Combi steamer

OES OEB OGS OGB /

OES OEB OGS OGB easyTOUCH

ENG

Installation manual

Translation of the original

Table of Contents

1 General information

Purpose of this chapter

This chapter shows you how to identify your combi steamer and provides guidance on using this manual.

Contents

This chapter contains the following topics:

Environmental protection

Statement of principles

Our customers' expectations, the legal regulations and standards and our company's own reputation set the quality and service for all our products.

We have an environmental management policy that not only ensures compliance with all environmental regulations and laws, but also commits us to continuous improvement of our green credentials.

We have developed a quality and environmental-management system in order to guarantee the continued manufacture of high-quality products, and to be sure of meeting our environmental targets.

This system satisfies the requirements of ISO 9001:2008 and ISO 14001:2004.

Environmental protection procedures

We observe the following procedures:

- Use of residue-free compostable wadding materials
- Use of RoHS-compliant products
- Multiple re-use of cardboard packaging
- Recommendation and use of bio-degradable cleaning agents
- Recycling of electronic waste
- Environmentally friendly disposal of old appliances via the manufacturer

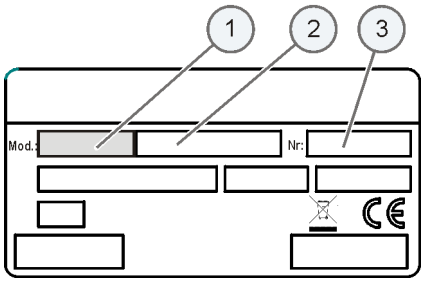
Join us in a commitment to environmental protection.

Identifying your combi steamer

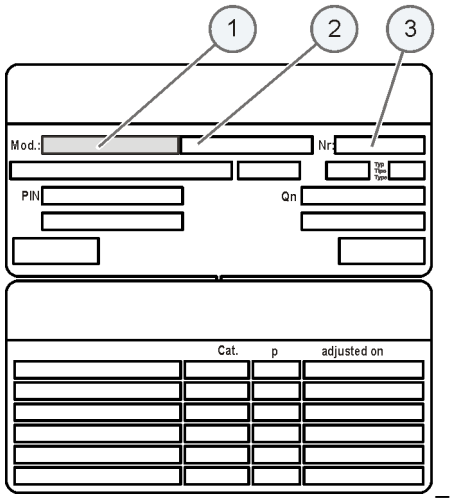
Position and layout of the type plate

You can use the type plate to identify your combi steamer. The type plate is located on the left-hand side of the combi steamer.

The type plate has the following layout on electric appliances:



The type plate has the following layout on gas appliances:



The following table lists the relevant items on the type plate:

Item number	Meaning
1	trade name
2	part number
3	serial number

Code making up the trade name

On both type plates, the code making up the trade name (1) identifies your appliance:

Elements of the trade name	Meaning
Letters	
1. letter	O = Eco (always present)
2. letter	E = Electric appliance
	G = Gas appliance
3. letter	B = Appliance with steam generator
	S = Appliance with injection
Numerical values	
xx.yy	Appliance size

Table-top appliances

Use the table below to identify your table-top appliance from the trade name on the type plate:

Model	Type	Number of shelves		Optional shelves	
		1/1 GN	2/1 GN	600 x 400 baking tray	Number of plates
OES 6.10	Electric appliance with injection	7	-	5	20
OGS 6.10	Gas appliance with injection	7	-	5	20
OEB 6.10	Electric appliance with steam generator	7	-	5	20
OGB 6.10	Gas appliance with steam generator	7	-	5	20
OES 6.20	Electric appliance with injection	14	7	12	42
OGS 6.20	Gas appliance with injection	14	7	12	42
OEB 6.20	Electric appliance with steam generator	14	7	12	42
OGB 6.20	Gas appliance with steam generator	14	7	12	42
OES 10.10	Electric appliance with injection	11	-	7	32
OGS 10.10	Gas appliance with injection	11	-	7	32
OEB 10.10	Electric appliance with steam generator	11	-	7	32
OGB 10.10	Gas appliance with steam generator	11	-	7	32
OES 10.20	Electric appliance with injection	22	11	18	63
OGS 10.20	Gas appliance with injection	22	11	18	63
OEB 10.20	Electric appliance with steam generator	22	11	18	63
OGB 10.20	Gas appliance with steam generator	22	11	18	63

Floor-standing appliances

Use the table below to identify your floor-standing appliance from the trade name on the type plate:

Model	Type	Number of shelves		Optional shelves	
		1/1 GN	2/1 GN	600 x 400 baking tray	Number of plates
OES 12.20	Electric appliance with injection	24	12	10	59 or 74
OGS 12.20	Gas appliance with injection	24	12	10	59 or 74
OEB 12.20	Electric appliance with steam generator	24	12	10	59 or 74
OGB 12.20	Gas appliance with steam generator	24	12	10	59 or 74
OES 20.10	Electric appliance with injection	20	-	17	50 or 61
OGS 20.10	Gas appliance with injection	20	-	17	50 or 61
OEB 20.10	Electric appliance with steam generator	20	-	17	50 or 61
OGB 20.10	Gas appliance with steam generator	20	-	17	50 or 61
OES 20.20	Electric appliance with injection	40	20	17	98 or 122
OGS 20.20	Gas appliance with injection	40	20	17	98 or 122
OEB 20.20	Electric appliance with steam generator	40	20	17	98 or 122
OGB 20.20	Gas appliance with steam generator	40	20	17	98 or 122

About this installation manual

Purpose

This installation manual provides answers to the following questions:
- How do I set up the combi steamer?
- How do I connect up the combi steamer?
- How do I prepare the combi steamer for use?

The aim of this installation manual is to show you how to perform the following tasks:
- Setting up the appliance.
- Connecting the appliance to the electrical supply.
- Connecting the appliance to the water supply.
- Connecting the appliance to the gas supply.
- Connecting the appliance to the flue gas installation.
- Preparing the appliance for use.

Who should read this manual

This installation manual is aimed at the following groups:

Personnel	Tasks	Qualifications	Chapter to read before task
Equipment mover	▪ Conveying within the establishment	Trained in the use of a pallet truck and forklift truck	*For your safety* on page 19 *Moving and setting up the appliance* on page 29
Service engineer	▪ Setting up the appliance ▪ Connecting the appliance ▪ Preparing the appliance for first-time use ▪ Taking the appliance out of service ▪ Instructing the user	▪ Is an employee of an approved customer service unit. ▪ Has relevant technical training. ▪ Is trained in the particular appliance.	*Layout and function* on page 11 *For your safety* on page 19 *Moving and setting up the appliance* on page 29 *Connecting up the combi steamer* on page 44 *Preparing for first-time use, taking out of service and disposal* on page 69 *Optional equipment* on page 75
Gas fitter	▪ Connecting the appliance: gas ▪ Isolating the appliance from the gas supply mains	▪ Is a gas fitter authorized by the gas supply company. ▪ Has relevant professional training.	*Layout and function* on page 11 *For your safety* on page 19 *Connecting up the combi steamer* on page 44
Electrical fitter	▪ Connecting the appliance: electric ▪ Isolating the appliance from the electrical supply mains	▪ Is an employee of an approved customer service unit. ▪ Has relevant professional training. ▪ Is a qualified electrician.	*Layout and function* on page 11 *For your safety* on page 19 *Connecting up the combi steamer* on page 44

Documents included in the Customer documentation

The customer documentation for the combi steamer includes the following documents:
- Installation manual (this document)
- User manual
- Help facility included in the software (extracts from the user manual)

Chapters in the installation manual

The table below lists the chapters in this manual and summarizes their content and purpose:

Step	Action
General information	▪ Shows you how to identify your combi steamer. ▪ Provides guidance on using this installation manual.
Layout and function	▪ Specifies the intended use of the combi steamer. ▪ Explains the functions of the combi steamer and shows the position of its components.
For your safety	▪ Describes the hazards posed by the combi steamer and appropriate preventive measures. **It is important that you read this chapter carefully.**
Moving and setting up the appliance	▪ Specifies the basic appliance dimensions. ▪ Specifies requirements for the installation location. ▪ Provides information on conveying the appliance to the installation location, unpacking and setting up.
Connecting up the combi steamer	▪ Lists necessary approvals. ▪ Provides information on installing the: ▪ electrical supply ▪ gas ▪ water ▪ flue gas ▪ drain ▪ air vent
Preparing for first-time use, taking out of service and disposal	▪ Explains the procedure for preparing the appliance for first-time use. ▪ Explains the procedure for taking out of service. ▪ Contains disposal instructions.
Optional equipment	▪ Describes features of the various optional equipment.
Technical data, dimensional drawings and connection diagrams	▪ Contains the technical data and connection diagrams.
Checklists and completion of installation	▪ Contains the checklists for ▪ Installation ▪ Safety instructions and warnings ▪ Customer guidance and instruction. ▪ Contains information on the warranty and explains the completion procedure using the checklists.

Symbols used for safety instructions

Safety instructions are categorized according to the following hazard levels:

Hazard level	Consequences	Likelihood
⚠DANGER	Death / serious injury (irreversible)	Immediate risk
⚠WARNING	Death / serious injury (irreversible)	Potential risk
⚠CAUTION	Minor injury (reversible)	Potential risk
Caution	Damage to property	Potential risk

2 Layout and function

Purpose of this chapter

This chapter specifies the intended use of the combi steamer and explains its functions.

Contents

This chapter contains the following topics:

Intended use of your combi steamer

Intended use

The combi steamer must only be used for the purposes specified below:

- The combi steamer is designed and built solely for cooking different foodstuffs. Steam, convection and superheated steam are used for this purpose.
- The combi steamer is intended solely for professional, commercial use.
- The ambient temperature must lie between 4°C and 35°C.

In addition, the combi steamer is only being used as intended when the following conditions are met:

- To avoid accidents and damage to the combi steamer, the owner must train staff regularly. The combi steamer must only be operated by trained staff.
- The manufacturer regulations for operation and maintenance of the combi steamer must be observed.

Restrictions on use

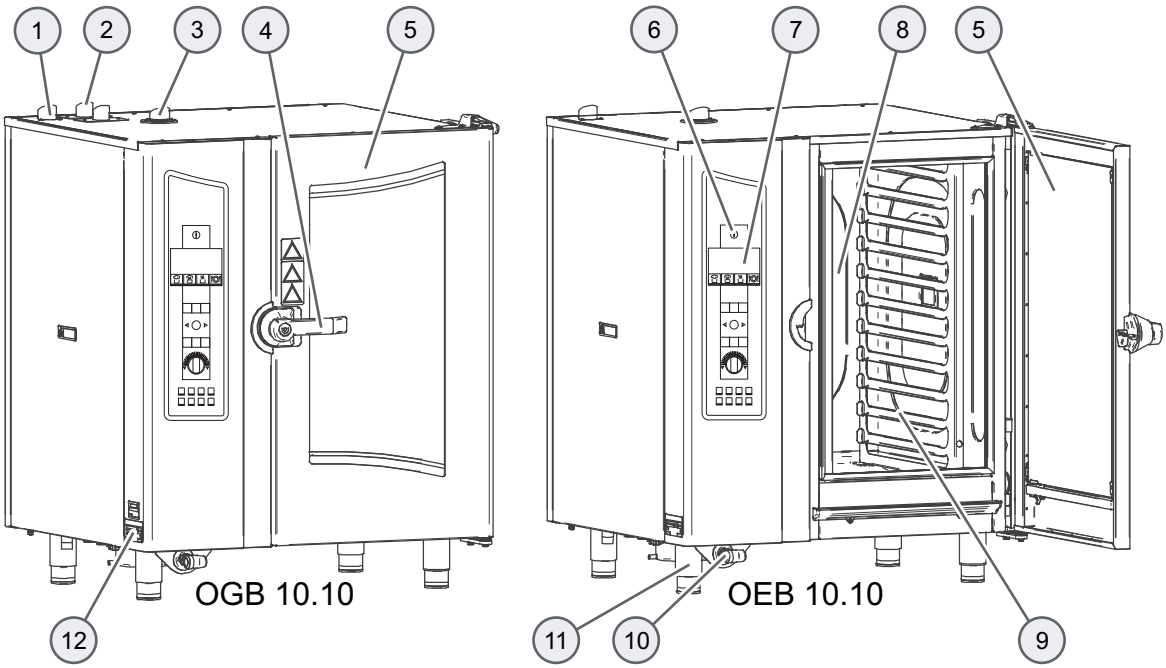
The following restrictions on use must be observed:

- The combi steamer must not be operated in toxic or potentially explosive atmospheres.
- The combi steamer must only be operated at ambient temperatures between +4°C and +35°C.
- The combi steamer must only be used by trained personnel.
- The combi steamer must be suitably sheltered from the rain and wind if operated outdoors.
- The combi steamer must not be loaded over the maximum permissible loading weight for the given model.
- The combi steamer must only be operated when all safety devices are fitted and in working order.
- Dry powder or granulated material must not be heated in the combi steamer.
- Highly flammable objects with a flash point below 270 °C must not be heated in the combi steamer. These include items such as highly flammable oils, fats or cloths (kitchen cloths).
- Food in sealed tins or jars must not be heated in the combi steamer.

Layout and function of the combi steamer (standard controls)

Table-top appliance construction

The following diagram shows a gas appliance and an electric appliance, representing all table-top appliances:



Components of the table-top appliances and their function

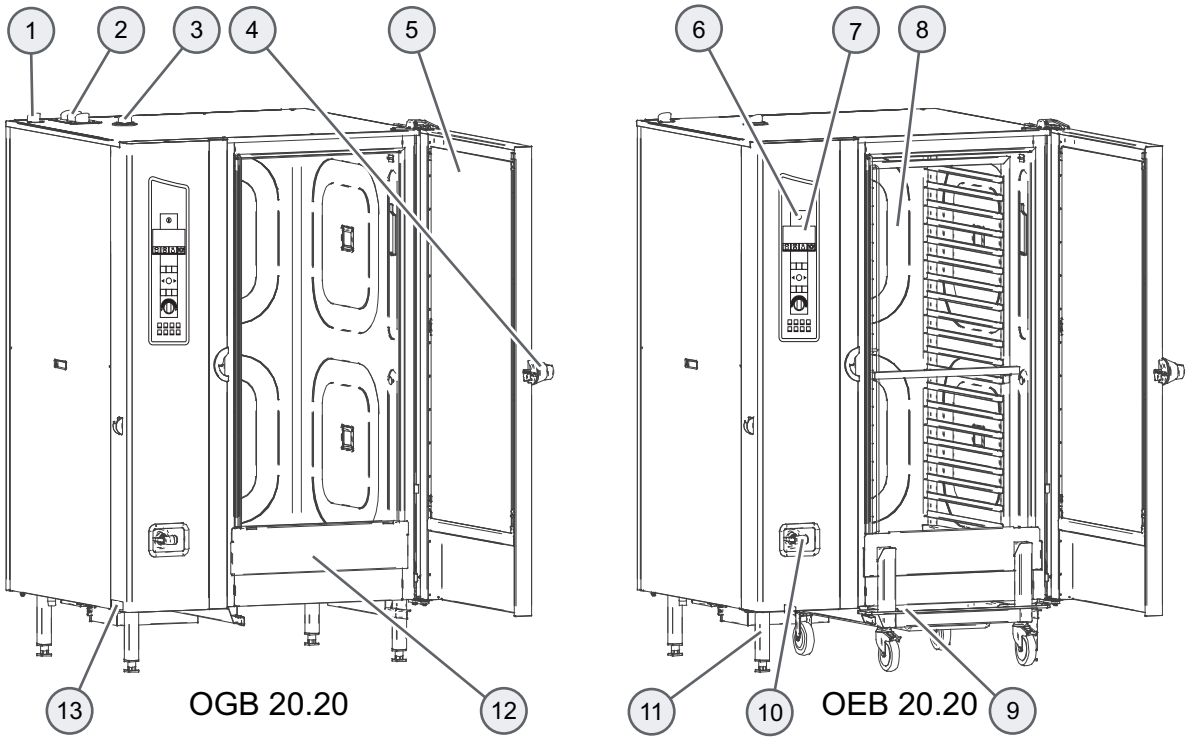
The components of the table-top appliances have the following function

No.	Name Picture	Function
1	Air vent	Controls ventilation
2	Gas flue pipe	On gas appliances only (vents flue gases): ▪ 1 gas flue pipe on appliances with injection ▪ 2 gas flue pipes on appliances with steam generator
3	Low-pressure failsafe device	Prevents the low pressure in the oven e.g. during fully automatic cleaning (CONVOClean *system*)
4	Multi-function door handle ("Hygienic Handle")	Has the following functions depending on its position: ▪ Pointing vertically downwards: combi steamer closed, ready for cooking ▪ Horizontal: combi steamer open, in on-latch position ▪ 20 degrees above horizontal: Combi steamer can be opened Also has the following functions: ▪ Additional function as far as on-latch position ▪ In the on-latch position, door can be opened from inside oven in an emergency ▪ Antibacterial with silver ions
5	Appliance door ("disappearing door")	▪ Seals the oven during cooking ▪ Special opening action allows it to slide back against the side of the combi steamer to save space

No.	Name Picture	Function
6		Switches the combi steamer on and off
7	Control panel	Central control of the combi steamer: ▪ Controls: membrane keypad and tilt selector switch ▪ Status displays
8	Oven	▪ Contains the food during cooking ▪ Has a different number of shelf levels depending on model
9	Rack	Used to hold GN containers or baking trays
10	Hand shower	▪ Used for rinsing out the oven with water ▪ Continuous flow adjustment ▪ Retracts automatically into the holder after use
11	Appliance feet	Can be adjusted in height to allow the combi steamer to be positioned horizontally
12	Type plate	Used for identifying the combi steamer

Floor-standing appliance construction

The following diagram shows a gas appliance and an electric appliance, representing all floor-standing appliances:



Components of the floor-standing appliances and their function

The components of the table-top appliances have the following function:

No.	Name Picture	Function
1	Air vent	Controls ventilation
2	Gas flue pipe	On gas appliances only (vents flue gases): ▪ 1 gas flue pipes: OGS 12.20 ▪ 2 gas flue pipes: OGB 12.20, OGS 20.10, 20.20 ▪ 3 gas flue pipes: OGB 20.10, 20.20
3	Low-pressure failsafe device	Prevents the low pressure in the oven e.g. during fully automatic cleaning (CONVOClean *system*)
4	Multi-function door handle ("Hygienic Handle")	Has the following functions depending on its position: ▪ Pointing vertically downwards: combi steamer closed ▪ Horizontal: combi steamer open, in on-latch position ▪ 20 degrees above horizontal: Combi steamer can be opened Also has the following functions: ▪ Additional function as far as on-latch position ▪ In the on-latch position, door can be opened from inside oven in an emergency ▪ Antibacterial with silver ions
5	Appliance door ("disappearing door")	▪ Seals the oven during cooking ▪ Special opening action allows it to slide back against the side of the combi steamer to save space
6		Switches the combi steamer on and off
7	Control panel	Central control of the combi steamer: ▪ Controls: membrane keypad and tilt selector switch ▪ Status displays
8	Oven	▪ Contains the food during cooking ▪ Has a different number of shelf levels depending on model
9	Loading trolley	Used for loading food
10	Hand shower	▪ Used for rinsing out the oven with water ▪ Continuous flow adjustment ▪ Retracts automatically into the holder after use
11	Appliance feet	Can be adjusted in height to allow the combi steamer to be positioned horizontally
12	Preheat bridge	Used for safety purposes during preheating and cleaning
13	Type plate	Used for identifying the combi steamer

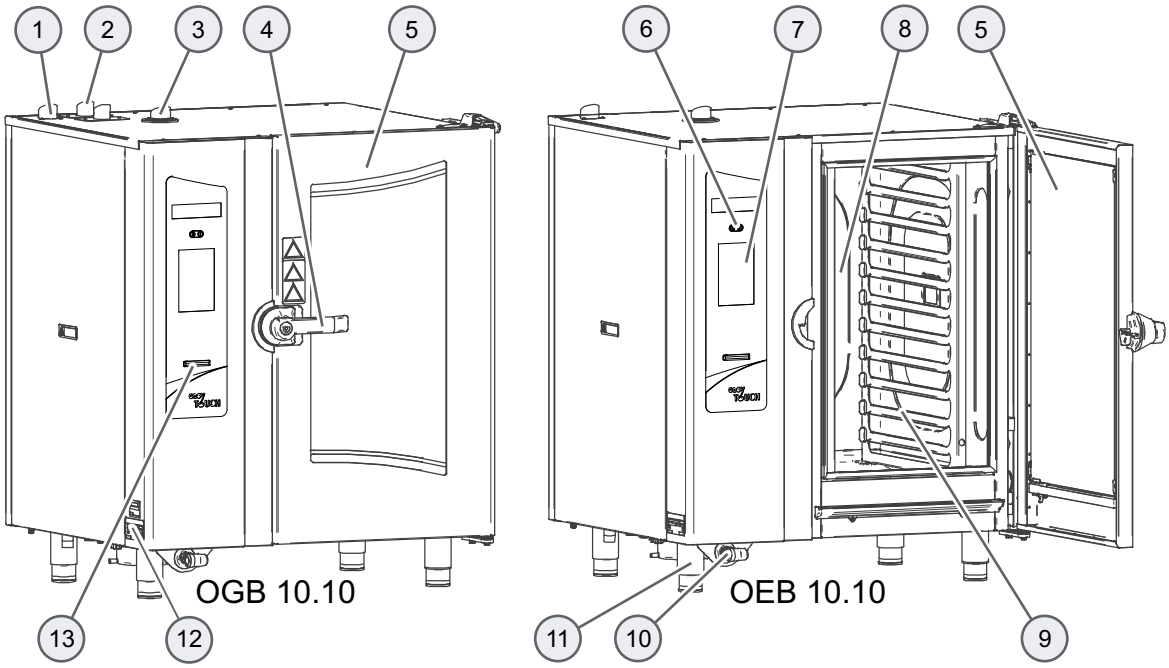
Material

The interior and exterior structure of the combi steamer is made of stainless steel.

