "Checking the basic gas setting").
   ↳ The unit operates at minimum output.
6. Measure the CO_2 content of the exhaust gas at the exhaust gas connection when the temperature in the cooking zone is between 130-180 °C.
7. Check whether the measured CO_2 content is within the specified range (see "Exhaust gas values").
8. Using the adjustment screw for low output, adjust the CO_2 content to the specified range for low output (setting is very sensitive).
   ↳ Turning anti-clockwise: CO_2 content is decreased.
   ↳ Turning clockwise: CO_2 content is increased.
9. Set the unit to high output (see "Checking the basic gas setting").
   ↳ The unit operates at maximum output.
10. Check whether the measured CO_2 content is within the specified range (see "Exhaust gas values").
11. Using the adjustment screw for high output, adjust the CO_2 content to the specified range for high output (setting is very sensitive).
   ↳ Turning anti-clockwise: CO_2 content is increased.
   ↳ Turning clockwise: CO_2 content is decreased.
   ↳ If necessary, repeat the adjustment procedure until the CO_2 value at high and at low output is within the specified range.
12. Press the Ready2Cook button and conduct the measurements for the second burner in the same way (only unit size 20).
13. Check the waste gas values (see "Checking the basic gas setting").
14. To end the CO_2 measurement, press the "START STOP" button.

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15. The indicator light in the "START STOP" button goes out; the burner is switched off.
16. Switch off the unit.
17. Fill out the commissioning report.

Measuring the offset pressure

Requirement Basic gas setting checked and not OK

Measuring accuracy of the pressure measuring device at least 0.01 hPa (0.01 mbar)

Left side wall removed

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

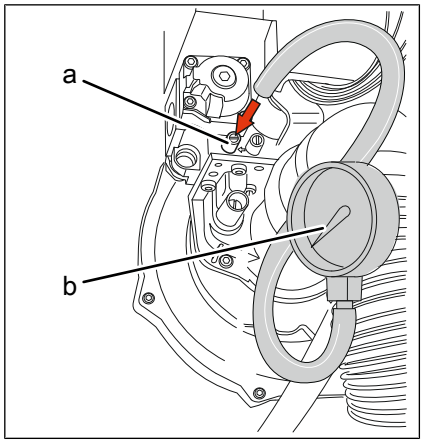

Image: Measuring the offset pressure

a Offset pressure measuring point b Pressure measuring device

1. Unscrew the sealing plug from the offset pressure measuring point.
2. Connect the pressure measuring device.
3. Open the gas shut-off valve on the unit.
4. Switch on the unit.
5. Set the unit to low output (see "Checking the basic gas setting").
   ↳ The unit operates at minimum output.
6. Measure the offset pressure.
7. Check whether the measured offset pressure is within the specified range (see "Exhaust gas values").

6.8 Converting the gas type

Requirement Notes about the gas connection observed

Unit disconnected from power

Left side wall removed

Gas shut-off valve on the unit closed

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).

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.

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

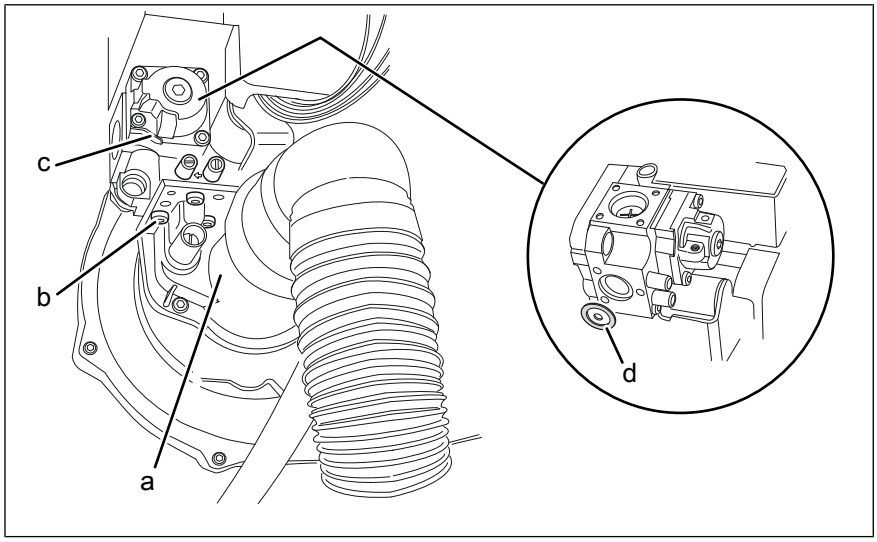

Image: Changing the gas orifice

a Burner
b Bolts (TX25)
c Gas solenoid valve
d Gas orifice with seal

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1. If the unit is already filled with gas, degas the unit in a technically correct manner.
2. Unscrew the bolts from the gas solenoid valve.
3. Remove the gas solenoid valve.
4. Remove the gas orifice with seal.
5. Select the gas orifice specified for the gas type available and insert the seal. (See "Gas orifice diameters").
6. Replace the gas type supplemental label on the unit with the appropriate gas type supplemental label for the gas type available.
7. Replace the gas solenoid valve and secure it with the bolts.
8. Fill out the commissioning report.