Layout and function of the combi steamer (easyTOUCH controls)

Table-top appliance construction

The following diagram shows a gas appliance and an electric appliance, representing all table-top appliances:



Components of the table-top appliances and their function

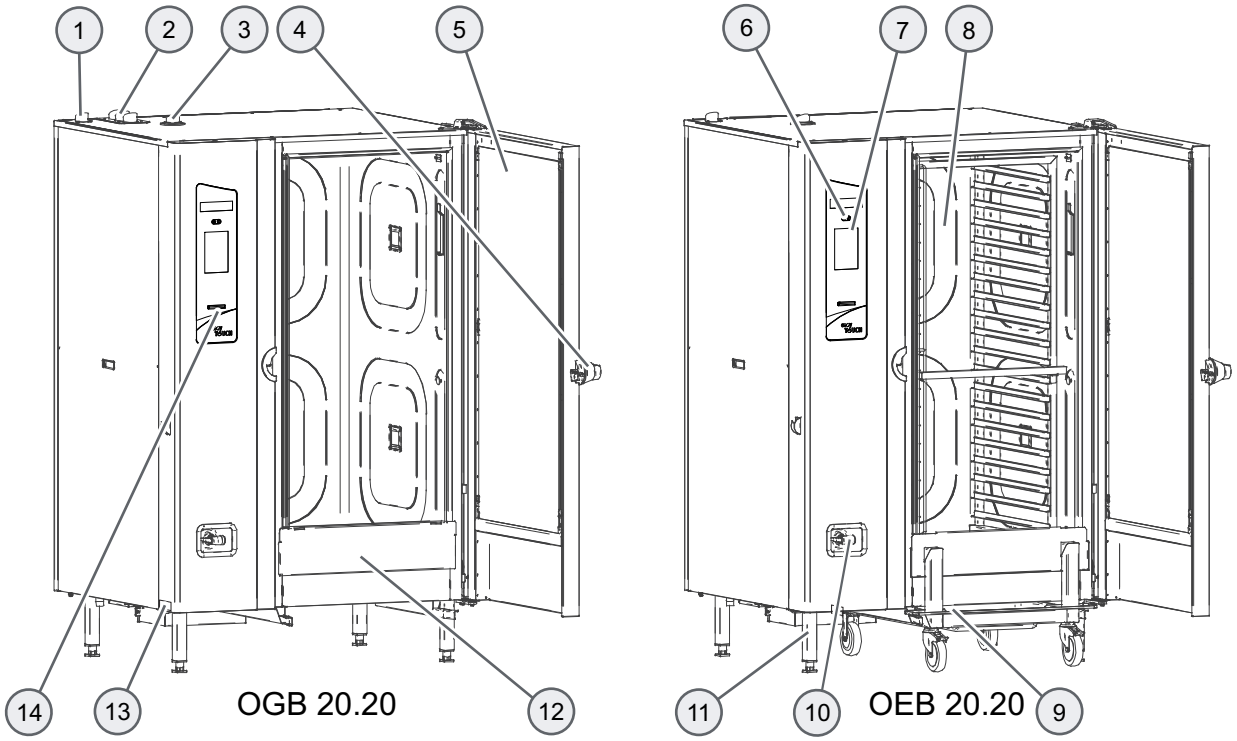
The components of the table-top appliances have the following function

No.	Name picture	Function
1	Air vent	Controls ventilation
2	Gas flue pipe	On gas appliances only (vents flue gases): ▪ 1 gas flue pipe on appliances with injection ▪ 2 gas flue pipes on appliances with steam generator
3	Low-pressure failsafe device	Prevents the low pressure in the oven e.g. during fully automatic cleaning (CONVOClean *system*)
4	Multi-function door handle ("Hygienic Handle")	Has the following functions depending on its position: ▪ Pointing vertically downwards: combi steamer closed, ready for cooking ▪ Horizontal: combi steamer open, in on-latch position ▪ 20 degrees above horizontal: Combi steamer can be opened Also has the following functions: ▪ Additional function as far as on-latch position ▪ In the on-latch position, door can be opened from inside oven in an emergency ▪ Antibacterial with silver ions
5	Appliance door ("disappearing door")	▪ Seals the oven during cooking ▪ Special opening action allows it to slide back against the side of the combi steamer to save space
6		Switches the combi steamer on and off

No.	Name picture	Function
7	Touchscreen	Central control of the combi steamer: ▪ Combi steamer operated by touching symbols on control-panel pages ▪ Status displays
8	Oven	▪ Contains the food during cooking ▪ Has a different number of shelf levels depending on model
9	Rack	Used to hold GN containers or baking trays
10	Hand shower	▪ Used for rinsing out the oven with water ▪ Continuous flow adjustment ▪ Retracts automatically into the holder after use
11	Appliance feet	Can be adjusted in height to allow the combi steamer to be positioned horizontally
12	Type plate	Used for identifying the combi steamer
13	USB cover	Covers the USB connector on the appliance

Floor-standing appliance construction

The following diagram shows a gas appliance and an electric appliance, representing all floor-standing appliances:



Components of the floor-standing appliances and their function

The components of the table-top appliances have the following function:

No.	Name picture	Function
1	Air vent	Controls ventilation
2	Number of gas flue pipes	On gas appliances only (vents flue gases): ▪ 1 gas flue pipes: OGS 12.20 ▪ 2 gas flue pipes: OGB 12.20, OGS 20.10, 20.20 ▪ 3 gas flue pipes: OGB 20.10, 20.20
3	Low-pressure failsafe device	Prevents the low pressure in the oven e.g. during fully automatic cleaning (CONVOClean *system*)
4	Multipurpose door handle ("Hygienic Handle")	Has the following functions depending on its position: ▪ Pointing vertically downwards: combi steamer closed ▪ Horizontal: combi steamer open but in on-latch position ▪ 20 degrees above horizontal: Combi steamer can be opened Also has the following functions: ▪ Additional function as far as on-latch position ▪ In the on-latch position, door can be opened from inside oven in an emergency ▪ Antibacterial with silver ions
5	Appliance door ("disappearing door")	▪ Seals the oven during cooking ▪ Special opening action allows it to slide back against the side of the combi steamer to save space
6		Switches the combi steamer on and off
7	Touchscreen	Central control of the combi steamer: ▪ Combi steamer operated by touching symbols on control-panel pages ▪ Status displays
8	Oven	▪ Contains the food during cooking ▪ Has a different number of shelf levels depending on model
9	Loading trolley	Used for loading food
10	Hand shower	▪ Used for rinsing out the oven with water ▪ Continuous flow adjustment ▪ Retracts automatically into the holder after use
11	Appliance feet	Can be adjusted in height to allow the combi steamer to be positioned horizontally
12	Preheat bridge	Used for safety purposes during preheating and cleaning
13	Type plate	Used for identifying the combi steamer
14	USB cover	Covers the USB connector on the appliance

Material

The interior and exterior structure of the combi steamer is made of stainless steel.

3 For your safety

Purpose of this chapter

This chapter provides you with all the information you need in order to use the combi steamer safely without putting yourself or others at risk.

This is a particularly important chapter that you should read through carefully.

Contents

This chapter contains the following topics:

Basic safety code

Object of this safety code

This safety code aims to ensure that all persons who use the combi steamer have a thorough knowledge of the hazards and safety precautions, and that they follow the safety instructions given in the user manual and on the combi steamer. If you do not follow this safety code, you risk potentially fatal injury and property damage.

Referring to the user manuals included in the customer documentation

Follow the instructions below:

- Read in full the chapter "For Your Safety" and the chapters that relate to your work.
- Always keep to hand the user manuals included in the customer documentation for reference.
- Pass on the user manuals included in the customer documentation with the combi steamer if it changes ownership.

Working with the combi steamer

Follow the instructions below:

- Only those persons who satisfy the requirements stipulated in this user manual are permitted to use the combi steamer.
- People (including children) who, because of their physical, sensory or intellectual capabilities, or because of their lack of experience or knowledge, are incapable of using the appliance safely, must not use this equipment without the supervision or guidance of a responsible person.
- Only use the combi steamer for the specified use. Never, under any circumstances, use the combi steamer for other purposes that may suggest themselves.
- Take all the safety precautions specified in this user manual and on the combi steamer. In particular, use the prescribed personal protection equipment.
- Only stand in the working positions specified.
- Do not make any changes to the combi steamer, e.g. removing parts or fitting un-approved parts. In particular, you must not disable any safety devices.

More on this

Related topics

- Intended use of your combi steamer 12
- Warning signs on the combi steamer 25
- Hazards and safety precautions 21
- Safety devices 27
- Requirements to be met by personnel, personal protection equipment and working positions 24

Hazards and safety precautions

Meaning

This section describes the potential hazards that authorized personnel may be exposed to when moving and installing the appliance, when preparing the appliance for use and when taking it out of service. It stipulates the measures required to minimize these hazards as far as possible.

Moving the appliance and taking it out of service

When moving the combi steamer and taking it out of service, be aware of the following hazards and take the specified preventive actions:

Hazard	Where or in what situations does the hazard arise?	Preventive action	Safety device
Risk of crushing from heavy items being carried	When lifting up and setting down the items being carried	Only allow suitably trained personnel to move the appliance using a pallet truck or forklift truck	None
Overstressing your body	When setting up and moving the appliance	▪ Do not exceed safety limits for lifting and carrying ▪ Use lifting gear	None
Hazard posed by damaged gas, water and electrical connections	When moving and dismantling connected appliances	▪ Disconnect all gas, water and electrical connections before moving the appliance and before taking it out of service. ▪ Work must only be performed by qualified electricians from an approved customer service office and by approved gas fitters.	None

Installation and preparing for first-time use

When installing the combi steamer and preparing it for first-time use, be aware of the following hazards and take the specified preventive actions:

Hazard	Where or in what situations does the hazard arise?	Preventive action	Safety device
Risk from live parts	▪ Under the cover ▪ Under the control panel	▪ Work on the electrical system must only be performed by qualified electricians from an approved customer service office ▪ Professional working ▪ Disconnect power supply before removing the cover	Cover
Risk of electric shock if the water supply is leaking or cracked.	▪ On the combi steamer ▪ In the entire working area	▪ Use a permanent connection. ▪ Use only suitable pipes that comply with DIN EN 61770.	None
Risk of explosion from gas	Where combi steamer is installed	▪ Work on the gas system must only be performed by an approved gas fitter ▪ Professional working On smelling gas: ▪ Disconnect gas supply at the shut-off device ▪ Ventilate room ▪ Do not operate any electrical equipment ▪ Do not create naked flames ▪ Get help	None
Risk of suffocation from faulty combustion	Where combi steamer is installed	Work on the gas system must only be performed by an approved gas fitter	None
Risk of suffocation from insufficient supply of air for combustion	Where combi steamer is installed	Work on the gas system must only be performed by an approved gas fitter	None

Requirements for safe setup, installation and preparation for first-time use

Meaning

Safe operation of the combi steamer is only guaranteed if it has first been set up, installed, connected and prepared for use in accordance with the basic requirements specified here.

Stability

Observe the following requirements to ensure that the combi steamer is installed in a stable situation:

- The standing surface must be flat and sufficiently strong to bear the weight of the appliance. This must include the maximum permissible loading weight for the appliance model concerned.
- The height-adjustable feet on the combi steamer must be adjusted to ensure the appliance is positioned horizontally on the standing surface.
- On vehicles and on-board ships, the combi steamer must be suitably anchored to secure it from tipping over or sliding about.

Installing the connection to the electrical supply

Observe the following requirements to prevent hazards caused by faulty electrical connections:

- Only qualified electricians from an approved customer service office are permitted to perform work on electrical equipment.
- The connection to the electrical supply must be installed in accordance with applicable local regulations of the professional associations and power supply company.
- The case of the appliance must be grounded in a suitable manner and connected to an equipotential bonding system.
- All electrical connections must be checked when the appliance is prepared for first-time use to ensure cables are laid correctly and connections are made properly.

Installing the gas supply

Observe the following requirements to prevent hazards caused by faulty connections to gas appliances:

- Only approved gas fitters are permitted to connect the combi steamer to the gas supply.
- The connection to the gas supply must be installed in accordance with applicable local regulations of the professional associations and gas supply company.
- All gas supply installations must be checked carefully when the appliance is prepared for first-time use to ensure the connections are gas-tight and installed correctly.

Environmental conditions at the installation location

To ensure safe operation of the appliance, the environmental conditions at the intended installation location must meet the following requirements:

- It is prohibited to store flammable gases or liquids in an area exposed to heat radiated from the appliance.
- It is prohibited to operate deep-fat fryers or appliances that use hot, uncovered fat, in an area that can be reached by the water jet from the hand shower.
- For the operation of gas appliances, there must be a guaranteed, unrestricted supply of fresh air, and the ventilation system must be installed in accordance with regulations.

Requirements to be met by personnel, personal protection equipment and working positions

Requirements to be met by personnel

Those people using the combi steamer must meet the following requirements:

Personnel	Tasks	Qualifications	Personal protection equipment required
Equipment mover	▪ Conveying within the establishment	Trained in the use of a pallet truck and forklift truck	▪ Safety boots ▪ Hard hat (e.g. when heavy loads are being lifted, working overhead...)
Service engineer	▪ Setting up the appliance ▪ Connecting the appliance ▪ Preparing the appliance for first-time use ▪ Taking the appliance out of service ▪ Instructing the user	▪ Is an employee of an approved customer service unit. ▪ Has relevant technical training. ▪ Is trained in the particular appliance.	Work wear and personal protection equipment depending on the job that needs doing as specified in national regulations.
Gas fitter	▪ Connecting the appliance: gas ▪ Isolating the appliance from the gas supply mains	▪ Is a gas fitter authorized by the gas supply company. ▪ Has relevant professional training.	Work wear and personal protection equipment depending on the job that needs doing as specified in national regulations.
Electrical fitter	▪ Connecting the appliance: electric ▪ Isolating the appliance from the electrical supply mains	▪ Is an employee of an approved customer service unit. ▪ Has relevant professional training. ▪ Is a qualified electrician.	Work wear and personal protection equipment depending on the job that needs doing as specified in national regulations.

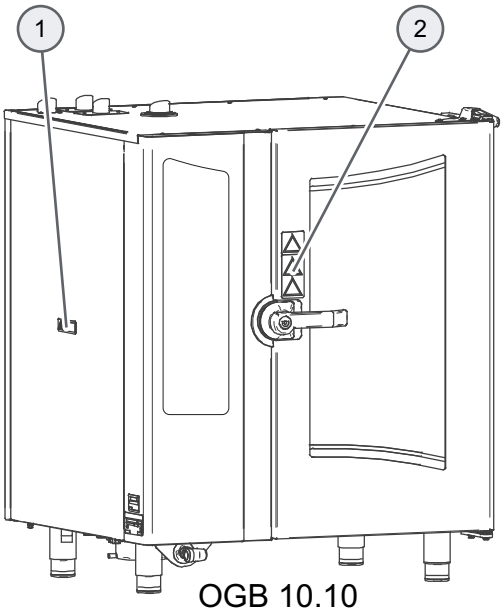
Working positions when installing and preparing the appliance for first-time use

The working position for personnel installing and preparing the appliance for first-time use is the entire appliance area.

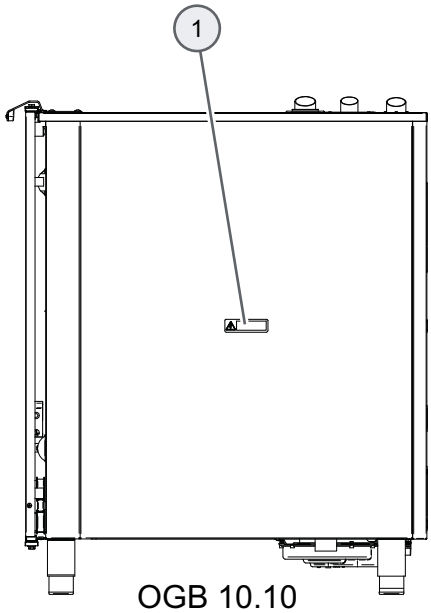
Warning signs on the combi steamer

Where are the warning signs fitted?

The warning signs are located in the following positions on the combi steamer:



OGB 10.10



OGB 10.10

Warnings on the appliance door

The following warning signs are fitted on the appliance door above the door handle (2):

Warning sign	Description
	Warning of hot liquids Spillage of hot liquid foods can result in scalds if the upper shelves are loaded with liquids or foods that produce liquid during cooking. Shelves above the level marked by this warning sign (1.60 m) may not be seen by all users and should not, therefore, be used for liquids or foods that produce liquid during cooking.
	Warning of hot steam and vapor There is a risk of scalding from hot steam and vapor escaping when the appliance door is opened.
	Warning of corrosive cleaning agents injected into oven If the appliance door is opened during fully automatic cleaning (CONVOClean *system*), there is a risk of chemical skin burns from contact with cleaning agents being injected during the cleaning program.

Warning signs on the side cover of the combi steamer

The following warning signs are fitted on the side cover (1) of the combi steamer:

Warning sign	Description
	Warning of electric shock There is a risk of electric shock from live parts if the appliance cover is opened.

Warning signs on the loading trolley for floor-standing appliances

The following warning signs are fitted on the loading trolley of floor-standing appliances:

Warning sign	Description
	Warning of hot liquids Spillage of hot liquid foods can result in scalds if the upper shelves are loaded with liquids or foods that produce liquid during cooking. Shelves above the level marked by this warning sign (1.60 m) may not be seen by all users and should not, therefore, be used for liquids or foods that produce liquid during cooking.

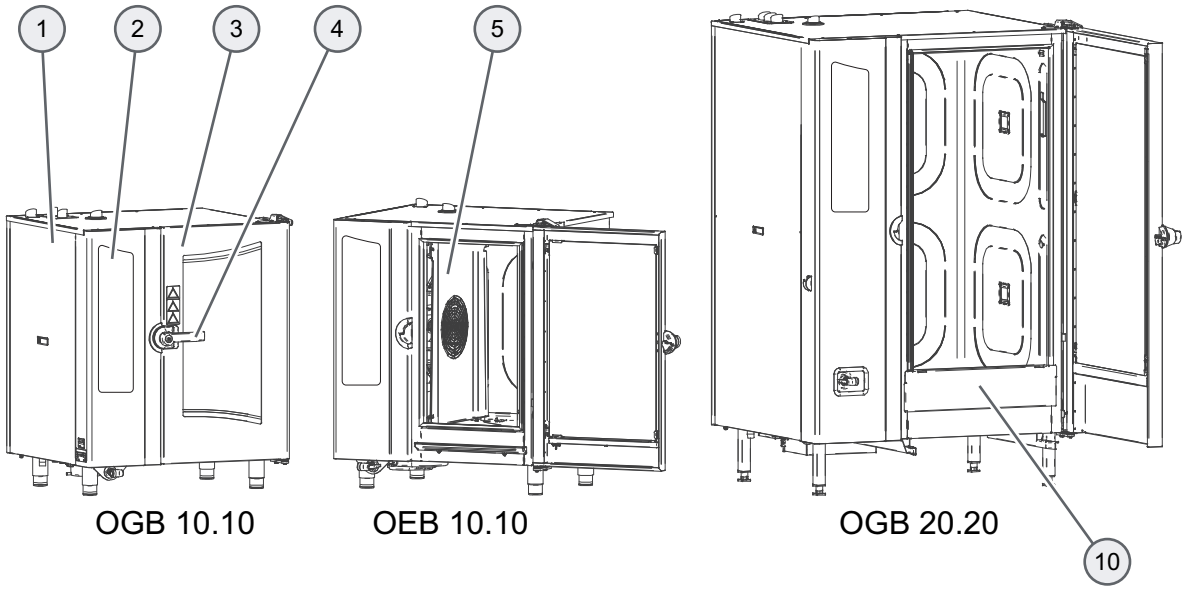
Safety devices

Meaning

The combi steamer has a number of safety devices to protect the user from hazards. It is absolutely essential that all safety devices are fitted and in working order when operating the combi steamer

Position

The following diagrams show the location of the safety devices:



Functions

The following table enumerates all the safety devices on the combi steamer, explains their function and describes the check procedure:

No.	Safety device	Function	Check
1	Cover can only be removed using tool	▪ Prevents live parts from being touched accidentally ▪ Prevents access to the moving fan from the wiring compartment	Check that the cover is in place
2	Control panel can only be removed using a tool	Prevents live parts from being touched accidentally	Ensure that the control panel is in place
3	Appliance door:	Protects the operator and outside environment from hot steam	Check regularly for scratches, cracks, indentations etc. and replace door if any are found
4	On-latch position of appliance door	Prevents scalding of user's face and hands from escaping steam	Check door positions at low temperature as described in *Opening the appliance door safely* in the user manual.
5	Suction panel in oven; can only be removed using tool	Prevents access to the moving fan and ensures good heat distribution.	See *Removing and fitting the suction panel* in the user manual for further details.

No.	Safety device	Function	Check
6 **(no picture)**	Magnetic door switch: electrical door sensor in appliance door	Switches off the fan and heater when the appliance door is opened	Check magnetic door switch at low temperature: **Action** ▪ Open the appliance door fully ▪ Press Start **Result** Motor must not start up
7 **(no picture)**	Emergency opening in appliance door; Prevents anyone being locked inside the oven accidentally	Appliance door in the on-latch position: Allows the appliance door to be pushed open from the inside after shutting the door.	Check at low temperature: put the appliance door in the on-latch position (see *Opening the appliance door safely* in the user manual) **Action** From the outside, pull forcefully on the top left of the appliance door **Result** The appliance door must open.
8 **(no picture)**	Automatic rinsing after power failure in case cleaning agent left in combi steamer	Re-starts fully automatic cleaning (CONVOClean *system*) in a defined state after power failure	This test is a software function. There is no need for the operator to perform a test.
9 **(no picture)**	Spray-guard	Stops the cleaning agent being injected during fully automatic cleaning (CONVOClean *system*) when the appliance door is opened Prompt to close the appliance door	The operability of the magnetic door switch is checked by the software at the beginning of each cleaning program
10	Preheat bridge	Prevents scalding from escaping steam when the loading trolley is not in the floor-standing appliance during preheating	See *Inserting and removing the preheat bridge (floor-standing appliances only)* in the user manual for further details
11 (installed by customer)	Disconnection device	Installed by the customer close to the appliance; easily visible and accessible, 3-pole action, minimum contact separation 3 mm. Used to disconnect the appliance from the power supply during cleaning, repair and maintenance work and in case of danger.	**Action** ▪ Trip the disconnection device. ▪ Check at the X10 terminal strip on the appliance that there is no voltage at all three poles.
12 (installed by customer)	Gas shut-off device	Installed by customer close to appliance in easily accessible position and clearly labeled. Used to disconnect the appliance from the gas supply during cleaning, repair and maintenance work and in case of danger.	**Action** ▪ Close gas shut-off device. ▪ Check that the appliance is isolated from the gas supply.

4 Moving and setting up the appliance

Purpose of this chapter

This chapter specifies all the requirements for the installation location of the combi steamer, and explains the correct on-site procedure for conveying and unpacking the combi steamer, lifting it off the pallet and setting it up.

Contents

This chapter contains the following topics:

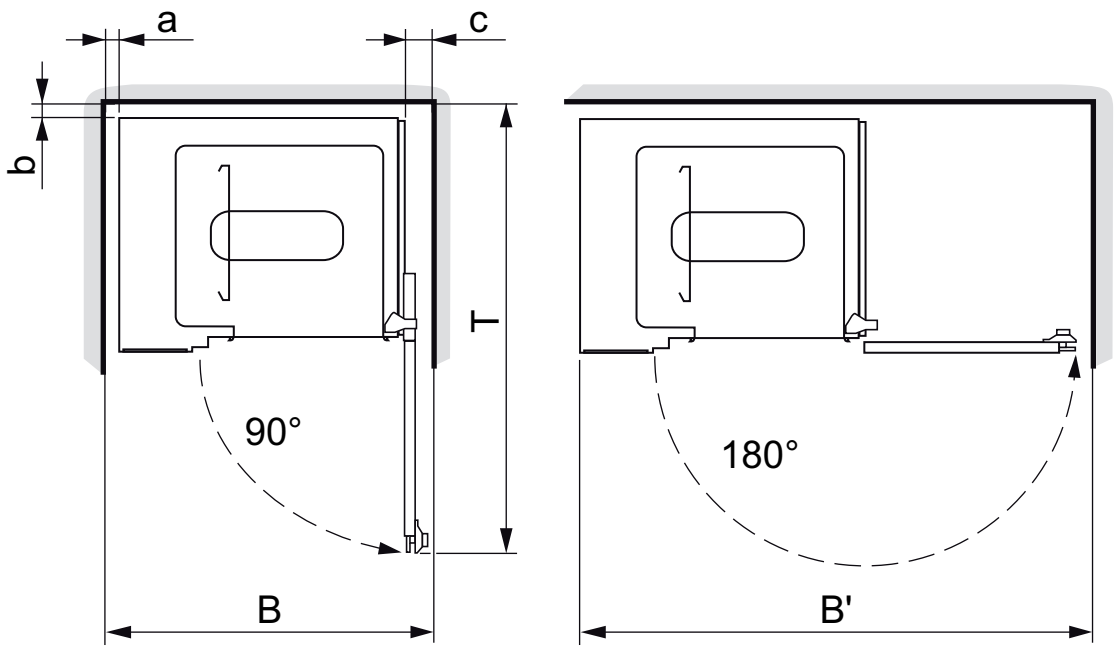
Requirements for the installation location

Meaning

This section contains information to help you choose a suitable installation position for the combi steamer. Inspect the intended installation position carefully to ensure it is suitable before bringing the appliance there and starting the installation.

Space required

The following diagram and table show the space required for the appliances for different installation and operating situations. They also show the minimum horizontal distances from adjacent walls and surfaces:



Key:

Dimension	Meaning
S	Minimum space required for the appliance width with 90° door opening
B'	Minimum space required for the appliance width with 180° door opening
T	Minimum space required for the appliance depth (including door opening)
a	Minimum distance between left side of appliance and wall
b	Minimum distance between rear of appliance and wall
c	Minimum distance between right side of appliance and wall

Model		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Space required (including wall gap)								
S	[mm]	1116/ 1196*	1402/ 1482*	1116/ 1186*	1402/ 1482*	1470/ 1545*	1170/ 1245*	1470/ 1545*
B'	[mm]	1588	2072	1588	2072	2122	1635	2122
T	[mm]	1445	1872	1445	1872	1902	1485	1902
Minimum clearance								
a	[mm]	50	50	50	50	50	50	50
b	[mm]	50	50	50	50	50	50	50
c	[mm]	50/ 130*	50/ 130*	50/ 130*	50/ 130*	75/ 150*	75/ 150*	75/ 150*

*: The second value denotes the space, i.e. the minimum dimension, required to be able to slide the disappearing door back fully along the side of the appliance.

Notes:

- Larger wall gaps are generally recommended to provide access for servicing.
- Refer to the *connection diagrams on page 108 for installation.*
- The dimension **T** quoted here is the minimum depth required technically to allow the door to open at a 90° angle. Far more space is needed in front of the appliance to operate the combi steamer safely, in particular to handle hot food safely.

Bearing surface

The subfloor must have the following properties:

- The subfloor must be flat and horizontal.
- The subfloor must be able to bear the weight of the appliance including the maximum permissible loading weight.

The table below shows the weights for each appliance model, including the respective maximum permissible loading weights:

Model		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
OEB								
without ConvoClean *system*	[kg]	162	248	210	327	412	399	572
with ConvoClean *system*	[kg]	167	253	215	332	417	404	577
OES								
without ConvoClean *system*	[kg]	155	229	198	312	397	381	552
with ConvoClean *system*	[kg]	160	234	203	317	402	386	557
OGB								
without ConvoClean *system*	[kg]	184	266	228	354	442	451	629
with ConvoClean *system*	[kg]	189	271	233	359	447	456	634
OGS								
without ConvoClean *system*	[kg]	161	239	206	329	406	407	583
with ConvoClean *system*	[kg]	166	244	211	334	411	412	588

Note on setting up table-top appliances:

Make sure that your work surface or oven stand is able to bear the relevant appliance weight (including the maximum permissible load).

Minimum vertical clearance above the appliance

The following points must be taken into account for the minimum vertical clearance above the appliance:

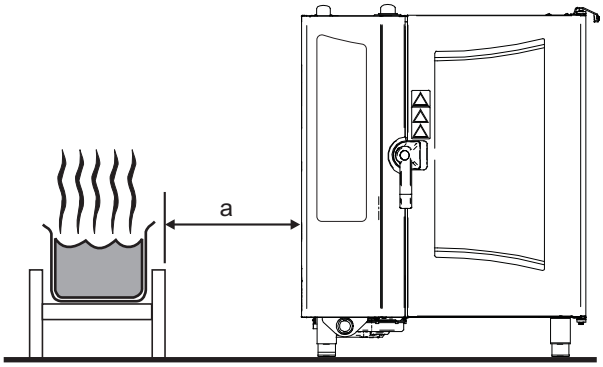
- The minimum vertical clearance depends on:
  - the type of gas flue system and
  - the nature of the ceiling.
- Gas appliances can reach temperatures of up to 400°C.

The following table shows the values for the minimum vertical clearance above:

Appliance type		minimum vertical clearance above
Electric appliances	[mm]	500
Gas appliances	[mm]	1000

Minimum distance from heat sources

Heat sources must be kept at a minimum distance (**a**) of 500 mm from the appliance, as shown in the following diagram:



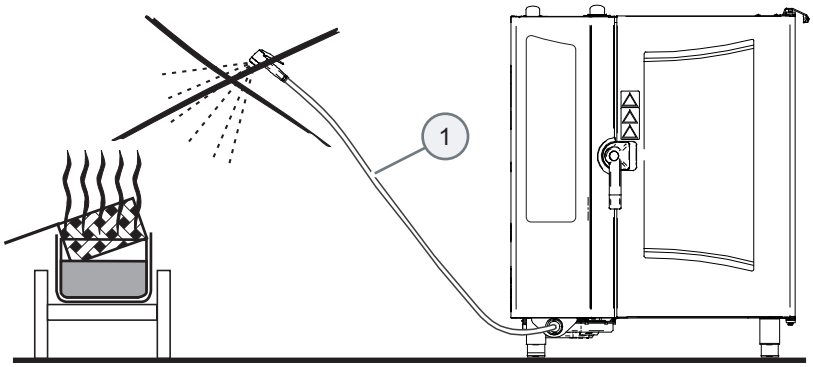
Minimum distance from deep-fat fryers and appliances that use hot, uncovered fat

The minimum distance from deep-fat fryers and appliances that use hot, uncovered fat depends on the hose extension length of the hand shower.

The table below shows the standard hose extension length of the hand shower for the various appliance types:

Appliance type		Hose extension length of the hand shower
6.10 / 10.10	[mm]	1050
6.20 / 10.20	[mm]	1450
12.20 / 20.10 / 20.20	[mm]	1600

The following diagram illustrates the minimum distance from deep-fat fryers and appliances that use hot, uncovered fat:



The combi steamer must be installed so that there is absolutely no possibility of the shower water-jet reaching deep-fat fryers and appliances that use hot, uncovered fat. An adequate safety margin must be added to the length of the hose (**1**) to obtain the required minimum distance.

Installation height of table-top appliances

Table-top appliances need to be installed at a height between 620 mm and 900 mm.

Operating conditions

The following operating conditions must be satisfied:

- Local and national standards and regulations relating to workplaces in catering kitchens must be observed.
- The ambient temperature must lie between +4°C and +35°C.
- The appliance must not be operated in potentially explosive atmospheres.
- The appliance must be sheltered from rain and draughts if operated outdoors.

Requirements for the installation location

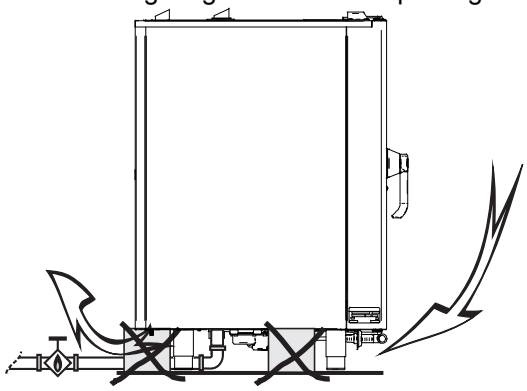
The rules and regulations of the regional authorities and supply companies that apply to the installation location concerned must be observed.

Restriction

The appliance must not be installed directly under a smoke detector or sprinkler system.

Air supply for gas appliances

Gas appliances contain ventilation holes in the base. This area must not be blocked or obstructed.
The following diagram shows the passages required for the free flow of air:



Minimum distance from flammable materials

There must be no flammable surfaces or materials (e.g. gases or liquids) in the vicinity of the combi steamer.

Taking to the installation location

Space required for conveying the appliance

Make sure that there is enough width and height along the entire route used for conveying the appliance to ensure it can get through to its installation location.

The table below shows the required minimum door size to allow the combi steamer to be brought to its intended location:

		Table-top appliances				Floor-standing appliances		
		6.10	**6.20**	**10.10**	**10.20**	**12.20**	**20.10**	**20.20**
Width	[mm]	1130	1410	1130	1410	1435	1150	1435
Height	[mm]	1002	1085	1270	1290	1596	2132	2138

Load bearing capacity of moving equipment

Provide moving equipment that is rated capable of carrying the load.

The table below shows the minimum load bearing capacity required of the moving equipment:

		Table-top appliances				Floor-standing appliances		
		6.10	**6.20**	**10.10**	**10.20**	**12.20**	**20.10**	**20.20**
Weight OEB	[kg]	163	230	192	270	350	357	455
Weight OES	[kg]	156	211	180	255	335	329	433
Weight OGS	[kg]	163	221	188	272	344	355	467
Weight OGB	[kg]	185	248	210	297	380	399	510

The figures refer to appliances including packaging and CONVOClean *system.* For appliances that do not have the CONVOClean *system* you can deduct 5 kg in each case.

Personal protection equipment

Wear personal protection equipment when carrying out the tasks described here:

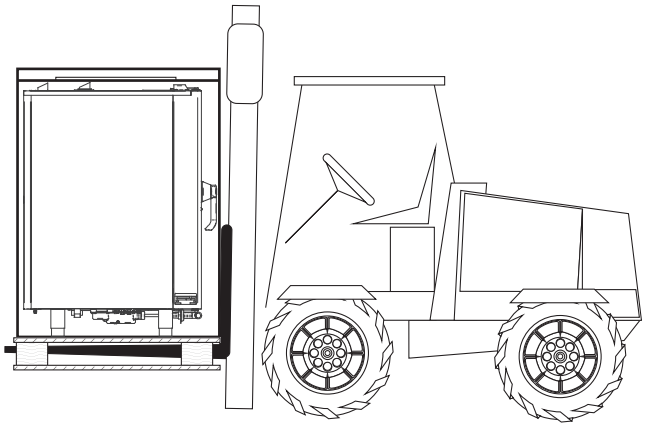
- Safety boots
- Hard hat (when heavy loads are being lifted or when working overhead)

Conveying the appliance to the installation location

Please observe the following points when conveying the appliance:

- Always move the appliance on a pallet.
- Always move the appliance in an upright position.
- Move the appliance slowly and carefully, and secure it against tipping over.
  Avoid moving appliance along uneven routes or up or down steep slopes.

The following diagram illustrates how to move the combi steamer using a forklift truck:



Unpacking

Checking the tip indicator

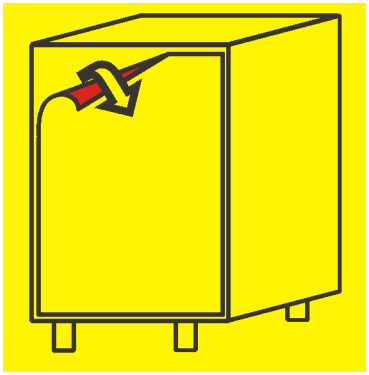
Before unpacking the appliance, check the tip indicator on the packaging.

The following table shows the possible tip'n'tell indications:

Indicator	Meaning	Action
	Silver dot: Appliance has been transported correctly.	Unpack the appliance. Compare the number on the tip indicator with the accompanying paperwork.
	Red dot: Appliance has been turned over or transported on its side.	Check the goods for damage. Compare the number on the tip indicator with the accompanying paperwork. Note down on the accompanying paperwork the fact that the tip indicator has actuated and also any damage.

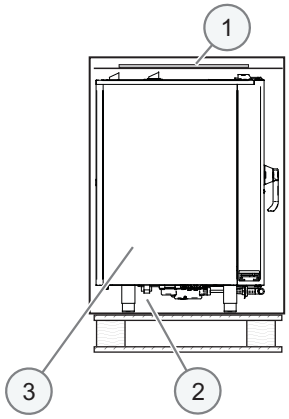
Unpacking

Unpack the appliance as follows:

Step	Action	Illustration
1	Remove the outer packaging.	
2	Remove all cardboard, packaging materials, documents, stickers, containers and loading trolley etc. from inside the oven. Please ensure that you dispose of packaging in an environmentally friendly way.	
3	Pull off the protective film.	
4	Remove the customer documentation. The customer documentation lies under the lid of the cardboard packaging box. It is located in position ▪ (1) for table-top appliances. ▪ (2) for floor-standing appliances. ▪ (3) In wiring compartment.	
5	Check the combi steamer for damage. If you suspect the appliance has been damaged during transit, notify your dealer/carrier immediately. Please notify the manufacturer in writing within three days. **Caution** Never install or put into service a damaged appliance under any circumstances.	

Customer documentation

The following diagram shows where the customer documentation is located:



Contents

The following table shows the parts included with the combi steamer:

Appliance	Contents
Basic table-top model	1x combi steamer 1x left-hand rack 1x right-hand rack 1x installation manual 1x user manual
Basic floor-standing model	1x combi steamer 1x loading trolley 1x installation manual 1x user manual
in addition for CONVOClean *system*	1x 10-liter canister, empty
in addition for easyTOUCH controls	1x easySystem user manual

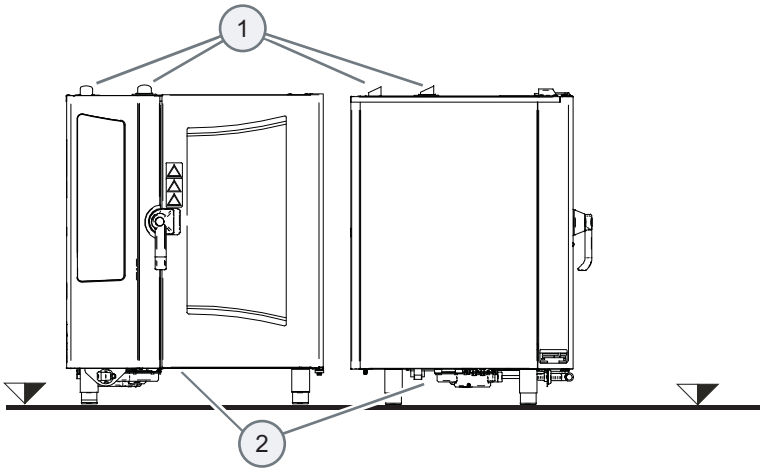
Setting up table-top appliances

Requirements

The following points must be checked when setting up the combi steamer:

- The appliance can be placed in the installation position so that it cannot tip over or slide about.
- The ventilation holes in the appliance base (2) and the air vent and gas flue pipe on the appliance top (1) are not covered, blocked or obstructed.
- There is no sprinkler or smoke alarm positioned directly above the combi steamer.
- All other conditions cited in the section *Requirements for the installation location on page 30* are met.

The following diagram shows the air vent and gas flue pipe (1) and the ventilation holes (2):



Personal protection equipment

Wear personal protection equipment when carrying out the tasks described here:

- Safety boots
- Hard hat (when heavy loads are being lifted or when working overhead)

Using lifting straps to take the table-top appliance off the pallet

⚠WARNING

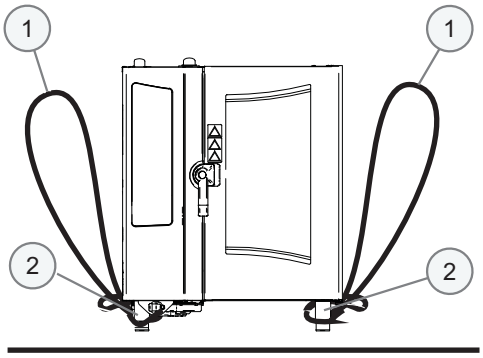
Risk of injury from lifting incorrectly

When lifting the appliance, the weight of the appliance may lead to injuries, especially in the area of the torso.

- ▶ Use suitable lifting equipment for placing table-top appliances on the work surface or oven stand.
- ▶ When shifting the appliance into the correct position, use enough people for the weight of the appliance when lifting it (guide value: 15 to 55 kg max., depending on age and gender). Observe the local occupational safety regulations.
- ▶ Use the lifting straps (1).

The weight of your appliance is given in the *Technical Data* on page 87.

Fasten the lifting straps (1) to the appliance feet (2) as shown in the diagram below:

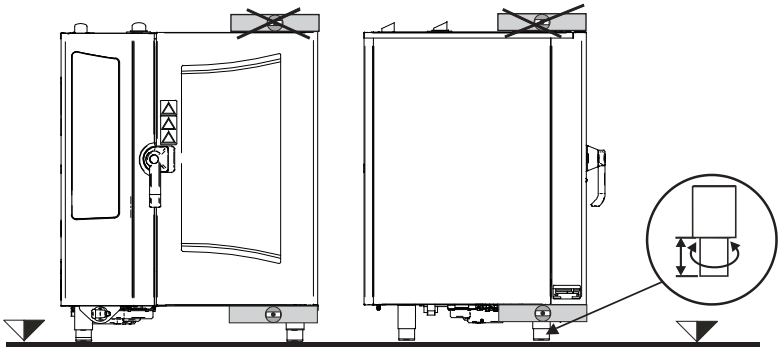


Mounting table-top appliance on a work surface

When mounting a table-top appliance on a work surface, follow the steps below:

- Ensure the appliance is horizontal by adjusting the height of the appliance feet.
- Use a spirit level for this task.

The following diagram shows how to use the spirit level and adjust the appliance feet to ensure the appliance is horizontal:



Mounting table-top appliance on an oven stand

Oven stands on which combi steamers are mounted must not be used for other purposes (e.g. storing materials).

Caution:

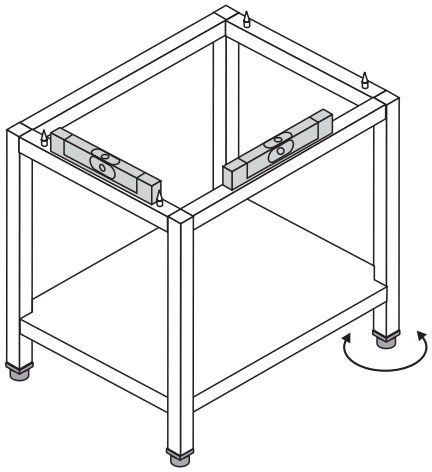
Risk of damage to supply lines if the appliance is mounted on an oven stand with wheels:

- Lock the wheels of the oven stand before connecting the appliance to the supply lines.
- If the appliance needs to be moved to a different installation position, all supply lines must be disconnected and the water drain removed before releasing the wheel locks.

When mounting the table-top appliance on an oven stand, follow the steps below:

- Position the appliance on the oven stand
- Ensure the oven stand is horizontal by adjusting the height of the feet.
- Use a spirit level for this task.
- Hold the appliance feet in position using the locating pins on the oven stand.
- Make sure that the oven stand is in a stable position so that it cannot tip over or slide about.

The following diagram shows how to use the spirit level and adjust the feet to ensure the oven stand is horizontal:



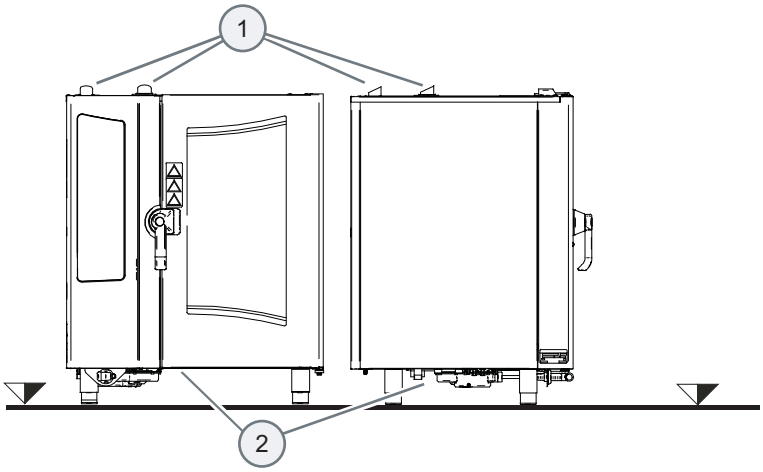
Setting up floor-standing appliances

Requirements

The following points must be checked when setting up the combi steamer:

- The appliance can be placed in the installation position so that it cannot tip over or slide about.
- The ventilation holes in the appliance base (2) and the air vent and gas flue pipe on the appliance top (1) are not covered, blocked or obstructed.
- There is no sprinkler or smoke alarm positioned directly above the combi steamer.
- All other conditions cited in the section *Requirements for the installation location on page 30* are met.

The following diagram shows the air vent and gas flue pipe (1) and the ventilation holes (2):



Personal protection equipment

Wear personal protection equipment when carrying out the tasks described here:

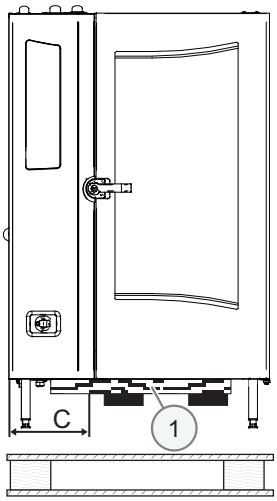
- Safety boots
- Hard hat (when heavy loads are being lifted or when working overhead)

Using a fork-lift truck to take the floor-standing appliance off the pallet

Observe the following points when lifting the appliance off the pallet:

- Use a forklift truck or pallet truck.
- Place lengths of wood underneath (1).
- Make sure that the forks are in the correct position (keeping to the right of the drain outlet (C))

The following diagram shows how to take the combi steamer off the pallet:



The following table shows the distance C:

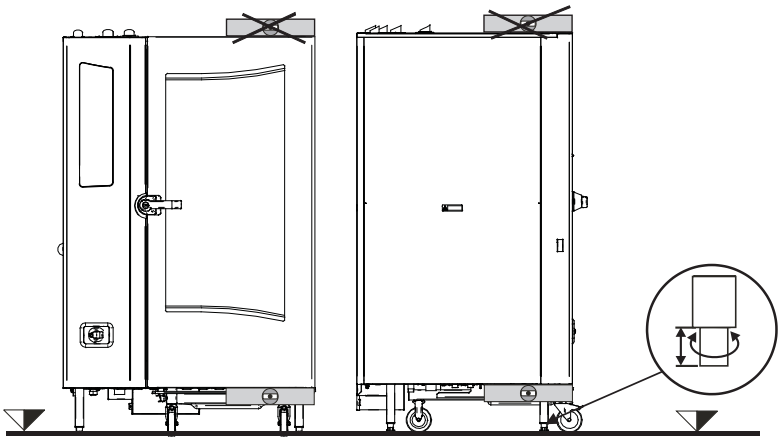
		xx.10	xx.20
C	[mm]	280	320

Setting up floor-standing appliance

When setting up a floor-standing appliance, follow the steps below:

- Ensure the appliance is horizontal by adjusting the height of the feet.
- Use a spirit level for this task.
- Make sure that the loading trolley is standing horizontally in the appliance.