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.

9. Open the gas shut-off valve on the unit, while paying attention to the pressure in the gas connection line.
10. Bleed air from the gas system and unit in a technically correct manner.

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

11. Switch on the power supply.
12. Switch on the unit.
13. Check for leaks (see "Checking for leaks").
14. Check the rated heat input (see " Checking the basic gas setting").
15. Fill out the commissioning report.

6.9 Making the exhaust air connection

When setting up the unit under an exhaust hood, observe the applicable regional regulations for ventilation systems.

ATTENTION
Risk of physical damage from fouling of the exhaust air ducts

- Do not incorporate the exhaust air line directly into an exhaust air system.

ATTENTION
Risk of corrosion damage from condensate

- Install the exhaust air line such that condensate cannot collect.

Requirement Flexible aluminium hose

- Nominal diameter 63 mm for sizes 6 and 10
- Nominal diameter 76 mm for size 20
- Maximum length of hose 2.5 m
- Temperature-resistant to 180 °C

1. Connect hose to exhaust air connection fitting.
2. Route hose to the exhaust hood with a 3° rise.
3. Secure end of hose about 50-200 mm below the exhaust hood.

6.10 Checking operation

Requirement Supply air and exhaust gas routing checked and operating

Power connection cable connected

Gas connection line connected

Check for leaks outside the unit conducted

Connection pressure checked

Check for leaks inside the unit conducted

Basic gas setting checked

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

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

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

6.10.1 Checking the exhaust gas routing for leaks

1. Switch on the unit.
2. Set the unit to high output (see "Checking the basic gas setting").
   ↳ The unit operates at maximum output.
3. Check exhaust gas-conducting parts for leaks with a condensation mirror or approved backflow testing device in a technically correct manner.
4. Check for problem-free exhaust gas routing at the flow control (only type B_{13BS} unit).
5. Conduct procedure for burner 2 in the same way (only unit size 20).
6. Switch off the unit.
7. Fill out the commissioning report.

6.10.2 Checking the monitoring of the exhaust gas routing

1. Switch on the unit and start any cooking program (see operating instructions).
   ↳ The burner is operating.
2. Switch off the ventilation.
   ↳ The gas supply is blocked.
   ↳ The flame extinguishes.
   ↳ The unit attempts to ignite.
   ↳ The safety device trips after 1 second.
   ↳ An error message flashes on the display.
   ↳ An audible signal sounds.
   ↳ The *STEP* indicator light flashes.
   ↳ The monitoring of the exhaust gas routing is functioning.
3. Switch on the ventilation.
4. Press the "STEP" button.
   ↳ The unit restarts.

5. The cooking program starts again.
   ↳ The burner ignites within 5 seconds.
   ↳ The flame burns stably.
6. Switch off the unit.
7. Fill out the commissioning report.

6.10.3 Checking the ignition behaviour

Requirement Left side wall removed

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

1. Switch on the unit and start any cooking program (see operating instructions).
   ↳ The burner ignites.
2. Observe the ignition behaviour at the inspection port until the flame burns stably.
3. End the cooking program.
   ↳ The flame extinguishes.
   ↳ The burner is off.
4. Repeat the procedure several times.
5. Conduct procedure for burner 2 in the same way (only unit size 20).
6. Switch off the unit.
7. Fill out the commissioning report.

6.10.4 Checking the flame pattern

Requirement Left side wall removed

DANGER
Risk of personal injury and physical damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained technical personnel.

1. Switch on the unit.
2. Set the unit to high output (see "Checking the basic gas setting").
   ↳ The unit operates at maximum output.
3. Observe the flame pattern at the inspection port.
   ↳ The flame must be pointed at its core, not generate soot, appear yellow, flash back or lift off.

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4. Conduct procedure for burner 2 in the same way (only unit size 20).
5. Switch off the unit.
6. Fill out the commissioning report.

6.10.5 Checking the flame monitoring

Requirement Ignition behaviour checked
Flame pattern checked

1. Switch on the unit and start any cooking program (see operating instructions).
   ↳ The burner ignites within 5 seconds.
   ↳ The burner is operating.
2. Close the gas shut-off valve on the unit.
   ↳ The flame extinguishes.
   ↳ The unit attempts to ignite.
   ↳ The safety device trips after 1 second.
   ↳ An error message flashes on the display.
   ↳ An audible signal sounds.
   ↳ The *STEP* indicator light flashes.
   ↳ The flame monitoring is functioning.
3. Open the gas shut-off valve on the unit.
4. Press the "STEP" button.
   ↳ The unit restarts.
5. The cooking program starts again.
   ↳ The burner ignites within 5 seconds.
   ↳ The burner is operating.
6. Conduct procedure for burner 2 in the same way (only unit size 20).
7. Switch off the unit.
8. Fill out the commissioning report.