The following diagram shows how to use the spirit level and adjust the appliance feet to ensure the appliance is horizontal:



5 Connecting up the combi steamer

Purpose of this chapter

This chapter explains how to connect your combi steamer.

Contents

This chapter contains the following topics:

Electrical installation

Meaning

It is crucial to safe and reliable operation of the combi steamer that the electrical system is installed carefully and correctly. All the rules and regulations listed here, and the described procedure, must be strictly followed.

Eligibility of installation personnel

Only electricians qualified under the terms of EN 50110-1 and from an approved customer service office are permitted to connect the combi steamer.

Equipment provided by customer and electrical installation regulations

The table below shows what equipment must be provided by the customer and what regulations must be observed when connecting the appliance.

Equipment	Regulations
Fuse	Fuse-protection and connection of the combi steamer must comply with local regulations and national installation requirements.
Equipotential bonding	The combi steamer must be incorporated in an equipotential bonding system. Equipotential bonding: electrical connection that ensures that the frames of electrical equipment and any external conductive components are at an equal (or practically equal) potential.
Ground fault circuit interrupter	A suitable ground fault circuit interrupter in compliance with national regulations must be incorporated in the installation of the combi steamer. The ground fault circuit interrupter must not be used to protect any other appliances.
Disconnection device	An easily accessible all-pole disconnection device with a minimum contact separation of 3 mm must be installed close to the appliance. The combi steamer must be connected via this disconnection device. The disconnection device is used to disconnect the appliance from the electrical supply for cleaning, repair and installation work.

Implementation regulations

The electrical supply connection must be implemented in compliance with the following regulations:

- VDE (0100/0700) or relevant regulations of local professional associations
- Currently valid regulations of the local power supply company

Power cord

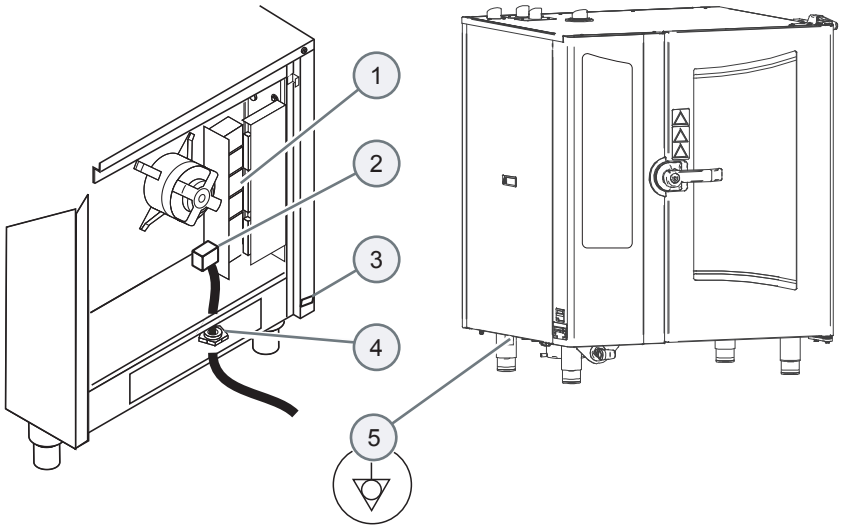
The power cord must be an oil-resistant, sheathed and flexible cable in accordance with IEC 60245 (e.g. H05RN-F, H07RN-F). A maximum cable length of 5 m is recommended.

Phase and direction of rotation

The appliance does not need to be connected in a specific phase configuration or direction of rotation.

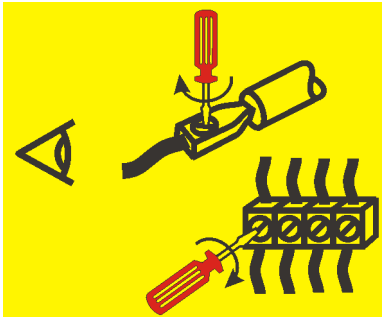
Position of the type plate and the electrical connections

The following diagram shows the appliance viewed from the left side, with the wiring compartment cover removed and fitted respectively:



Carrying out the electrical installation

Follow the steps below to connect your combi steamer to the electrical supply:

Step	Action	Illustration
1	Check that the electrical supply ratings on the type plate (**3**) match the figures for the building's power supply and those given in the circuit diagram. It is only permitted to connect the combi steamer if all these values tally with each other. The circuit diagram is kept in the wiring compartment (**1**).	
2	Check all screw and clamp connections on the appliance. There is a risk of connections loosening during transport.	
3	Connect the appliance to the designated connection point (**5**) on an equipotential bonding system.	
4	Use the mains power cord to connect the power supply to the appliance at the X10 terminal strip (**2**).	
5	Make sure that the cable gland (**4**) is tightened firmly because it also acts as a cable strain relief.	
6	Fit the cover on the wiring compartment and check that it is fixed correctly in place.	

Energy optimization system

Meaning

You can connect the combi steamer to an energy optimization system (e.g. SICOTRONIC). An energy optimization system smoothes out peaks in power consumption that occur during operation of your appliances, and can thereby help to reduce your energy costs.

Terminals for connecting to an energy optimization system

The combi steamer is connected to an energy optimization system via isolated contacts.

The terminals (B) and (C) of the X10 terminal block are isolated contacts. The X10 terminal block is located behind the left-hand removable side wall. The position of terminals (B) and (C) is shown in the circuit diagram.

Requirements

The energy optimization system is de-energized.

Installing an energy optimization system

Follow the steps below to connect your combi steamer to an energy optimization system:

Step	Action
1	Refer to the circuit diagram and operating instructions of the energy optimization system.
2	Remove the wire link between the terminals (B) and (C) on the X10 terminal block.
3	Connect the terminals (B) and (C) of the X10 terminal block to the energy optimization system.

Water supply

Requirements

A non-return valve (type EA) is installed by the customer.

Water supply regulations

Make sure that you comply with all local and national regulations relating to the water supply.

Only qualified personnel from an approved customer service office are permitted to connect the combi steamer to the water supply.

Connecting the water supply

The combi steamer is designed to be permanently connected to the customer's water supply. Dirt filters must be provided.

Connecting the water supply with a flexible connecting pipe

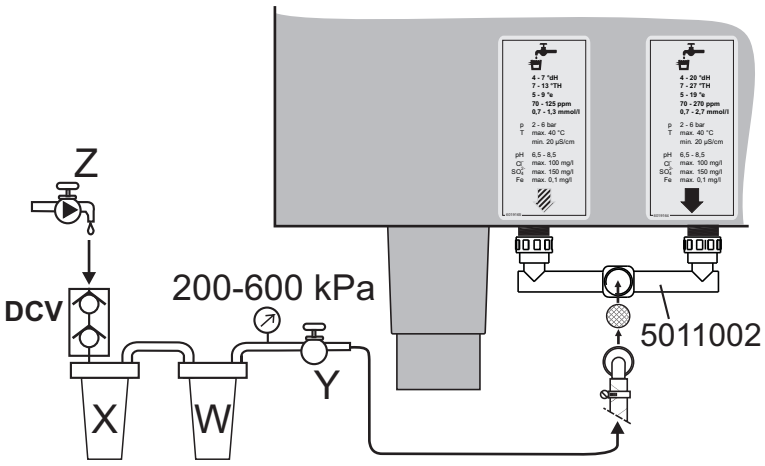
The combi steamer can be connected to the water supply using a flexible DN10 connecting pipe to DIN EN 61770 with a 3/4" screw connection. Dirt filters must be provided.

Water quality and water hardness

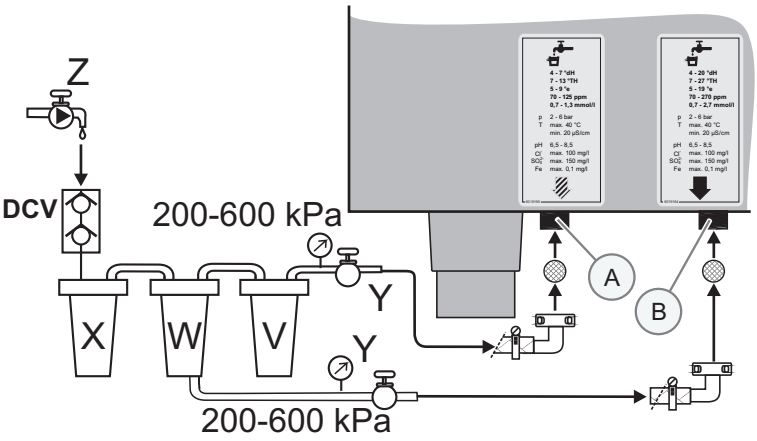
Compare the water quality and water hardness of the in-house supply with the values specified in the "Water quality" and "Water hardness" tables in the "Technical Data" section . If the specified conditions are not satisfied, you must install suitable water filters and water treatment equipment. Please refer to the *"Technical Data"* on page 87 section for details of the required capacities.

Connection and installation diagram for the appliance

The following diagram shows the connection diagram for water installations without water treatment:



The following diagram shows the connection diagram for water installations with water treatment:



Item	Name	Explanation
A	Soft water connection	
S	Cold water connection	
Z	Water supply line	
X	Sediment filter 0.08 mm	A 0.08 mm sediment filter must be installed if the water has a high level of impurity.
W	Activated carbon filter	If the redox potential of the water exceeds 300 mV and if the chlorine concentration (Cl_2) > 0.1 mg/l then an activated carbon filter must be installed.
V	Partial deionizer	If the water hardness exceeds the permitted level, a partial deionizer must be installed. The partial deionizer only needs enough capacity to treat the water for demoisturization (Crisp&Tasty) and steam generation.
Y	Shut-off device with dirt filter	

Appliance connection

Connect the combi steamer to a cold water supply, which must be of drinking water quality. Warm water up to a temperature of 40°C can be supplied to the soft water connection. The flow pressure must equal 2 - 6 bar (3 - 6 bar with CONVOClean *system*).

The appliance water connection is located underneath the combi steamer (connection diagram: point A and B). Fit protective filters.

Installing the water supply

Follow the steps below to provide the water supply to your combi steamer:

Step	Action
1	Find out the water quality and water hardness from your local water supply company. If necessary, provide suitable water treatment measures. Information on the required fresh water quality are given in the *"Technical Data" on page 87* section.
2	Flush through the customer's water supply pipe.
3	Install the required water filters and water treatment equipment (X, W, V).
4	Fit a separate shut-off device (Y) with dirt filter for each appliance.
5	Connect the appliance to the pressure hose as shown in the connection diagram.
6	Inform the user of the service intervals for the filters and water treatment equipment.
7	Flush out the filter system.
8	Once the water supply has been installed, close the shut-off device.

Further information

The following sources provide information on the water supply for your combi steamer:

- Water circuit diagram behind the motor cover
- DIN 1988
- DIN EN 61770

Water drain

Water drain regulations

You must comply with local and national regulations on the water drain system and on the composition of the waste water. In particular these include:

- DIN 1988 parts 2 and 4
- DIN EN 1717
- Local waste water regulations

Safety overflow

The safety overflow (connection diagram: point M) is located underneath the combi steamer. It allows a permanent connection of the water drain to a drainpipe.

The safety overflow is used to drain away water in the event of a fault. If water is running out of the safety overflow, check that the water drain is not blocked. Remove any blockages.

Drain connection

The following points must be observed when connecting the drain outlet:

- The drain outlet is located underneath the combi steamer (connection diagram: point C).
- There must be no restriction or reduction in the cross-section of the drain pipe.
- The drain pipe must have a minimum slope of 5 % (3°).
- If more than one appliance is connected to one drain pipe, this pipe must be large enough to allow the waste water to flow out unchecked.

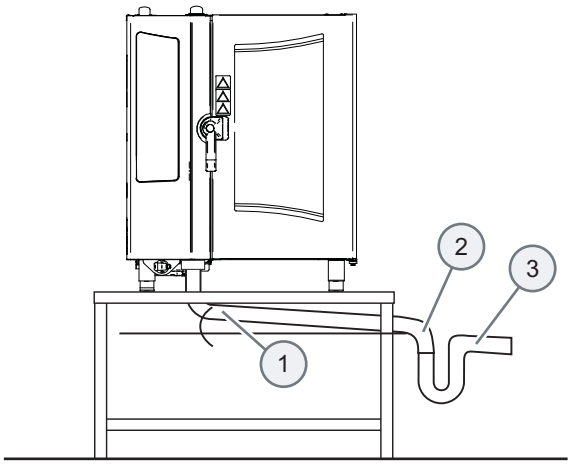
Drain connection for table-top appliances

The drain should preferably be connected permanently using a fixed **rigid** pipe.

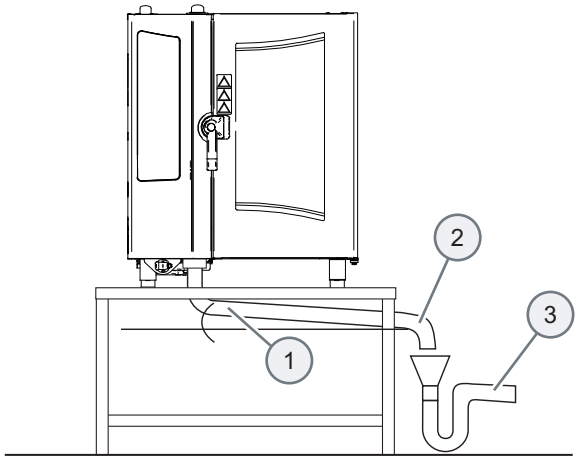
Caution:
When using a funnel waste trap to connect to the drain, this must not be installed under the combi steamer. Fit the funnel waste trap beside or behind the combi steamer.

Connection diagram for table-top appliances

The following diagram shows the drain installation diagram for table-top appliances:



Permanent connection (recommended)



Funnel waste trap

Key:

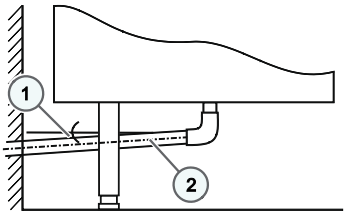
Item	Meaning
1	Slope 5% (3°)
2	Waste pipe DN 50 (minimum internal diameter = 46 mm)
3	Drain pipe DN 50 (minimum internal diameter = 46 mm)

Drain connection for floor-standing appliances

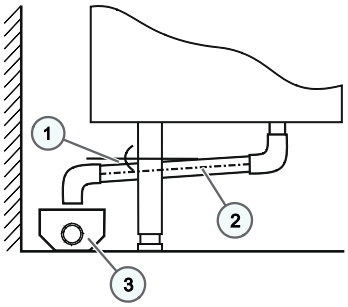
The drain should preferably be connected permanently using a fixed rigid pipe. Other connection options include a rigid pipe via an open drain (e.g. open tank) or gully.

Connection diagram for floor-standing appliances

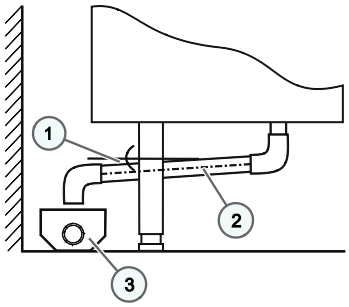
The following diagram shows the drain installation diagram for floor-standing appliances:



Permanent connection (recommended)



Open tank



Gully

Key:

Item	Meaning
1	Slope 5% (3°)
2	Waste pipe DN 50 (minimum internal diameter = 46 mm)
3	Tank with DN 50 drain pipe (minimum internal diameter = 46 mm)

Waste water temperature

The average temperature of the waste water from the combi steamer is 80°C. In order to reduce the amount of escaping steam, the temperature of the waste water can be adjusted locally to 68°C minimum in the Service level.

Service values for the waste-water temperature setting with standard controls

The waste-water temperature can be adjusted to the following values:

Service item	Description	Minimum temperature [°C]	Maximum temperature [°C]
c02	Condenser temperature	68	80

Service values for the waste-water temperature setting with easyTOUCH controls

The waste-water temperature can be adjusted to the following values:

ID	Description	Minimum temperature [°C]	Maximum temperature [°C]
8	Condenser temperature	68	80

Adjusting the waste-water temperature

To adjust the waste-water temperature of the combi steamer, follow the steps below:

Step	Action	More on this ...
1	Go to the Service level.	*Making settings in the Service level* on page 54

Fitting the drain connection

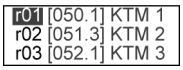
Follow the steps below to provide the water supply to your combi steamer:

Step	Action
1	Connect the appliance as shown in the connection diagram.
2	If required, adjust the waste water temperature to 68°C.
3	Use cable ties to fix the high-temperature plastic pipe to the 3 hooks in the base flap.

Making settings in the Service program

Customizing the operating parameters in the Service program (standard controls)

To customize the service values of the combi steamer, follow the steps below:

Step	Action	Illustration
1	Press the Cooking temperature, Cooking time and Core temperature buttons simultaneously and keep them pressed for 3 seconds. **Result:** The Service program is shown on the display, which lists service numbers, operating parameters, actual values and notation.	 
2	Use the tilt selector switch to choose the service number.	
3	Press the "Next" button to access the service value.	
4	Use the tilt selector switch to set the service values. **Please note:** The modified service value is not adopted by the controller until you have returned to the service number using the "Back" button.	
5	Press the "Back" button to return to the service number.	
6	Turn the tilt selector switch to the right or left **Result:** The operating parameter is adopted immediately.	
7	Switch the combi steamer off and then back on. **Result:** The appliance starts up with the modified operating parameters.	

Customizing the operating parameters in the Service pages (easyTOUCH controls)

To customize the service values of the combi steamer, follow the steps below:

Step	Action	Illustration
1	Open the "Settings" page.	
2	Select "Service".	
3	Enter and confirm the password. Please refer to the service manual or contact the manufacturer for the default password. **Result:** The Setup menu is displayed.	
4	Select the Service ID.	
5	Set the value using the input panel.	
6	Press "Set" to adopt the value and confirm it with "Save". Select "Undo all" to close the Setup menu without saving any changes.	
7	Select "Close page" to close the "Settings" page. **Result:** The service values are adopted.	

Regulations for installing gas appliances

Risk of explosion

⚠DANGER

Risk of explosion from escaping gas

Escaping gas can ignite and cause an explosion.

If you smell gas, follow the instructions below:

- Cut off the gas supply immediately.
- Ventilate the room thoroughly.
- Avoid creating a spark (e.g. by operating a switch, using a phone or touching electrical switching elements).
- Tell the gas supplier or even the fire brigade (external telephone).
- Leave the building together with all other personnel.

Risk of suffocation

⚠DANGER

Risk of suffocation from lack of air suitable for breathing

Inadequate ventilation at the installation location can lead to suffocation.

Follow the instructions below accordingly:

- Only use the appliance in well ventilated rooms.
- Ensure that there is a sufficient supply of air for the level of combustion.

Combustion air supply for gas appliances

Ensure there is an adequate supply of combustion air.

Please note the following points:

- The amount of combustion air required depends on the rated gas consumption.
- In rooms in which the total heat output rating of all gas appliances is less than 50 kW, it is permitted to rely on fresh air coming through gaps or windows to supply the combustion air.

Technical regulations

The technical regulations that apply at the installation location concerned for installing gas appliances must be observed.

In Germany these are:

- Technische Regeln Flüssiggas TRF (Technical regulations for liquid gas)
- DWGW Arbeitsblatt G600 (DWGW worksheet)
- DWGW Arbeitsblatt G634 (DWGW worksheet)
- VBG 21
- Accident prevention regulation "Use of liquid gas"
- VDI Directive 2052: Kitchen air conditioning and ventilation systems

Approvals

Notification of the installation

Notify the following bodies (where necessary) of the installation that has been made:

- Gas supply company
- Building inspection office
- Registered chimney sweep
- Industrial inspectorate

Installing the utility services

All work on customer facilities (electric/gas/water/waste water) must only be carried out by the relevant utility company or by a registered installation company.

Statutory regulations

The relevant statutory regulations and building regulations must be observed.

Gas installation to a fixed connection on OGS/OGB appliances

Risk of explosion

⚠DANGER

Risk of explosion from escaping gas

Escaping gas can ignite and cause an explosion.

If you smell gas, follow the instructions below:

- Cut off the gas supply immediately.
- Ventilate the room thoroughly.
- Avoid creating a spark (e.g. by operating a switch, using a phone or touching electrical switching elements).
- Tell the gas supplier or even the fire brigade (external telephone).
- Leave the building together with all other personnel.

Risk of suffocation

⚠DANGER

Risk of suffocation from lack of air suitable for breathing

Inadequate ventilation at the installation location can lead to suffocation.

Follow the instructions below accordingly:

- Only use the appliance in well ventilated rooms.
- Ensure that there is a sufficient supply of air for the level of combustion.

Class of gas appliance

There are two possible classes of gas appliance for the combi steamers:

Type	Meaning	Usage
B23	Open flues dependent on room air ▪ with fan upstream of the burner and ▪ **without** draught diverter	OGS and OGB appliances are supplied as type B23 gas appliances
B13	Open flues dependent on room air ▪ with fan upstream of the burner and ▪ **with** draught diverter	All appliances can be installed as type B13 appliances by retrofitting a draught diverter (available as a special accessory).

Gas installation regulations

The following points must be observed when installing the gas:

- The gas installation must only be carried out by an approved contract installation company of the relevant gas supplier.
- The gas fitter must not work on those parts sealed by the manufacturer or its authorized agents.
- The gas installation must be performed in accordance with local regulations.
- The gas installation must be performed in accordance with the regulations of the gas supply company.
  In Germany these are:
  - Technische Regeln Gasinstallation TRGI (Techncial regulations for gas installation)
  - Technische Regeln Flüssiggas TRF (Technical regulations for liquid gas)
  - DWGW Arbeitsblatt G634 (DWGW worksheet)
  - DWGW Arbeitsblatt G21 (DWGW worksheet)

Appliance settings

The combi steamer has been factory set to the requirements stated in the order. The type plate contains the figures for the gas settings.

The gas quality at the installation location must meet the figures specified on the type plate. If not, the appliance must not be connected or operated.

Requirements

Make sure that the following requirements have been met:

- The supply flow pressure must be suitable for the appliance. If the measured supply flow pressure differs from the figures given in the table below, the gas supply company must be notified. The appliance must not be put into use in this case.
- A gas shut-off device must be installed at the customer's premises.

Summary of gas data

The table below lists the possible gas data (as per CE) at 15°C and 1013 mbar dry:

Family	Gas type and symbol	Supply flow pressure	Wobbe Index		Lower heating value		Higher heating value	
			lower	top				
			W_U	W_O	H_U	H_U	H_O	H_O
		[mbar]			[MJ/m³]	[MJ/kg]	[MJ/m³]	[MJ/kg]
2H (E)	Natural gas (H) G20	17 - 25	45,7	50,7	34,0	-	37,8	-
2L (LL)	Natural gas (L) G25	18 - 30	37,4	41,5	29,3	-	32,5	-
3B	Butane G30*	25 - 57,5	80,6	87,3	116,1	45,7	125,8	49,5
3P	Propane G31	25 - 57,5	70,7	76,8	88,0	46,7	95,7	50,4

* up to 15% higher consumption for butane G30

Flue gas values

Refer to the table below for the permitted flue gas values.

If the CO value is exceeded or the CO_2 values not met,

- the appliance must be re-adjusted by an authorized customer service engineer.
- only operate the appliance during this period for maintenance and installation work.
- ensure there is sufficient ventilation.

The following table shows the required flue gas values:

Gas type	O_2	λ	CO_2	CO
	[%]		[%]	[ppm]
All gas types	4,8±0,3	1,30±0,02		< 500
Natural gas			9,0±0,1	
Propane			10,5±0,2	
Butane			12,2±0,03	

Gas installation components

The table below shows the components required for a standards-compliant gas installation:

Component	Description
Fixed connection	The appliance is designed to be permanently connected to the customer's gas supply. Position of the gas supply: point J in the connection diagram.
Gas shut-off device	A gas shut-off device must be fitted close to the appliance. The gas shut-off device must be easily accessible, and situated so that it can also be shut off in case of danger.
Pressure reducer	A pressure reducer must be fitted if the supply flow pressure is too high.
All connection components	All connection components provided by the customer must be tested in accordance with local and national regulations.

Installing the gas supply

Follow the steps below to provide the gas supply for your combi steamer:

Step	Action
1	Measure the supply flow pressure.
2	Compare the type of gas, the gas pressure and the rating for the gas supply connection with the data given on the appliance type plate.
3	Fit a pressure reducer if the supply flow pressure is too high.
4	Connect the gas supply.
5	Check that all connections inside and outside the appliance are sealed (e.g. using gas detector or leak locator spray). **Caution** Do not spray leak locator spray on the flame-monitor electrical leads.
6	Inform the user that the gas components must be serviced annually.
7	Check the flue-gas values against the figures given in the "Gas valve installation instructions" held in the wiring compartment. ▪ Carry out a flue gas analysis. ▪ Check that the analysis values lie within the permitted flue gas values given in the table above. ▪ Record the measurements in the appliance.
8	Once the gas installation is finished, close the gas shut-off device.

Flue gas value records

You can use the table below to keep records of flue gas values:

Gas type	O_2	λ	CO_2	CO
	[%]		**[%]**	**[ppm]**

Gas installation for liquid gas bottles on OGS/OGB appliances

Risk of explosion

⚠DANGER

Risk of explosion from escaping gas

Escaping gas can ignite and cause an explosion.

If you smell gas, follow the instructions below:

- Cut off the gas supply immediately.
- Ventilate the room thoroughly.
- Avoid creating a spark (e.g. by operating a switch, using a phone or touching electrical switching elements).
- Tell the gas supplier or even the fire brigade (external telephone).
- Leave the building together with all other personnel.

Risk of explosion

⚠DANGER

Risk of explosion from excess pressure

Fitting liquid gas bottles incorrectly can result in an explosion because of excess pressure.

Follow the fitting instructions below:

- Always install liquid gas bottles in an upright and stable position.
- Never use liquid gas bottles lying on their side.
- Prevent liquid gas bottles from getting hot.
- Never place liquid gas bottles in the warm air stream from the appliance.

Risk of suffocation

⚠DANGER

Risk of suffocation from lack of air suitable for breathing

Inadequate ventilation at the installation location can lead to suffocation.

Follow the instructions below accordingly:

- Only use the appliance in well ventilated rooms.
- Ensure that there is a sufficient supply of air for the level of combustion.

Class of gas appliance

There are two possible classes of gas appliance for the combi steamers:

Type	Meaning	Usage
B23	Open flues dependent on room air ▪ with fan upstream of the burner and ▪ **without** draught diverter	OGS and OGB appliances are supplied as type B23 gas appliances
B13	Open flues dependent on room air ▪ with fan upstream of the burner and ▪ **with** draught diverter	All appliances can be installed as type B13 appliances by retrofitting a draught diverter (available as a special accessory).

Suitability of liquid gas bottles

Liquid gas comes in two types of bottles in the trade:

- Liquid gas bottles: for liquid-gas withdrawal from the gas phase
- Propellant bottles: for liquid-gas withdrawal from the liquid phase

The combi steamer must only be connected to liquid gas bottles that are designed for gas-phase withdrawal.

Liquid-gas bottles differ from propellant bottles as shown below:

Type of bottle	Liquid gas bottle	Propellant bottle
Illustration		
Suitability	suitable	not suitable

Gas installation regulations

The following points must be observed when installing the gas:

- The gas installation must only be carried out by a qualified gas fitter.
- The gas fitter must not work on those parts sealed by the manufacturer or its authorized agents.
- The gas installation must be performed in accordance with local regulations.
- The installed liquid gas bottles must stand upright and be secured against falling over.
- The gas installation must be performed in accordance with the regulations of the gas supply company.

  In Germany these are:
  - Feuerungsanlagenverordnung (FeuVo, FAV = Combustion equipment regulation) for each of the federal states
  - Druckbehälterverordnung including the TRG (Pressurized container regulation plus technical regulations for pressurized gases)
  - Technische Regeln Gasinstallation TRGI (Techncial regulations for gas installation)
  - Technische Regeln Flüssiggas TRF (Technical regulations for liquid gas)
  - Unfallverhütungsvorschrift (UVV) "Verwendung von Flüssiggas" (Accident prevention regulations "Use of liquid gas" (BGV D34/previously VGB 21))
  - Unfallverhütungsvorschrift (UVV) "Gase" (Accident prevention regulations "Gases" (BGV B6/previously VGB 61))
  - Unfallverhütungsvorschrift (UVV) "Arbeiten an Gasleitungen" (Accident prevention regulations "Working on gas pipelines" (BGV D2/previously VGB 50))

Appliance settings

The combi steamer has been factory set to the requirements stated in the order. The type plate contains the figures for the gas settings.

The gas quality at the installation location must meet the figures specified on the type plate. If not, the appliance must not be connected or operated.

Requirements

Make sure that the following requirements have been met:

- The supply flow pressure must be suitable for the appliance. If the measured supply flow pressure differs from the figures given in the table below, the gas supply company must be notified. The appliance must not be put into use in this case.
- A gas shut-off device must be installed at the customer's premises.

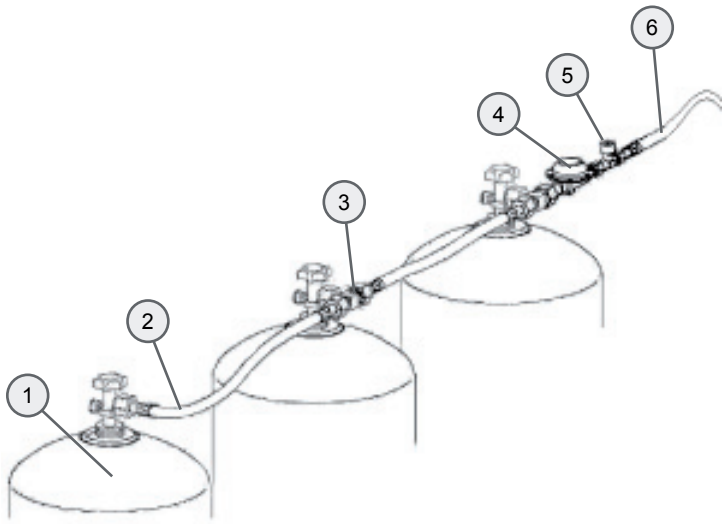
Arrangement using a bank of bottles

To avoid severe icing up of the liquid gas bottles, use a bank of bottles containing at least 2 liquid gas bottles.

Caution

Protect the flexible gas lines from chemical, thermal and mechanical damage.

The following drawing and table show the construction of the gas installation using liquid gas bottles.



Item	Description	Requirement	
1	Liquid gas bottle	designed for gas-phase withdrawal	
2	HP flexible tube 0.40 m	▪ Medium- or high-pressure pipe ▪ to DIN 4815-1 or DIN3384	
3	T connector	Standard design	
4	Pressure regulator	Standards mark:	to DIN-DVGW or CE mark
		Nominal flow rate Qn:	according to appliance size, see table
		Pressure rating:	PN 16
		Output pressure:	50 mbar
5	Burst pipe protection	Standard design	
6	Flexible gas pipe to appliance	max. 2.00 m long	

Regulations for banks of bottles

Caution
Open the valve on every bottle in the bank to achieve an even gas take-off from each.

Use the table below to select the correct number of liquid gas bottles for a bank:

Appliance size OGS/OGB	Rating	Gas consumption Liquid gas	Bank of bottles: Number of liquid gas bottles	
	[kW]	[kg/h]	11 kg each	33 kg each
6.10	12	0,9	2	1
6.20	20	1,5	2	1
10.10	30	1,5	2	1
10.20	35	2,7	-	2
12.20	40	3,1	-	2
20.10	40	3,1	-	2
20.20	70	5,4	-	3

Summary of gas data

The table below lists the possible gas data (as per CE) at 15°C and 1013 mbar dry:

Family	Gas type and symbol	Supply flow pressure	Wobbe Index		Lower heating value		Higher heating value	
			lower	top				
			W_U	W_O	H_U	H_U	H_O	H_O
		[mbar]			[MJ/m³]	[MJ/kg]	[MJ/m³]	[MJ/kg]
2H (E)	Natural gas (H) G20	17 - 25	45,7	50,7	34,0	-	37,8	-
2L (LL)	Natural gas (L) G25	18 - 30	37,4	41,5	29,3	-	32,5	-
3B	Butane G30*	25 - 57,5	80,6	87,3	116,1	45,7	125,8	49,5
3P	Propane G31	25 - 57,5	70,7	76,8	88,0	46,7	95,7	50,4

* up to 15% higher consumption for butane G30

Flue gas values

Refer to the table below for the permitted flue gas values.

If the CO value is exceeded or the CO_2 values not met,

- the appliance must be re-adjusted by an authorized customer service engineer.
- only operate the appliance during this period for maintenance and installation work.
- ensure there is sufficient ventilation.

The following table shows the required flue gas values:

Gas type	O_2	λ	CO_2	CO
	[%]		[%]	[ppm]
All gas types	4,8±0,3	1,30±0,02		< 500
Natural gas			9,0±0,1	
Propane			10,5±0,2	
Butane			12,2±0,03	

Installing the gas supply

Follow the steps below to provide the gas supply for your combi steamer:

Step	Action
1	Measure the supply flow pressure.
2	Compare the type of gas, the gas pressure and the rating for the gas supply connection with the data given on the appliance type plate.
3	Fit a pressure reducer if the supply flow pressure is too high.
4	Connect the gas supply.
5	Check that all connections inside and outside the appliance are sealed (e.g. using gas detector or leak locator spray). **Caution** Do not spray leak locator spray on the flame-monitor electrical leads.
6	Inform the user that the gas components must be serviced annually.
7	Check the flue-gas values against the figures given in the "Gas valve installation instructions" held in the wiring compartment. ▪ Carry out a flue gas analysis. ▪ Check that the analysis values lie within the permitted flue gas values given in the table above. ▪ Record the measurements in the appliance.
8	Once the gas installation is finished, close the gas shut-off device.

Flue gas value records

You can use the table below to keep records of flue gas values:

Gas type	O_2	λ	CO_2	CO
	[%]		[%]	[ppm]

Flue gas removal system for OGS/OGB appliances

Risk of explosion

⚠DANGER

Risk of explosion from escaping gas

Escaping gas can ignite and cause an explosion.

If you smell gas, follow the instructions below:

- Cut off the gas supply immediately.
- Ventilate the room thoroughly.
- Avoid creating a spark (e.g. by operating a switch, using a phone or touching electrical switching elements).
- Tell the gas supplier or even the fire brigade (external telephone).
- Leave the building together with all other personnel.

Risk of suffocation

⚠DANGER

Risk of suffocation from lack of air suitable for breathing

Inadequate ventilation at the installation location can lead to suffocation.

Follow the instructions below accordingly:

- Only use the appliance in well ventilated rooms.
- Ensure that there is a sufficient supply of air for the level of combustion.

Combustion gases in gas appliances

Gas appliances produce combustion gases that must be vented to the outside air via a suitable flue gas removal system.

Appliances must be installed in a room having adequate ventilation to prevent noxious combustion gases reaching harmful concentration levels in the room.

Flue gas temperature

The temperature of the undiluted flue gas can reach 400°C.

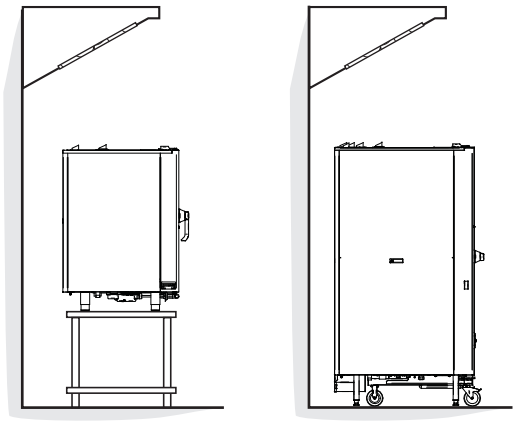
Follow fire safety regulations.

Gas appliance under an extractor hood

The combi steamer can be installed under a fume extractor hood.

In this case, a safety device in the ventilation system must ensure that the gas supply to the burner is only allowed to flow when the extraction system is running.

The following diagram shows the combi steamer beneath the fume extractor hood:

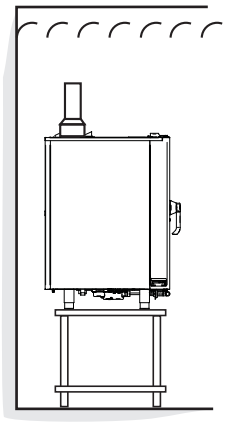


Gas appliance under a ceiling fitted with ventilation equipment (option)

Combi steamers fitted with a draught diverter (type B13 gas appliance, special accessory) can be fitted under a ceiling containing ventilation equipment.

In this case, a safety device in the ventilation system must ensure that the gas supply to the burner is only allowed to flow when the extraction system is running.

The following diagram shows the combi steamer beneath a ceiling fitted with ventilation equipment:



Gas appliance connected directly to a flue

Combi steamers fitted with a draught diverter (type B13 gas appliance, special accessory) can be connected directly to the flue.

Follow the steps below to connect your combi steamer to the flue:

Step	Action
1	Use an approved registered chimney sweep to clean the connecting pipe to the flue system. Ensure you obtain a record of this work.
2	Secure the appliance mechanically to prevent movement.
3	The gas flue pipes must be sealed and fitted in accordance with local and national regulations.
4	Inform the user that the flue system must be cleaned regularly.

Instructions for the user

Advise the user of the following points:

- The gas flue pipe, its seal (rear left) and flue gases may be very hot. Flue gases and hot sheet metal parts can cause burns.
- The hand shower must only be used for cleaning inside the oven. The hand shower must not be used to clean the outside of the case. Do not spray it onto gas supply connections, ventilation holes or flue gas outlets.
- Do not fit any combustible materials above the appliance or place them on the appliance. They present a fire risk.

6 Preparing for first-time use, taking out of service and disposal

Purpose of this chapter

This chapter explains how to prepare your combi steamer for use, how to take it out of service and how to dispose of it properly.

Contents

This chapter contains the following topics:

Safe working

Meaning

Work performed on appliances while preparing them for first-time use and taking them out of service is performed in special operating circumstances (e.g. with safety covers removed) or include activities that require personnel to have relevant qualifications and appliance-specific knowledge that exceed the requirements for operating personnel.

The measures and requirements specified in this section to ensure that the job of preparing the appliance for first-time use is performed safely, also all apply similarly to the job of taking the appliance out of service.

Requirements to be met by personnel preparing the appliance for use

The following requirements must be met by personnel preparing the appliance for first-time use:

- Personnel who prepare the appliance for first-time use are employees of an approved customer service company.
- Personnel preparing the appliance for first-time use have relevant training as a service engineer.
- Personnel preparing the appliance for first-time use have training specific to the appliance.
- In particular, personnel preparing the appliance for first-time use must be able to assess whether the electrical, gas and water supplies have been connected to the appliance in a correct professional manner.

Electric shock

⚠DANGER

Risk of electric shock from live parts

When the cover is open, there is a risk of electric shock from touching live parts.

- ▶ Disconnect the combi steamer from the power supply before removing the cover.

Risk of explosion

⚠DANGER

Risk of explosion from escaping gas

Escaping gas can ignite and cause an explosion.

If you smell gas, follow the instructions below:

- ▶ Cut off the gas supply immediately.
- ▶ Ventilate the room thoroughly.
- ▶ Avoid creating a spark (e.g. by operating a switch, using a phone or touching electrical switching elements).
- ▶ Tell the gas supplier or even the fire brigade (external telephone).
- ▶ Leave the building together with all other personnel.

Risk of suffocation

⚠DANGER

Risk of suffocation from lack of air suitable for breathing

Inadequate ventilation at the installation location can lead to suffocation.

Follow the instructions below accordingly:

- ▶ Only use the appliance in well ventilated rooms.
- ▶ Ensure that there is a sufficient supply of air for the level of combustion.

Hand injuries from fan

⚠WARNING

Risk of hand injuries from fan

When the cover is open, there is a risk of hand injuries from the rotating fan in the wiring compartment.

- ▶ Disconnect the combi steamer from the power supply before removing the cover.

Skin and eye irritation

⚠WARNING

Risk of skin and eye irritation

Direct contact with the CONVOClean new and CONVOCare cleaning agents will irritate the skin and eyes.

- ▶ Do not inhale the spray mist.
- ▶ Do not let CONVOClean new come into contact with eyes or skin.
- ▶ Wear protective gloves and safety goggles as specified in safety regulations.

Procedure for preparing the appliance for first-time use

Meaning

This section is intended for personnel who will prepare the appliance for first-time use. It summarizes what requirements must be met prior to putting the combi steamer into use, and describes the procedure for preparing the appliance.

Checks prior to preparing the appliance for first-time use

Before preparing the combi steamer for first-time use, check that the following requirements are met:

- The appliance has no signs of damage.
- The appliance has been set up so that it cannot slide about or tip over; the requirements for the installation position and the area around the appliance have been met (see section *Setting up the appliance on page 44).*
  Protective films, cardboard packaging and transport securing devices etc. have been removed completely.
- The appliance is installed in accordance with the requirements in the section *Connecting up the combi steamer* on page 44.
  Use the Installation checklist to carry out this check.
- All safety devices are in their designated position and are working correctly.
  All warning signs are in their designated position.
  Use the *Safety devices and warnings checklist on page 134* to carry out these checks.

The appliance must not be put into service unless all the specified requirements are met.

First-time use

To prepare the combi steamer for first-time use, follow the steps below:

Step	Action	Illustration / Further details...
1	Reset the thermal cutout if necessary.	
2	Switch on the circuit breaker.	
3	Open the water tap(s).	
4	OGS/OGB: ▪ Start the room ventilation system running. ▪ Open the gas tap.	
5	Check that the following are seated properly and in the correct position: ▪ Suction panel ▪ racks ▪ Loading trolley	
6	Check the adjustment of the door catch.	 For information on adjusting the catch, please contact the manufacturer, or refer to the service manual.
7	Switch the combi steamer on with the ON/OFF switch.	

Step	Action	Illustration / Further details...
8	Set the following: ▪ date ▪ time ▪ Language Refer to the user manual for instructions on this.	
9	Select the *Superheated steam* cooking program: ▪ Set 150°C and 10 minutes. Refer to the user manual for instructions on this.	
10	Check the following points: ▪ Is the oven light on? ▪ Is the fan running? ▪ Are there any leaks in the water-supply and waste-water system? ▪ Does the temperature rise inside the oven? ▪ Is steam being generated inside the oven? (Open door carefully)	
11	Check ignition for the following gas burners: ▪ OGS: burner for oven heater ▪ OGB: burner for over heater and burner for steam generator	
12	OGS/OGB: ▪ Carry out a flue gas analysis. Make sure that the flue gas values comply with the figures specified under *Gas installation to a fixed connection on OGS/OGB appliances* on page 58. If not, the burner/appliance adjustments must be corrected.	*Gas installation to a fixed connection on OGS/OGB appliances on page 58*
13	OES and OGS: ▪ Run the appliance in *Steam* mode. ▪ Use the pressure regulator to adjust the water supply reading for the steam generator to the pressures in the table below:	
	OES and OGS / **Water pressure** 6.10, 6.20, 10.10, 10.20, 12.20 / 100 kPa (1.0 bar) 20.10 and 20.20 / 180 kPa (1.8 bar)	
14	Appliance with automatic cleaning (CONVOClean *system*): ▪ Start the CONVOClean *system*. ▪ Check the supply of CONVOClean and CONVOCare.	

Customer guidance and instruction.

Instruct the user in all safety-related functions and devices. Instruct the user in how to operate the appliance.

To do this, follow the procedures given in the following checklists:

- *Checklist: Customer guidance and instruction - safety* on page 135
- *Checklist: Customer guidance and instruction - operation and maintenance* on page 140

Taking out of service and disposal

Requirements

Before taking the appliance out of service, check the following points:

- The appliance is de-energized.
- The gas supply is shut off.
- The water supply is shut off.

Requirements to be met by personnel

The job of taking the appliance out of service must only be entrusted to service engineers from an approved customer service office.

Only qualified electricians are permitted to perform work on electrical equipment.

Taking out of service

To take your combi steamer out of service, perform the installation steps in the reverse order.

The following tasks must be performed correctly:

- Disconnecting the water supply from the appliance
- Removing the drain connection from the appliance
- Disconnecting or isolating the electrical supply.
- Removing the door catch
- plus for OGS/OGB appliances:
  - Disconnecting the gas supply from the appliance
  - Disconnecting the gas flue system if applicable

Disposal

The combi steamer must not be disposed of with the household refuse, as bulk waste or in contravention of regulations.

Contact the manufacturer for guidance on environmentally safe disposal of your combi steamer. The manufacturer is certified to the ISO 14001:2004 environmental management standard and will dispose of your old appliance in accordance with valid environmental protection regulations.

7 Optional equipment and accessories

Purpose of this chapter

This chapter explains how to put the optional equipment and accessories for your combi steamer into service.

Contents

This chapter contains the following topics:

CONVOClean automatic interior oven cleaning system

Cleaning agents coming into contact with food

⚠WARNING

Risk of cleaning agents coming into contact with food

If the CONVOClean and CONVOCare connections are swapped over, there is a health risk from eating the cooked dishes.

- Make sure that CONVOClean and CONVOCare are connected correctly.
- Use only products approved by the manufacturer.