6.10.6 Checking the controls

Requirement Ignition behaviour checked
Flame pattern checked

1. Switch on the unit and start any cooking program (see operating instructions).
   ↳ Set the cooking zone temperature to a higher temperature than the current cooking zone temperature.
   ↳ The burner is operating.
   ↳ Once the set cooking zone temperature is reached, the controls switch off the burner.
   ↳ The burner is off.
   ↳ The controls are functioning.
2. Conduct procedure for burner 2 in the same way (only unit size 20).
3. Switch off the unit.
4. Fill out the commissioning report.

6.10.7 Checking the monitoring of the cooking zone door

1. Switch on the unit and start any cooking program (see operating instructions).
   ↳ The burner is operating.
   ↳ The fan wheel is turning.
2. Open the cooking zone door during operation.
   ↳ The burner is off.
   ↳ The fan wheel comes to a stop.
   ↳ The monitoring of the cooking zone door is functioning.
3. Close the cooking zone door.
4. Conduct procedure for burner 2 in the same way (only unit size 20).
5. Switch off the unit.
6. Fill out the commissioning report.

7 Putting the unit into service

If the unit is not put into service immediately after being connected, all inspections involving the gas connection must be repeated.

Requirement

Supply air and exhaust gas routing checked
Electrical connection made
Gas connection made
Operation successfully checked
Left side wall closed

1. Instruct operator
2. Fill out the commissioning report

7.1 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?	☐	☐

Basic control setting		Yes	No
Temperature unit set?		☐	☐
☐ °C	☐ °F		
Installation altitude set?		☐	☐
☐ 0 - 999 m	☐ 1000 - 1999 m		
☐ 2000 - 2499 m	☐ >2500 m		
Ready2Cook preheating temperature set?		☐	☐
Ready2Cook preheating temperature: _____ %			
Exhaust hood run time extension set?		☐	☐
Exhaust hood run time extension: _____ seconds			
Audible signal volume set?		☐	☐
☐ quiet	☐ loud		
Ready2Cook hold time set?		☐	☐
Ready2Cook hold time: _____ minutes			

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?	☐	☐

Electrical connection		Yes	No
Power connection made properly?		☐	☐
☐ Equipotential bonding	☐ Power optimizing system		
☐ Floating contact	☐ …		
Electrical connections made properly?		☐	☐
Residual-current protective device connected immediately before this unit?		☐	☐
Residual-current protective device connected before this and other units?		☐	☐

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:	**Liquefied gas:**		
☐ E/H, G20, 20 mbar	☐ B/P, G30/G31, 50 mbar		
☐ LL/L, G25, 20 mbar	☐ B/P, G30/G31, 30 mbar		
☐ L, G25, 25 mbar	☐ B/P, G30/G31, 28 mbar		
☐ E+, G20/G25, 20/25 mbar			
☐ 13A, G21, 20 mbar			
☐ Other gas type: _____ Connection pressure: _____ mbar			
Gas connection made in a technically correct manner? Dimension of gas connection at the unit: _____ ☐ mm or ☐ inches Dimension of gas connection line: _____ ☐ mm or ☐ inches		☐	☐
Thermally activated shut-off installed?		☐	☐
Gas connection line leak-free?		☐	☐
Gas-conducting parts inside the unit leak-free?		☐	☐
Connection pressure OK? Connection pressure: _____ mbar		☐	☐
Nozzle pressure OK?		☐	☐
☐ Measured: _____ mbar	☐ Set: _____ mbar		
Primary air gap OK?		☐	☐
☐ Measured: _____ mm	☐ Set: _____ mm		

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Gas connection		Yes	No
Exhaust gas values at full load OK?		☐	☐
☐ Measured CO: _____ ppm	☐ Set CO: _____ ppm		
☐ Measured CO_2: _____ Vol %	☐ Set CO_2: _____ Vol %		
Exhaust gas values at partial load 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?		☐	☐
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
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?	☐	☐
Controls are functioning?	☐	☐
Monitoring of the cooking zone door is functioning?	☐	☐

Water connection	Yes	No
Minimum connection pressure available? Connection pressure: _____ bar	☐	☐
Water connection made properly?	☐	☐
Lines and connections have no leaks?	☐	☐
Mixing battery mounted properly?	☐	☐

Wastewater connection		Yes	No
Wastewater connection made in a technically correct manner?		☐	☐
☐ On-site waste trap	☐ Vacuum breaker		
☐ Funnel discharge			
Wastewater line size: _____ mm			

Exhaust air connection	Yes	No
Set up under exhaust hood?	☐	☐
Connected to exhaust air duct? Exhaust air line size: _____ mm Exhaust air line length: _____ mm	☐	☐

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

Electrical installation was provided by:			
Company	Installer	City, date	Signature

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

Water installation was provided by:			
Company	Installer	City, date	Signature

Wastewater installation was provided by:			
Company	Installer	City, date	Signature

Exhaust air connection was provided by:			
Company	Installer	City, date	Signature

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

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