Skin and eye irritation / chemical skin burns

⚠WARNING

Risk of skin and eye irritation / chemical skin burns

The CONVOClean forte and CONVOCare cleaning agents will irritate/burn the skin and eyes if there is any direct contact, and care must be exercised when handling the cleaning canisters.

- Do not let CONVOClean forte or CONVOCare come into contact with eyes or skin.
- Never open the appliance door during fully automatic cleaning.
- Wear protective gloves and safety goggles as specified in safety data sheet.

Requirements

Make sure that the following requirements have been met:

- Soft water supply connected as specified in the *"Water supply"* on page 48 section
- Drain connected as specified in the *"Water drain"* on page 51 section

Contents

The following table shows the parts included with the CONVOClean *system:*

No.	Name		
1	Delivery tube for cleaner suction nozzle (tube color: red)	2617594	1
2	Delivery tube for nozzle-detergent suction nozzle (tube color: transparent)	2617598	1
3	D10 wire clip	8009058	2
4	an empty CONVOCare canister	3007029	1

Cleaning agent and detergent

Only the specified materials must be used. This is the only way to ensure reliable and effective cleaning.

The following table shows the approved cleaning agent and detergent:

Name	Product
Cleaning agents	CONVOClean forte
nozzle detergent	CONVOCare

Cleaning agent and detergent consumption

The table below shows the cleaning agent and detergent consumption in ml per cleaning cycle for cleaning level 1:

Material	Appliance size	Consumption (ml)
CONVOClean forte	6.10 / 6.20 / 10.10 / 10.20	350
CONVOCare	6.10 / 6.20 / 10.10 / 10.20	200
CONVOClean forte	12.20 / 20.10 / 20.20	500
CONVOCare	12.20 / 20.10 / 20.20	200

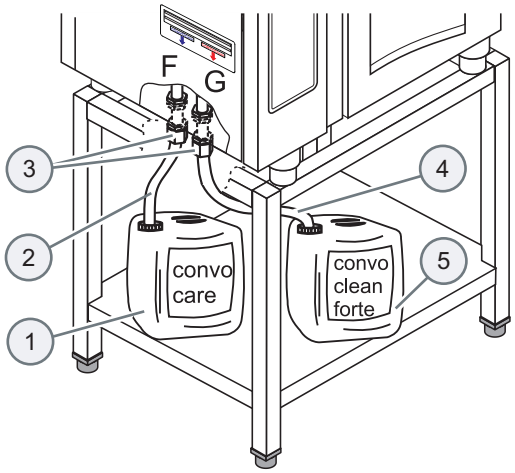
Installation location for the cleaning agent and detergent canisters

Install the canisters as follows:

- The canisters should be located for easy access beside the appliance on a flat surface.
- The canisters must not be positioned above the level of the surface on which the appliance stands.
- The level of the surface on which the canisters stand must not lie more than 1 m below the tube connections on the appliance.

Arrangement of the cleaning-agent and detergent supply system:

The following diagram shows the arrangement of the cleaning-agent and detergent supply system:



Label	Name
1	CONVOCare nozzle detergent canister
2	Delivery tube for nozzle-detergent suction nozzle (tube color: transparent)
3	D10 wire clip
4	Delivery tube for cleaner suction nozzle (tube color: red)
5	CONVOClean forte cleaning agent canister
F	Appliance connector for nozzle detergent supply
G	Appliance connector for cleaning agent supply

Connecting the CONVOClean system

Follow the steps below to connect the CONVOClean *system*:

Step	Action
1	Mix the supplied CONVOCare concentrate with **soft water** in the empty CONVOCare canister. Follow the instructions in the user manual on mixing the CONVOCare solution.
2	Plug the red extractor tube (4) for the cleaning agent onto the connector nipple of the front tube fitting (G) and hold in place with the wire clip (3).
3	Plug the transparent extractor tube (2) for the detergent onto the connector nipple of the front tube fitting (F) and hold in place with the wire clip (3).
4	Plug the red suction nozzle into the canister of CONVOClean forte (5). There must be no kinks in the tube and the vent hole in the canister must be open and unblocked.
5	Plug the transparent suction nozzle into the canister of CONVOCare (1). There must be no kinks in the tube and the vent hole in the canister must be open and unblocked.
6	Inform the user that the appliance must not be opened during cleaning. There is a risk of chemical burns to the eyes.

Optional customization

As an option, the CONVOClean *system* can be customized to suit the user's requirements by a trained service engineer with access to the Service level (service manual).

CONVOVent and CONVOVent Plus extractor hood/condensation hoods

Hoods available

The following hoods are available:

- **Extractor hood**
  The extractor hood must be connected to an extraction system. The extracted air is cleaned by the grease filters and fed to the ventilation system via the air vent.
- **CONVOVent**
  The condensation hood does not need to be connected directly to an extraction system as the exhaust air from the combi steamer is condensed by a condensation unit. The extracted air is cleaned by the grease filters and moisture removed at the moisture collectors, then fed back into the installation area through condensate filters.
- **CONVOVent Plus**
  The extracted air is cleaned by grease filters and moisture removed at the moisture collector, then fed back into the installation area through condensate filters. When the door of the combi steamer is opened, the CONVOVent Plus starts extraction automatically. Steam, vapor and odors are condensed and removed.

Recommended extractor hoods/condensation hoods

An extractor hood or a condensation hood is not a stipulation for operating the combi steamer.

The hoods improve the environment in the kitchen but are no substitute for an air conditioning system.

Heat output of combi steamer fitted with extractor hood

The following table shows the heat output of the combi steamer fitted with an extractor hood:

	6.10	6.20	10.10	10.20	12.20	20.10	20.20
Heat output (kJ/h)							
latent heat	315	525	525	960	1035	1035	1830
sensible heat	2500	4500	4500	7800	7800	8900	15400

Heat output of combi steamer fitted with CONVOVent

The following table shows the heat output of the combi steamer fitted with a CONVOVent:

	6.10	6.20	10.10	10.20	12.20	20.10	20.20
Heat output (kJ/h)							
latent heat	840	1400	1400	2560	2760	2760	4880
sensible heat	3256	5760	5760	10104	10284	11384	19792

Heat output of combi steamer fitted with CONVOVent Plus

The following table shows the heat output of the combi steamer fitted with a CONVOVent Plus:

	6.10	6.20	10.10	10.20	12.20	20.10	20.20
Heat output (kJ/h)							
latent heat	420	700	700	1280	1380	1380	2440
sensible heat	3004	5340	5340	9336	9456	10556	18328

Safety clearances for combi steamer fitted with CONVOVent Plus

The following table shows the safety clearances for the combi steamer fitted with CONVOVent Plus:

Safety clearances [mm]		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Rear	[mm]	60						
Right-hand side	[mm]	50						
Left-hand side	[mm]	50 (a larger gap is recommended for servicing purposes)						
Above	[mm]	500 (for ventilation)						

Requirements

Make sure that the following requirements have been met:

- The appliance and oven stand must be placed in a stable position before mounting a hood on an appliance.
- Make certain that the installation area is well ventilated.
- Local and national regulations relating to requirements of air conditioning equipment must be followed.

Grease filters (only for the extractor hood and CONVOVent Plus)

Fit grease filters in the overhanging hood section.

Grease filters must be removed at regular intervals and washed in the dishwasher. Observe manufacturer's data.

Operation

Always switch the hood on when the combi steamer is running. Otherwise condensation may collect in the appliance.

Moving to a different operating location

Remove the hood prior to moving the appliance.

Waste water temperature

The average temperature of the waste water from the combi steamer is 80°C. In order to reduce the amount of escaping steam, the temperature of the waste water can be adjusted locally to 68°C minimum in the Service level.

Assembly and installation

Please refer to the separate instructions for information on assembly and installation.

Stacking kit

Function

The stacking kit can be used to place two combi steamers one above the other.

Requirements

Make sure that the following requirements have been met:

- The stacking kit must be secured against toppling over.

Permitted combinations

Caution
Never place a size 10.10 or 10.20 appliance on top.

You can only install electric appliances on electric appliances and gas appliances on gas appliances.

The following combinations are allowed:

- 6.10 on 6.10
- 6.10 on 10.10
- 6.20 on 6.20
- 6.20 on 10.20

Equipotential bonding

Incorporate the stacking kit in the equipotential bonding system.

Assembly and installation

Please refer to the separate instructions for information on assembling and installing the stacking kit.

Grill version

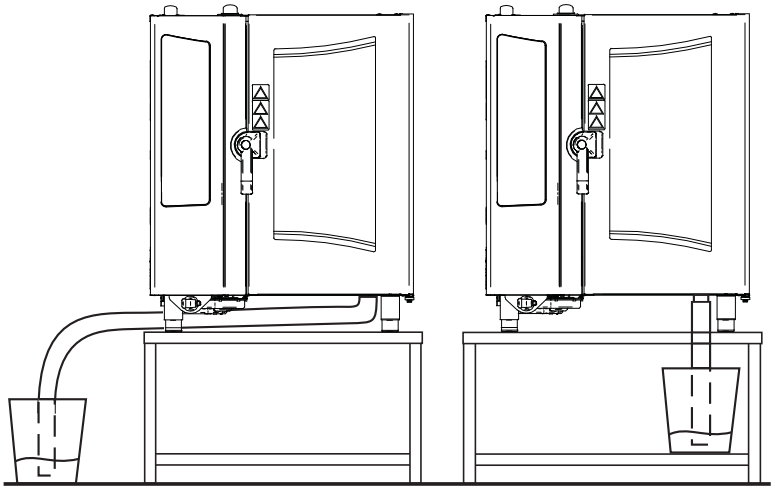
Layout and function

The grill version has a separate fat run-off. Intermediate plates prevent seasoning being washed off by drops of liquid from above.

A fat collecting tray collects any liquid dripping off the grilled food, which then flows out through a drain hole and tube directly into an external fat collecting container. The fat collecting container contains water up to the level of the tube end. This ensures the closed system inside the combi steamer is maintained.

If the combi steamer is not being used for grilling, the fat collecting tray and the intermediate plates should be removed from the appliance and the fat drain hole sealed with a screw plug.

The following diagram shows the design of the fat drain system in the grill version:



Contents

The following table shows the parts included with the grill version:

No.	Name	Part no.	Qty per appliance	
			6.10	10.10
1	Intermediate plate for chicken grill	On request	1	2
2	Chicken grill mesh		2	3
3	Fat collecting tray		1	1
4	Pipe bend		1	1
5	Tube with screw connector. Use longer or shorter tube as required (tube + hose clip + tube clamp)		1	1
6	Screw plug for fat drain hole		1	1

Connecting the grill version to fat collecting container when container placed beneath the combi steamer

To connect the fat collecting container under the appliance, follow the steps below:

Step	Action
1	Place the fat collecting container (e.g. metal pail approx .10 - 15 liters) in a stable position under the appliance.
2	Screw the tube connector onto the threaded outlet of the fat drain under the appliance base.
3	Feed the tube down into the fat collecting container, avoiding any kinks.

Connecting the grill version to fat collecting container when container placed beside the combi steamer

To connect the fat collecting container beside the appliance, follow the steps below:

Step	Action
1	Place the fat collecting container (e.g. metal pail approx .10 - 15 liters) in a stable position beside the appliance.
2	Screw the pipe bend onto the threaded outlet of the fat drain under the appliance base.
3	Screw the tube connector onto the pipe bend.
4	Feed the tube down into the fat collecting container, avoiding any kinks.

First-time use

Inform the customer of the following points relating to operation and safety:

Step	Action
1	The fat collecting container must contain water (above the level of the tube mouth). Otherwise the closed system inside the oven is unable to work.
2	The fat collecting tray must be removed from the appliance, and the screw plug inserted in the fat drain outlet, before: ▪ every automatic cleaning cycle. ▪ every automatic steam generator rinse cycle. ▪ any cleaning operation using the hand shower.

Operation

Please refer to the user manual for information on operation.

Ship model

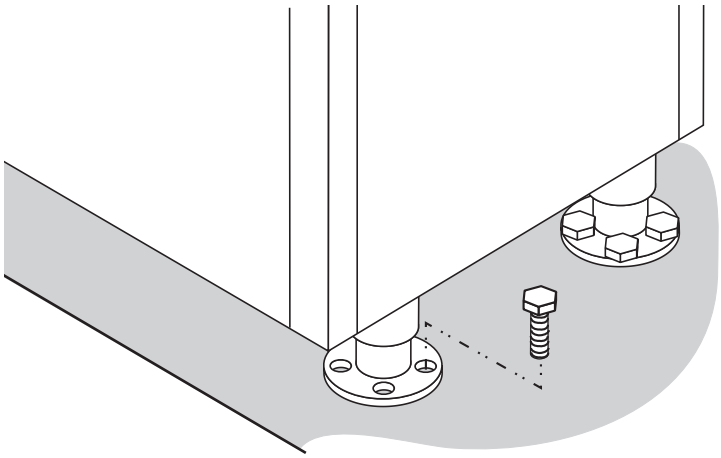
Function

On board ship, the combi steamer is fixed to the floor by screws.

Fixing by flanged feet

Caution
If the appliance is fixed by means other than the flanged feet (e.g. by welding), the appliance must be leveled before fixing.

The following diagram shows how you can fix floor-standing appliances or table-top appliances using the flanged feet:



Fixing to the ship oven-stand

To fix the combi steamer to a ship oven-stand, follow the steps below:

Step	Action
1	**Table-top appliances**: Using a spirit level, ensure the ship oven-stand is horizontal by adjusting the height of the feet.
2	**Table-top appliances**: Align the fixing bracket with the oven stand via the slotted holes and screw it to the oven stand.
3	Fasten the fixing bracket to the floor.
4	Remove the appliance feet with flange plate from the combi steamer.
5	Fit the M8 threaded feet supplied to the base.
6	Place the combi steamer on the oven stand and position the feet over the holes in the oven stand.
7	**Floor-standing appliances**: Using a spirit level, ensure the appliance is horizontal by adjusting the height of the feet.
8	Screw the square tubing of the oven stand to the appliance feet from below using the screws, plain washers and spring washers supplied.

Communications interface

Serial interface

All combi steamers are fitted with an EIA-232 (RS-232) communications interface.

A special interface cable is required to connect a PC via the built-in EIA-232 (RS232) interface.

Function of the communications interface

The communications interface is used for networking a computer and combi steamer.

The CONVOHACCP software can be used for automatic logging and subsequent documentation of all cooking processes.

In addition, the CONVOControl software can be used to edit recipes and transfer them to and from the combi steamer.

Modules for the network connection

A separate communications module is required for connecting a combi steamer to a network. There are two models.

The following table shows the two communications modules together with the interfaces:

	Module A	Module B
Interfaces	▪ EIA-232 (RS232) (Connected using standard commercial 9-pin connector.) ▪ EIA-485 (RS-485) ▪ USB interface	▪ EIA-232 (RS232) (Connected using standard commercial 9-pin connector.) ▪ EIA-485 (RS-485) ▪ USB interface ▪ Ethernet/LAN

Requirements

Firmware version V4.12 and above and CONVOHACCP support the use of the USB and Ethernet interfaces.

Installation

Refer to the installation instructions for the communications modules for further details.

8 Technical data, dimensional drawings and connection diagrams

Purpose of this chapter

This chapter contains the technical data, dimensional drawings and connection diagrams for your combi steamer.

Contents

This chapter contains the following topics:

8.1 Technical data

Purpose of this chapter

This chapter contains the technical data for your combi steamer.

Contents

This chapter contains the following topics:

Technical data for OES

Dimensions and weights

The following table shows appliance dimensions and weights:

OES		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Width								
with packaging	[mm]	1130	1410	1130	1410	1435	1150	1435
without packaging	[mm]	932	1217	932	1217	1232	947	1232
Depth						including loading trolley		
with packaging	[mm]	950	1175	950	1175	1200	1000	1200
without packaging	[mm]	805	1027	805	1027	1055	855	1055
Height						including loading trolley		
with packaging	[mm]	1040	1105	1310	1330	1650	2185	2185
without packaging	[mm]	852	895	1120	1120	1416	1952	1952
Weight						including loading trolley		
with packaging	[kg]	151	206	175	250	330	324	428
without packaging	[kg]	125	169	148	212	277	281	372
Weight with ConvoClean *system*						including loading trolley		
with packaging	[kg]	156	211	180	255	335	329	433
without packaging	[kg]	130	174	153	217	282	286	377
Safety clearances								
Rear	[mm]	50	50	50	50	50	50	50
Right-hand side	[mm]	50	50	50	50	50	50	50
Left-hand side*	[mm]	50	50	50	50	50	50	50
Above**	[mm]	500	500	500	500	500	500	500

* a larger gap is recommended for servicing purposes

** for ventilation

Maximum permissible loading weight

The following table shows the maximum permissible loading weight per combi steamer. These values are based on the condition that each shelf can take a maximum load of 15 kg:

Maximum permissible loading weight		6.10	6.20	10.10	10.20	12.20	20.10	20.20
GN (containers, shelf-grills, baking trays)								
per combi steamer	[kg]	30	60	50	100	120	100	180
per shelf	[kg]	15	15	15	15	15	15	15
600 x 400 tray (containers, shelf-grills, baking trays)								
with packaging	[kg]	30	60	50	100	120	100	180
without packaging	[kg]	15	15	15	15	15	15	15

Electrical installed load ratings

The following table shows the electrical installed load ratings:

OES		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
3~ 400V 50/60Hz (3/N/PE)								
Rated power consumption	[kW]	11,4	19,8	19,8	34,3	34,3	39,6	68,5
Convection power	[kW]	10,5	18,9	18,9	33,0	33,0	37,8	66,0
Motor power	[kW]	0,8	0,8	0,8	1,2	1,2	1,7	2,4
Rated current	[A]	15,3	26,3	26,3	47,6	47,6	52,4	95,0
max. permissible system impedance Z_{sys}	[S]	0,627	0,252	0,252	0,113	0,113	0,125	-
Fuse	[A]	16	35	35	50	50	63	100
recommended conductor cross-section*	[mm^2]	5G4	5G6	5G6	5G16	5G16	5G16	5G35
Heat output								
latent	[kJ/h]	2100	3500	3500	6400	6900	6900	12200
sensible	[kJ/h]	2500	4500	4500	7800	7800	8900	15400
3~ 230V 50/60Hz (3/PE)								
Rated power consumption	[kW]	11,7	20,1	20,1	34,6	34,6	40,1	69,1
Convection power	[kW]	10,5	18,9	18,9	33,0	33,0	37,8	66,0
Motor power	[kW]	0,8	0,8	0,8	1,5	1,5	2,2	3,0
Rated current	[A]	27,2	46,2	46,2	83,5	83,5	92,3	166,9
max. permissible system impedance Z_{sys}	[S]	0,239	0,151	0,151	-	-	-	-
Fuse	[A]	35	50	50	100	100	100	200
recommended conductor cross-section*	[mm^2]	5G6	5G16	5G16	5G35	5G35	5G35	5G95
3~ 200V 50/60Hz (3/PE)								
Rated power consumption	[kW]	11,7	20,1	20,1	34,6	34,6	40,1	69,1
Convection power	[kW]	10,5	18,9	18,9	33,0	33,0	37,8	66,0
Motor power	[kW]	1,1	1,1	1,1	1,5	1,5	2,2	3,0
Rated current	[A]	30,8	52,7	52,7	95,4	95,4	105,2	190,6
max. permissible system impedance Z_{sys}	[S]	0,239	0,151	0,151	-	-	-	-
Fuse	[A]	35	63	63	100	100	125	200
recommended conductor cross-section*	[mm^2]	5G6	5G16	5G16	5G35	5G35	5G35	5G95

*recommended conductor cross-section for wires laid uncovered in air up to 5 m in length.

Water supply

The following table shows the values for the water supply:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				**Floor-standing appliances**		
Water supply (cold only)								
Shut-off device		with non-return valve (type EA) and dirt filter						
Water supply								
without ConvoClean *system*		G 3/4", permanent connection optional with min. DN 10 supply pipe						
with ConvoClean *system*		G 3/4", permanent connection optional with min. DN 10 supply pipe						
Flow pressure								
without ConvoClean *system*	[kPa]	200 - 600 (2 - 6 bar)						
with ConvoClean *system*	[kPa]	300 - 600 (3 - 6 bar)						
Water drain*								
Type	DN	50	50	50	50	50	50	50

* Permanent connection (recommended) or funnel waste trap

Water quality

The following table shows the values for the water quality:

		Demoisturization, injection, cleaning	**Condenser, hand shower**
Drinking water quality (install water treatment unit if necessary)			
Total hardness (German degrees of hardness)	[°dH]	4 - 7	4 - 20
(French degrees of hardness)	[TH]	7 - 13	7 - 27
(English degrees of hardness)	[°e]	5 - 9	5 - 19
	[ppm]	70 - 125	70 - 270
	[mmol/l]	0,7 - 1,3	0,7 - 2,7
Temperature (T)	[°C]	max. 40	max. 40
Conductivity	[µS/cm]	min. 20	min. 20
pH		6,5 - 8,5	6,5 - 8,5
Cl-	[mg/]l	max. 100	max. 100
SO_4^{2-}	[mg/l]	max. 150	max. 150
Fe	[mg/l]	max. 0.1	max. 0.1

Water consumption

The following table shows the water consumption figures:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				**Floor-standing appliances**		
Water consumption without CONVOClean *system*								
Average water consumption	[l/h]	2 - 20	5 - 35	3 - 30	7 - 50	8 - 60	7 - 50	15 - 70
Peak consumption	[l/min]	10	10	10	10	10	10	10
Water consumption with CONVOClean *system*								
Average water consumption	[l/h]	30 - 48	30 - 48	30 - 48	30 - 48	41 - 95	41 - 95	41 - 95
Peak consumption	[l/min]	10	10	10	10	10	10	10

Water filter

The following table shows the required capacity of a water filter:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				**Floor-standing appliances**		
Average water consumption	[l/h]	0 - 10	0 - 15	0 - 15	0 - 25	0 - 25	0 - 28	0 - 35
Peak consumption without CONVOClean *system*	[l/min]	3,2	3,3	3,3	3,3	3,3	3,7	3,7
Peak consumption with CONVOClean *system*	[l/min]	10	10	10	10	10	10	10

The water consumption may increase significantly if the Crisp&Tasty option is used frequently.

Appliance technical standards

The following table shows the technical standards for the appliance:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				**Floor-standing appliances**		
Degree of protection		IPX5						
Approval mark*		TÜV/GS, DIN GOST TÜV, SVGW, WRAS, UL, NSF						
Noise emission								
measured	[dBA]	< 70						

*The appliance only displays those approval marks relevant to the country of use.

Technical data for OEB

Dimensions and weights

The following table shows appliance dimensions and weights:

OEB		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Width						including loading trolley		
with packaging	[mm]	1130	1410	1130	1410	1435	1150	1435
without packaging	[mm]	932	1217	932	1217	1232	947	1232
Depth						including loading trolley		
with packaging	[mm]	950	1175	950	1175	1200	1000	1200
without packaging	[mm]	805	1027	805	1027	1055	855	1055
Height						including loading trolley		
with packaging	[mm]	1040	1105	1310	1330	1650	2185	2185
without packaging	[mm]	852	895	1120	1120	1416	1952	1952
Weight						including loading trolley		
with packaging	[kg]	158	225	187	265	345	342	448
without packaging	[kg]	132	188	160	227	292	299	392
Weight with ConvoClean *system*						including loading trolley		
with packaging	[kg]	163	230	192	270	350	357	455
without packaging	[kg]	137	193	165	232	297	304	397
Safety clearances								
Rear	[mm]	50	50	50	50	50	50	50
Right-hand side	[mm]	50	50	50	50	50	50	50
Left-hand side*	[mm]	50	50	50	50	50	50	50
Above**	[mm]	500	500	500	500	500	500	500

* a larger gap is recommended for servicing purposes

** for ventilation

Maximum permissible loading weight

The following table shows the maximum permissible loading weight per combi steamer. These values are based on the condition that each shelf can take a maximum load of 15 kg:

Maximum permissible loading weight		6.10	6.20	10.10	10.20	12.20	20.10	20.20
GN (containers, shelf-grills, baking trays)								
per combi steamer	[kg]	30	60	50	100	120	100	180
per shelf	[kg]	15	15	15	15	15	15	15
600 x 400 tray (containers, shelf-grills, baking trays)								
with packaging	[kg]	30	60	50	100	120	100	180
without packaging	[kg]	15	15	15	15	15	15	15

Electrical installed load ratings

The following table shows the electrical installed load ratings:

OEB		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
3N~ 400V 50/60Hz (3/N/PE)								
Rated power consumption	[kW]	11,5	19,9	19,9	34,4	34,4	39,7	68,6
Convection power	[kW]	10,5	18,9	18,9	33,0	33,0	37,8	66,0
Steam power	[kW]	9,9	16,5	16,5	26,4	29,7	29,7	39,6
Motor power	[kW]	0,8	0,8	0,8	1,2	1,2	1,7	2,4
Rated current	[A]	15,7	26,6	26,6	48,0	48,0	52,8	95,4
max. permissible system impedance Z_{sys}	[S]	0,627	0,252	0,252	0,113	0,113	0,125	-
Fuse	[A]	16	35	35	50	50	63	100
recommended conductor cross-section*	[mm^2]	5G4	5G6	5G6	5G16	5G16	5G16	5G35
Heat output								
latent	[kJ/h]	2100	3500	3500	6400	6900	6900	12200
sensible	[kJ/h]	2500	4500	4500	7800	7800	8900	15400
3~ 230V 50/60Hz (3/PE)								
Rated power consumption	[kW]	11,8	20,2	20,2	34,7	34,7	40,2	69,2
Convection power	[kW]	10,5	18,9	18,9	33,0	33,0	37,8	66,0
Steam power	[kW]	9,9	16,5	16,5	26,4	29,7	29,7	39,6
Motor power	[kW]	0,8	0,8	0,8	1,5	1,5	2,2	3,0
Rated current	[A]	27,6	46,6	46,6	83,9	83,9	92,7	167,3
max. permissible system impedance Z_{sys}	[S]	0,239	0,151	0,151	-	-	-	-
Fuse	[A]	35	50	50	100	100	100	200
recommended conductor cross-section*	[mm^2]	5G6	5G16	5G16	5G35	5G35	5G35	5G95
3~ 200V 50/60Hz (3/PE)								
Rated power consumption	[kW]	11,8	20,2	20,2	34,7	34,7	40,2	69,2
Convection power	[kW]	10,5	18,9	18,9	33,0	33,0	37,8	66,0
Motor power	[kW]	1,1	1,1	1,1	1,5	1,5	2,2	3,0
Steam power	[kW]	9,9	16,5	16,5	26,4	29,7	29,7	39,6
Rated current	[A]	31,3	53,1	53,1	95,8	95,8	105,6	191,0
max. permissible system impedance Z_{sys}	[S]	0,239	0,151	0,151	-	-	-	-
Fuse	[A]	35	63	63	100	100	125	200
recommended conductor cross-section*	[mm^2]	5G6	5G16	5G16	5G35	5G35	5G35	5G95

*recommended conductor cross-section for wires laid uncovered in air up to 5 m in length.

Water supply

The following table shows the values for the water supply:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Water supply (cold only)								
Shut-off device		with non-return valve (type EA) and dirt filter						
Water supply								
without ConvoClean *system*		G 3/4", permanent connection optional with min. DN 10 supply pipe						
with ConvoClean *system*		G 3/4", permanent connection optional with min. DN 10 supply pipe						
Flow pressure								
without ConvoClean *system*	[kPa]	200 - 600 (2 - 6 bar)						
with ConvoClean *system*	[kPa]	300 - 600 (3 - 6 bar)						
Water drain*								
Type	DN	50	50	50	50	50	50	50

* Permanent connection (recommended) or funnel waste trap

Water quality

The following table shows the values for the water quality:

		Moisture removal, steam generator, cleaning	Condenser, hand shower
Drinking water quality (install water treatment unit if necessary)			
Total hardness (German degrees of hardness)	[°dH]	4 - 7	4 - 20
(French degrees of hardness)	[TH]	7 - 13	7 - 27
(English degrees of hardness)	[°e]	5 - 9	5 - 19
	[ppm]	70 - 125	70 - 270
	[mmol/l]	0,7 - 1,3	0,7 - 2,7
Temperature (T)	[°C]	max. 40	max. 40
Conductivity	[µS/cm]	min. 20	min. 20
pH		6,5 - 8,5	6,5 - 8,5
Cl-	[mg/]l	max. 100	max. 100
SO_4^{2-}	[mg/l]	max. 150	max. 150
Fe	[mg/l]	max. 0.1	max. 0.1

Water consumption

The following table shows the water consumption figures:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Water consumption without CONVOClean *system*								
Average water consumption	[l/h]	2 - 20	5 - 35	3 - 30	7 - 50	8 - 60	7 - 50	15 - 70
Peak consumption	[l/min]	10	10	10	10	10	10	10
Water consumption with CONVOClean *system*								
Average water consumption	[l/h]	30 - 48	30 - 48	30 - 48	30 - 48	41 - 95	41 - 95	41 - 95
Peak consumption	[l/min]	10	10	10	10	10	10	10

Water filter

The following table shows the required capacity of a water filter:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Average water consumption	[l/h]	0 - 10	0 - 15	0 - 15	0 - 25	0 - 25	0 - 28	0 - 35
Peak consumption without CONVOClean *system*	[l/min]	3,2	3,3	3,3	3,3	3,3	3,7	3,7
Peak consumption with CONVOClean *system*	[l/min]	10	10	10	10	10	10	10

The water consumption may increase significantly if the Crisp&Tasty option is used frequently.

Steam generator

The following table shows the rated power consumption and capacity of the steam generator:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Rated power consumption (guide value)	[kg/h]	12,6	21,0	21,0	31,4	37,8	37,8	50,4
Contents	[liters]	6,5	9,0	9,0	12,5	12,5	12,5	17,0

Appliance technical standards

The following table shows the technical standards for the appliance:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Degree of protection		IPX5						
Approval mark*		TÜV/GS, DIN GOST TÜV, SVGW, WRAS, UL, NSF						
Noise emission								
measured	[dBA]	< 70						

*The appliance only displays those approval marks relevant to the country of use.

Technical data for OGS

Dimensions and weights

The following table shows appliance dimensions and weights:

OGS		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Width						including loading trolley		
with packaging	[mm]	1130	1410	1130	1410	1435	1150	1435
without packaging	[mm]	932	1217	932	1217	1232	947	1232
Depth						including loading trolley		
with packaging	[mm]	950	1175	950	1175	1200	1000	1200
without packaging	[mm]	805	1027	805	1027	1055	855	1055
Height						including loading trolley		
with packaging	[mm]	1040	1105	1310	1330	1650	2185	2185
without packaging	[mm]	852	895	1120	1120	1416	1952	1952
Weight						including loading trolley		
with packaging	[kg]	157	216	183	267	339	350	459
without packaging	[kg]	131	179	156	229	286	307	403
Weight with ConvoClean *system*						including loading trolley		
with packaging	[kg]	163	221	188	272	344	355	467
without packaging	[kg]	136	184	161	234	291	312	408
Safety clearances								
Rear	[mm]	50	50	50	50	50	50	50
Right-hand side	[mm]	50	50	50	50	50	50	50
Left-hand side*	[mm]	50	50	50	50	50	50	50
Above**	[mm]	500	500	500	500	500	500	500

* a larger gap is recommended for servicing purposes

** for ventilation

Maximum permissible loading weight

The following table shows the maximum permissible loading weight per combi steamer. These values are based on the condition that each shelf can take a maximum load of 15 kg:

Maximum permissible loading weight		6.10	6.20	10.10	10.20	12.20	20.10	20.20
GN (containers, shelf-grills, baking trays)								
per combi steamer	[kg]	30	60	50	100	120	100	180
per shelf	[kg]	15	15	15	15	15	15	15
600 x 400 tray (containers, shelf-grills, baking trays)								
with packaging	[kg]	30	60	50	100	120	100	180
without packaging	[kg]	15	15	15	15	15	15	15

Electrical installed load ratings

The following table shows the electrical installed load ratings:

OGS		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
3N~ 400V 50/60Hz (3/N/PE)								
Rated power consumption	[kW]	1,1	1,1	1,1	1,4	1,4	2,1	2,1
Rated current	[A]	2,5	2,5	2,5	3,2	3,2	4,7,	5,0
Fuse	[A]	16	16	16	16	16	16	16
recommended conductor cross-section*	[mm^2]	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5
3~ 230V 50/60Hz (3/PE)								
Rated power consumption	[kW]	1,3	1,3	1,3	1,7	1,7	2,5	2,6
Rated current	[A]	4,5	4,5	4,5	5,8	5,8	8,7	9,0
Fuse	[A]	16	16	16	16	16	16	16
recommended conductor cross-section*	[mm^2]	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5

*recommended conductor cross-section for wires laid uncovered in air up to 5 m in length.

Gas supply

The following table shows the values for the gas supply:

	6.10	6.20	10.10	10.20	12.20	20.10	20.20
	Table-top appliances				Floor-standing appliances		
Fuels	Natural gas, liquid gas						
Flue gas connection	Air conditioning system with safety shutdown						

Gas consumption

The following table lists the gas consumption of the gas appliances:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Natural gas (H) G20	[m^3/h]	1,3	2,1	2,1	3,7	4,2	4,2	7,4
Natural gas (L) G25	[m^3/h]	1,5	2,5	2,5	4,3	4,9	4,9	8,6
Liquid gas G30/G31*	[kg/h]	0,9	1,5	1,5	2,7	3,1	3,1	5,4

* up to 15% higher consumption for butane G30

Summary of gas data

The table below lists the possible gas data (as per CE) at 15°C and 1013 mbar dry:

		2H (E)	2L (LL)	3B	3P
Gas type and symbol		Natural gas (H) G20	Natural gas (L) G25	Butane G30*	Propane G31
Supply flow pressure	[mbar]	17 - 25	18 - 30	25 - 57,5	25 - 57,5
Wobbe Index					
lower W_u		45,7	37,4	80,6	70,7
upper W_o		50,7	41,5	87,3	76,8
Lower heating value					
H_u	[MJ/m^3]	34,0	29,3	116,1	88,0
H_u	[MJ/kg]	-	-	45,7	46,7
Higher heating value					
H_o	[MJ/m^3]	37,8	32,5	125,8	95,7
H_o	[MJ/kg]	-	-	49,5	50,4

*up to 15% higher consumption for butane G30.

Flue gas values

The following table shows the required flue gas values:

		Natural gas	Propane liquid gas	Butane liquid gas
CO_2	[%]	8,6 - 9,6	10,0 - 11,0	11,7 - 12,7
CO	[ppm]	< 500	< 500	< 500

Flue gas output rate

The following table shows the flue gas output rate for the gas appliances:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Flue gas output rate	[m^3/h]	25	40	40	70	80	80	140

Heat rating and heat output of gas appliances

The following table shows the heat rating and heat output for gas appliances:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Rating								
Convection burner	[kW]	12	20	20	35	40	40	70
Heat output								
latent	[kJ/h]	2100	3500	3500	7100	11000	7100	11000
sensible	[kJ/h]	2500	4100	4100	7200	8200	8200	14100

Water supply

The following table shows the values for the water supply:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				**Floor-standing appliances**		
Water supply (cold only)								
Shut-off device		with non-return valve (type EA) and dirt filter						
Water supply								
without ConvoClean *system*		G 3/4", permanent connection optional with min. DN 10 supply pipe						
with ConvoClean *system*		G 3/4", permanent connection optional with min. DN 10 supply pipe						
Flow pressure								
without ConvoClean *system*	[kPa]	200 - 600 (2 - 6 bar)						
with ConvoClean *system*	[kPa]	300 - 600 (3 - 6 bar)						
Water drain*								
Type	DN	50	50	50	50	50	50	50

* Permanent connection (recommended) or funnel waste trap

Water quality

The following table shows the values for the water quality:

		Demoisturization, injection, cleaning	Condenser, hand shower
Drinking water quality (install water treatment unit if necessary)			
Total hardness (German degrees of hardness)	[°dH]	4 - 7	4 - 20
(French degrees of hardness)	[TH]	7 - 13	7 - 27
(English degrees of hardness)	[°e]	5 - 9	5 - 19
	[ppm]	70 - 125	70 - 270
	[mmol/l]	0,7 - 1,3	0,7 - 2,7
Temperature (T)	[°C]	max. 40	max. 40
Conductivity	[µS/cm]	min. 20	min. 20
pH		6,5 - 8,5	6,5 - 8,5
Cl-	[mg/]l	max. 100	max. 100
SO_4^{2-}	[mg/l]	max. 150	max. 150
Fe	[mg/l]	max. 0.1	max. 0.1

Water consumption

The following table shows the water consumption figures:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Water consumption without CONVOClean *system*								
Average water consumption	[l/h]	2 - 20	5 - 35	3 - 30	7 - 50	8 - 60	7 - 50	15 - 70
Peak consumption	[l/min]	10	10	10	10	10	10	10
Water consumption with CONVOClean *system*								
Average water consumption	[l/h]	30 - 48	30 - 48	30 - 48	30 - 48	41 - 95	41 - 95	41 - 95
Peak consumption	[l/min]	10	10	10	10	10	10	10

Water filter

The following table shows the required capacity of a water filter:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Average water consumption	[l/h]	0 - 10	0 - 15	0 - 15	0 - 25	0 - 25	0 - 28	0 - 35
Peak consumption without CONVOClean *system*	[l/min]	3,2	3,3	3,3	3,3	3,3	3,7	3,7
Peak consumption with CONVOClean *system*	[l/min]	10	10	10	10	10	10	10

The water consumption may increase significantly if the Crisp&Tasty option is used frequently.

Appliance technical standards

The following table shows the technical standards for the appliance:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Degree of protection		IPX5						
Approval mark*		Gastec QA, DIN GOST TÜV, SVGW, WRAS, UL, NSF, JIA, AGA						
Noise emission								
measured	[dBA]	< 70						

*The appliance only displays those approval marks relevant to the country of use.

Technical data for OGB

Dimensions and weights

The following table shows appliance dimensions and weights:

OGB		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Width						including loading trolley		
with packaging	[mm]	1130	1410	1130	1410	1435	1150	1435
without packaging	[mm]	932	1217	932	1217	1232	947	1232
Depth						including loading trolley		
with packaging	[mm]	950	1175	950	1175	1200	1000	1200
without packaging	[mm]	805	1027	805	1027	1055	855	1055
Height						including loading trolley		
with packaging	[mm]	1040	1105	1310	1330	1650	2185	2185
without packaging	[mm]	852	895	1120	1120	1416	1952	1952
Weight						including loading trolley		
with packaging	[kg]	180	243	205	292	375	394	505
without packaging	[kg]	154	206	178	254	322	351	449
Weight with ConvoClean *system*						including loading trolley		
with packaging	[kg]	185	248	210	297	380	399	510
without packaging	[kg]	159	211	183	259	327	356	454
Safety clearances								
Rear	[mm]	50	50	50	50	50	50	50
Right-hand side	[mm]	50	50	50	50	50	50	50
Left-hand side*	[mm]	50	50	50	50	50	50	50
Above**	[mm]	500	500	500	500	500	500	500

* a larger gap is recommended for servicing purposes

** for ventilation

Maximum permissible loading weight

The following table shows the maximum permissible loading weight per combi steamer. These values are based on the condition that each shelf can take a maximum load of 15 kg:

Maximum permissible loading weight		6.10	6.20	10.10	10.20	12.20	20.10	20.20
GN (containers, shelf-grills, baking trays)								
per combi steamer	[kg]	30	60	50	100	120	100	180
per shelf	[kg]	15	15	15	15	15	15	15
600 x 400 tray (containers, shelf-grills, baking trays)								
with packaging	[kg]	30	60	50	100	120	100	180
without packaging	[kg]	15	15	15	15	15	15	15

Electrical installed load ratings

The following table shows the electrical installed load ratings:

OGB		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
3N~ 400V 50/60Hz (3/N/PE)								
Rated power consumption	[kW]	1,2	1,2	1,2	1,5	1,5	2,2	2,2
Rated current	[A]	2,9	2,9	2,9	3,6	3,6	5,1	5,4
Fuse	[A]	16	16	16	16	16	16	16
recommended conductor cross-section*	[mm^2]	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5
3~ 230V 50/60Hz (3/PE)								
Rated power consumption	[kW]	1,4	1,4	1,4	1,8	1,8	2,6	2,7
Rated current	[A]	4,9	4,9	4,9	6,2	6,2	9,1	9,4
Fuse	[A]	16	16	16	16	16	16	16
recommended conductor cross-section*	[mm^2]	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5	5G2.5

*recommended conductor cross-section for wires laid uncovered in air up to 5 m in length.

Gas supply

The following table shows the values for the gas supply:

	6.10	6.20	10.10	10.20	12.20	20.10	20.20
	Table-top appliances				Floor-standing appliances		
Fuels	Natural gas, liquid gas						
Flue gas connection	Air conditioning system with safety shutdown						

Gas consumption

The following table lists the gas consumption of the gas appliances:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Natural gas (H) G20	[m^3/h]	1,3	2,1	2,1	3,7	4,2	4,2	7,4
Natural gas (L) G25	[m^3/h]	1,5	2,5	2,5	4,3	4,9	4,9	8,6
Liquid gas G30/G31*	[kg/h]	0,9	1,5	1,5	2,7	3,1	3,1	5,4

* up to 15% higher consumption for butane G30

Summary of gas data

The table below lists the possible gas data (as per CE) at 15°C and 1013 mbar dry:

		2H (E)	2L (LL)	3B	3P
Gas type and symbol		Natural gas (H) G20	Natural gas (L) G25	Butane G30*	Propane G31
Supply flow pressure	[mbar]	17 - 25	18 - 30	25 - 57,5	25 - 57,5
Wobbe Index					
lower W_u		45,7	37,4	80,6	70,7
upper W_o		50,7	41,5	87,3	76,8
Lower heating value					
H_u	[MJ/m^3]	34,0	29,3	116,1	88,0
H_u	[MJ/kg]	-	-	45,7	46,7
Higher heating value					
H_o	[MJ/m^3]	37,8	32,5	125,8	95,7
H_o	[MJ/kg]	-	-	49,5	50,4

*up to 15% higher consumption for butane G30.

Flue gas values

The following table shows the required flue gas values:

		Natural gas	Propane liquid gas	Butane liquid gas
CO_2	[%]	8,6 - 9,6	10,0 - 11,0	11,7 - 12,7
CO	[ppm]	< 500	< 500	< 500

Flue gas output rate

The following table shows the flue gas output rate for the gas appliances:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Flue gas output rate	[m^3/h]	25	40	40	70	80	80	140

Heat rating and heat output of gas appliances

The following table shows the heat rating and heat output for gas appliances:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Rating								
Convection burner	[kW]	12	20	20	35	40	40	70
Steam generator burner	[kW]	12	18	18	30	35	30	35
Heat output								
latent	[kJ/h]	2100	3500	3500	7100	11000	7100	11000
sensible	[kJ/h]	2500	4100	4100	7200	8200	8200	14100

Water supply

The following table shows the values for the water supply:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Water supply (cold only)								
Shut-off device		with non-return valve (type EA) and dirt filter						
Water supply								
without ConvoClean *system*		G 3/4", permanent connection optional with min. DN 10 supply pipe						
with ConvoClean *system*		G 3/4", permanent connection optional with min. DN 10 supply pipe						
Flow pressure								
without ConvoClean *system*	[kPa]	200 - 600 (2 - 6 bar)						
with ConvoClean *system*	[kPa]	300 - 600 (3 - 6 bar)						
Water drain*								
Type	DN	50	50	50	50	50	50	50

* Permanent connection (recommended) or funnel waste trap

Water quality

The following table shows the values for the water quality:

		Moisture removal, steam generator, cleaning	Condenser, hand shower
Drinking water quality (install water treatment unit if necessary)			
Total hardness (German degrees of hardness)	[°dH]	4 - 7	4 - 20
(French degrees of hardness)	[TH]	7 - 13	7 - 27
(English degrees of hardness)	[°e]	5 - 9	5 - 19
	[ppm]	70 - 125	70 - 270
	[mmol/l]	0,7 - 1,3	0,7 - 2,7
Temperature (T)	[°C]	max. 40	max. 40
Conductivity	[µS/cm]	min. 20	min. 20
pH		6,5 - 8,5	6,5 - 8,5
Cl-	[mg/]l	max. 100	max. 100
SO_4^{2-}	[mg/l]	max. 150	max. 150
Fe	[mg/l]	max. 0.1	max. 0.1

Water consumption

The following table shows the water consumption figures:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Water consumption without CONVOClean *system*								
Average water consumption	[l/h]	2 - 20	5 - 35	3 - 30	7 - 50	8 - 60	7 - 50	15 - 70
Peak consumption	[l/min]	10	10	10	10	10	10	10
Water consumption with CONVOClean *system*								
Average water consumption	[l/h]	30 - 48	30 - 48	30 - 48	30 - 48	41 - 95	41 - 95	41 - 95
Peak consumption	[l/min]	10	10	10	10	10	10	10

Water filter

The following table shows the required capacity of a water filter:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Average water consumption	[l/h]	0 - 10	0 - 15	0 - 15	0 - 25	0 - 25	0 - 28	0 - 35
Peak consumption without CONVOClean *system*	[l/min]	3,2	3,3	3,3	3,3	3,3	3,7	3,7
Peak consumption with CONVOClean *system*	[l/min]	10	10	10	10	10	10	10

The water consumption may increase significantly if the Crisp&Tasty option is used frequently.

Appliance technical standards

The following table shows the technical standards for the appliance:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
		Table-top appliances				Floor-standing appliances		
Degree of protection		IPX5						
Approval mark*		Gastec QA, DIN GOST TÜV, SVGW, WRAS, UL, NSF, JIA, AGA						
Noise emission								
measured	[dBA]	< 70						

*The appliance only displays those approval marks relevant to the country of use.

Technical data for accessories

Dimensions

The following table lists the dimensions of accessories for the combi steamer:

Model	OES / OGS / OEB / OGB						
Appliance size	**6.10**	**6.20**	**10.10**	**10.20**	**12.20**	**20.10**	**20.20**
	W x D x H	**W x D x H**	**W x D x H**	**W x D x H**	**W x D x H**	**W x D x H**	**W x D x H**
	[mm]	**[mm]**	**[mm]**	**[mm]**	**[mm]**	**[mm]**	**[mm]**
Open oven stand without wheels	807 x 700 x 620	1217 x 792 x 620	807 x 700 x 620	1217 x 792 x 620			
Open oven stand with wheels	908 x 700 x 620	1318 x 792 x 620	908 x 700 x 620	1318 x 792 x 620			
Enclosed oven stand without wheels	810 x 726 x 621	1220 x 818 x 621	810 x 726 x 621	1220 x 818 x 621			
Enclosed oven stand with wheels	908 x 726 x 621	1318 x 818 x 621	908 x 726 x 621	1318 x 818 x 621			
Loading trolley					740 x 910 x 1317	535 x 753 x 1853	740 x 910 x 1853
Plate banquet trolley					740 x 977 x 1320	511 x 781 x 1848	740 x 977 x 1320
Extractor hood	905 x 1160 x 414	1190 x 1385 x 414	905 x 1160 x 414	1190 x 1385 x 414			

8.2 Dimensions, dimensional drawings and connection diagrams

Purpose of this chapter

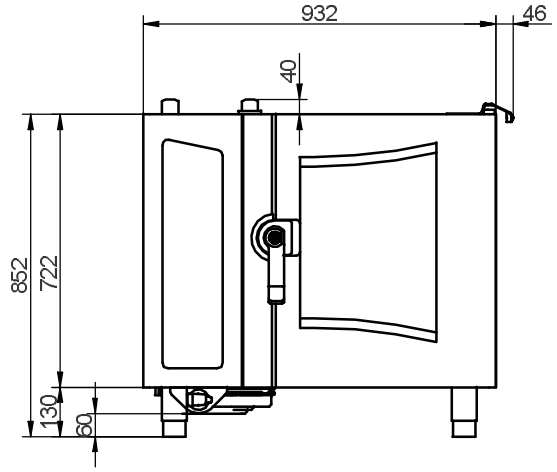
This chapter contains the dimensions, dimensional drawings and connection diagrams for your combi steamer.

Contents

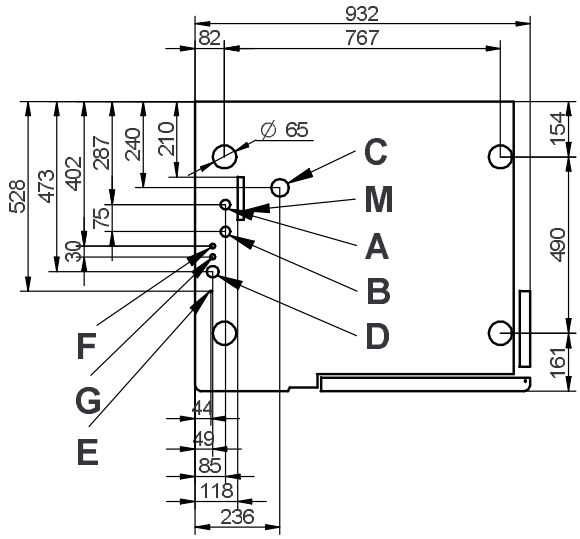
This chapter contains the following topics:

OES/OEB 6.10

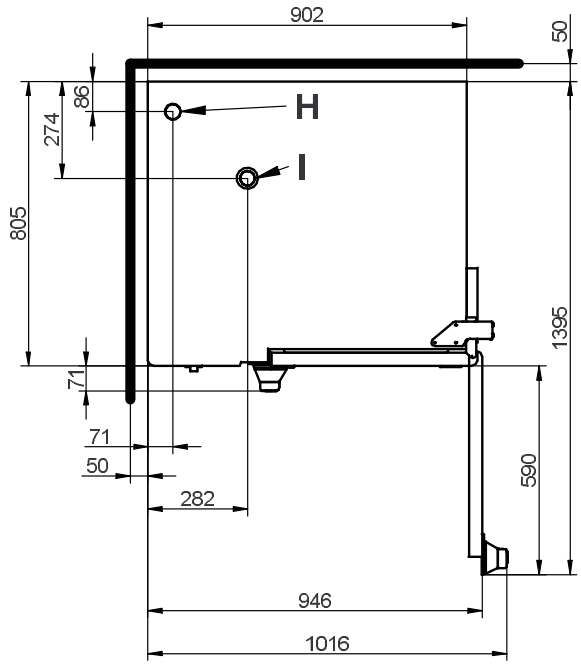
View



Connections on the underside



View from above with wall clearances

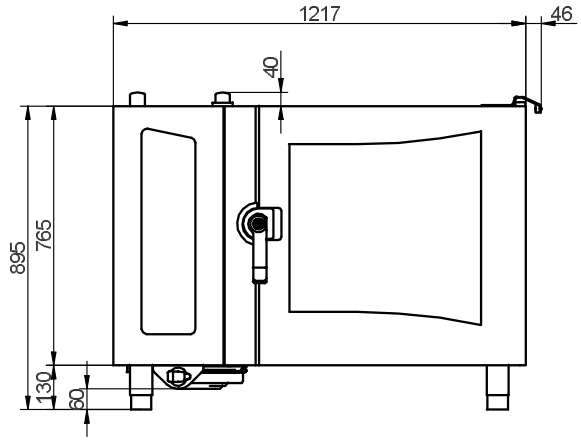


Meaning of labeled elements

A	Soft water connection G3/4"
S	Cold water connection G3/4"
C	Drain connection DN50
D	Electrical supply
E	Equipotential bonding
F	Rinse agent connection
G	Cleaning agent connection
H	Air vent
I	Low-pressure failsafe device
M	Overflow 120 x 25

OES/OEB 6.20

View



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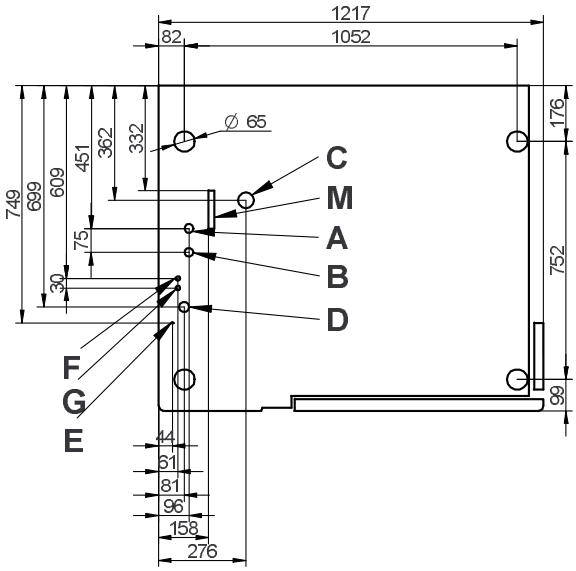
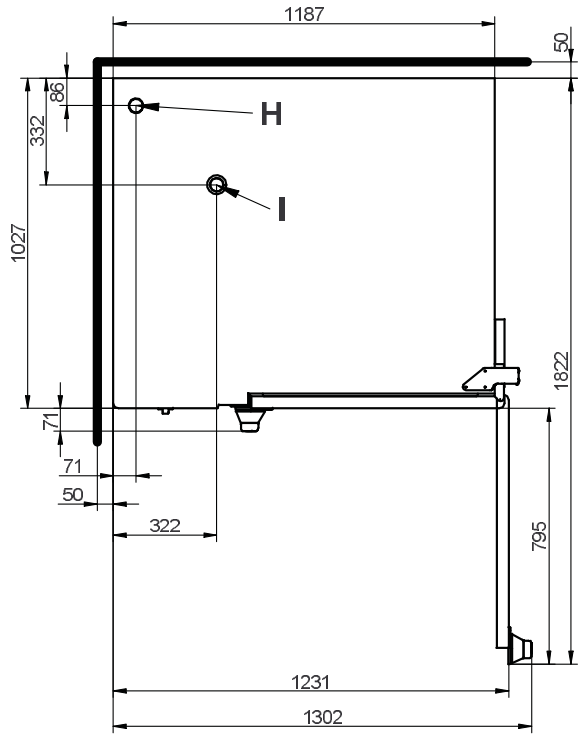


View from above with wall clearances

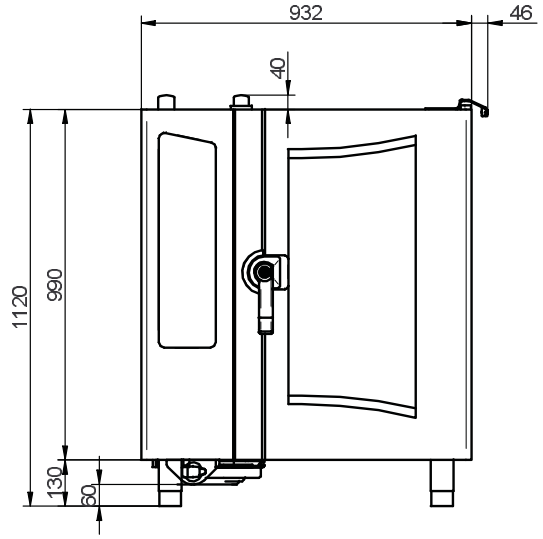


Meaning of labeled elements

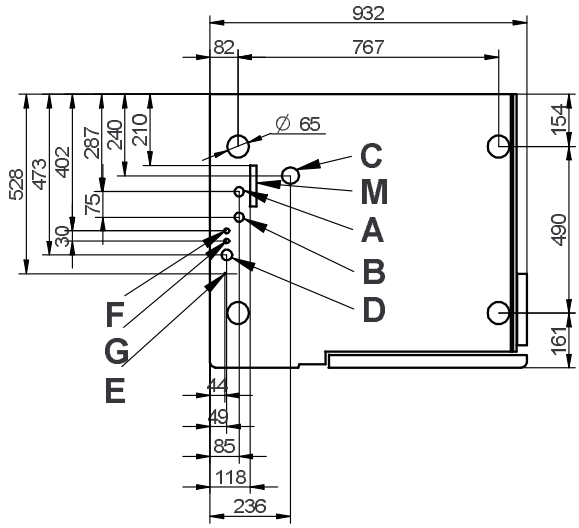
A	Soft water connection G3/4"
S	Cold water connection G3/4"
C	Drain connection DN50
D	Electrical supply
E	Equipotential bonding
F	Rinse agent connection
G	Cleaning agent connection
H	Air vent
I	Low-pressure failsafe device
M	Overflow 120 x 25

OES/OEB 10.10

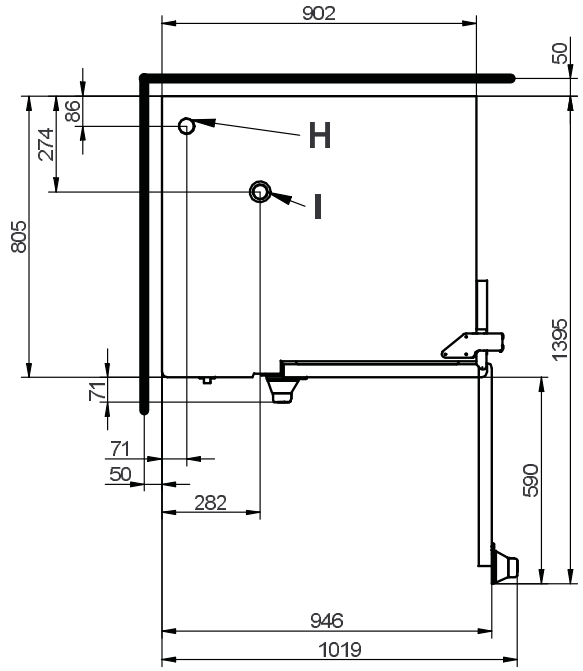
View



Connections on the underside



View from above with wall clearances

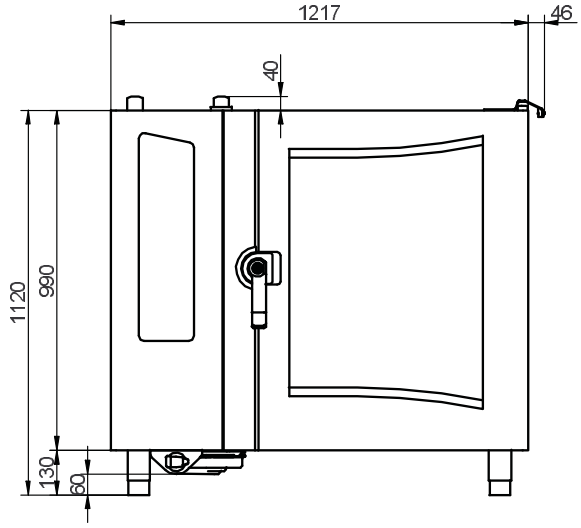


Meaning of labeled elements

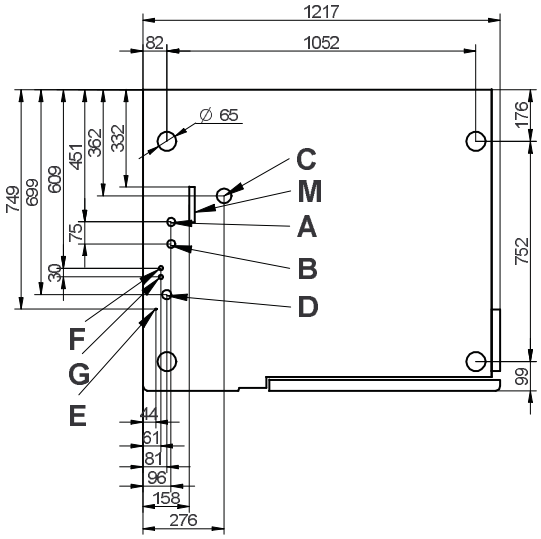
A	Soft water connection G3/4"
S	Cold water connection G3/4"
C	Drain connection DN50
D	Electrical supply
E	Equipotential bonding
F	Rinse agent connection
G	Cleaning agent connection
H	Air vent
I	Low-pressure failsafe device
M	Overflow 120 x 25

OES/OEB 10.20

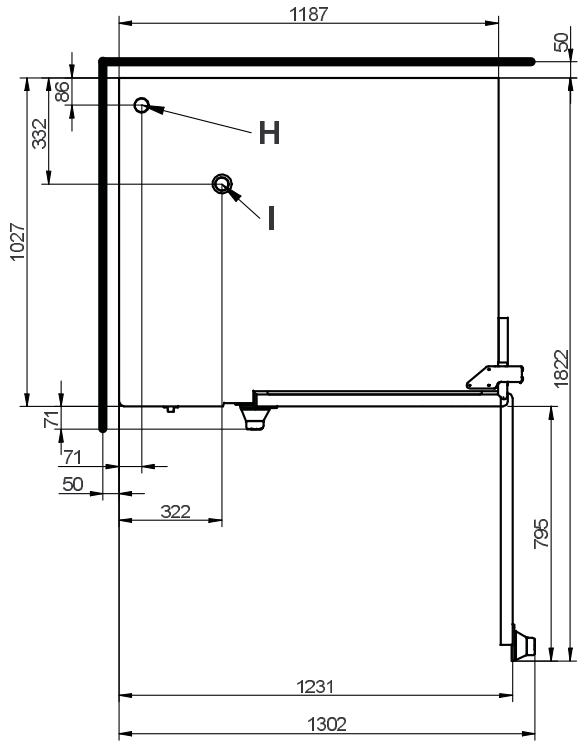
View



Connections on the underside



View from above with wall clearances

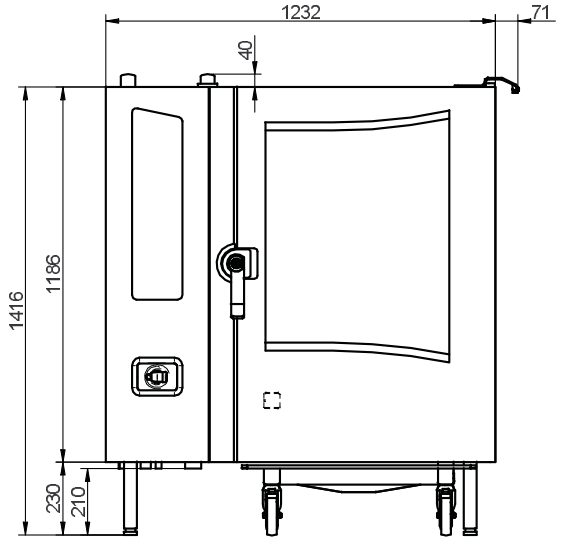


Meaning of labeled elements

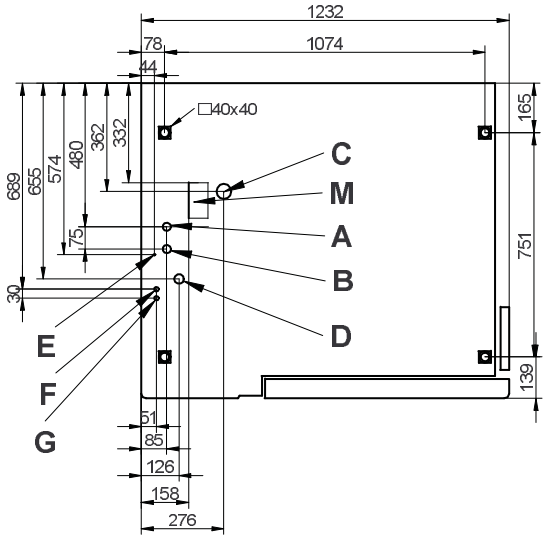
A	Soft water connection G3/4"
S	Cold water connection G3/4"
C	Drain connection DN50
D	Electrical supply
E	Equipotential bonding
F	Rinse agent connection
G	Cleaning agent connection
H	Air vent
I	Low-pressure failsafe device
M	Overflow 120 x 25

OES/OEB 12.20

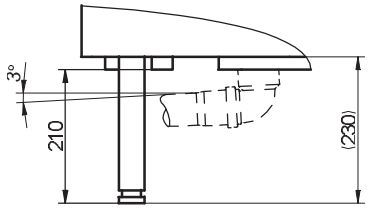
View



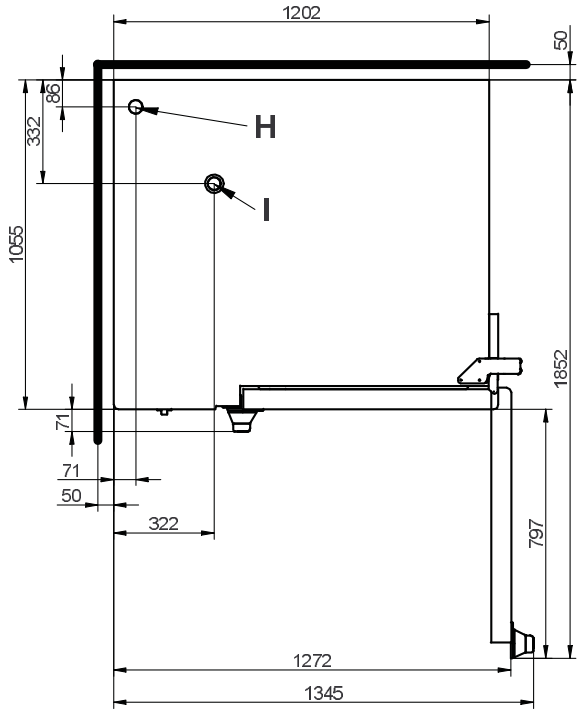
Connections on the underside



Detailed view of water drain



View from above with wall clearances

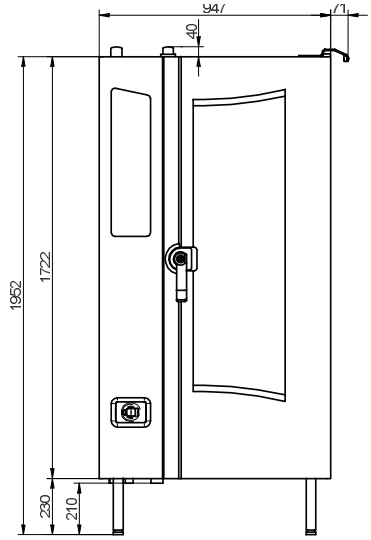


Meaning of labeled elements

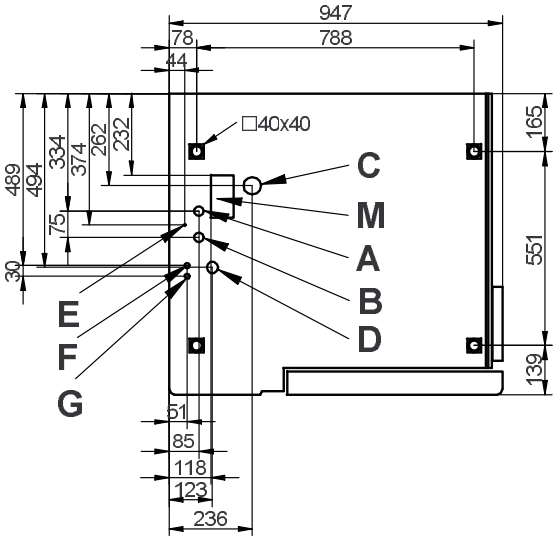
A	Soft water connection G3/4"
S	Cold water connection G3/4"
C	Drain connection DN50
D	Electrical supply
E	Equipotential bonding
F	Rinse agent connection
G	Cleaning agent connection
H	Air vent
I	Low-pressure failsafe device
M	Overflow 120 x 65

OES/OEB 20.10

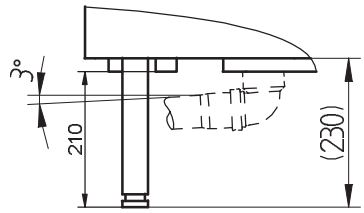
View



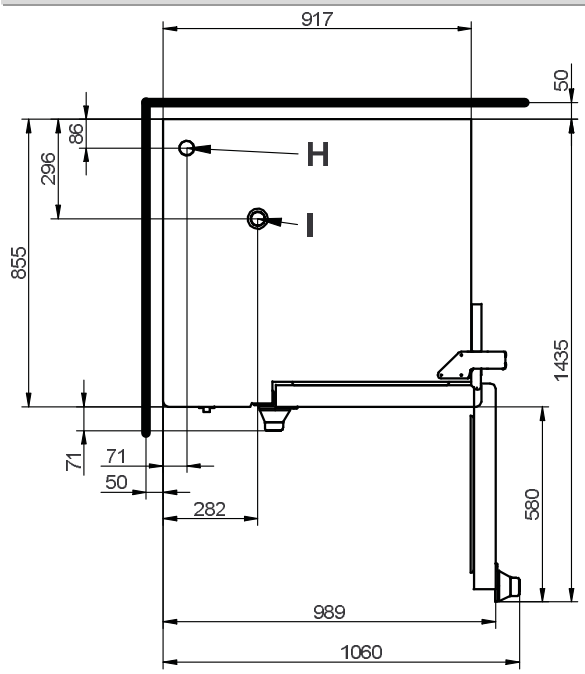
Connections on the underside



Detailed view of water drain



View from above with wall clearances

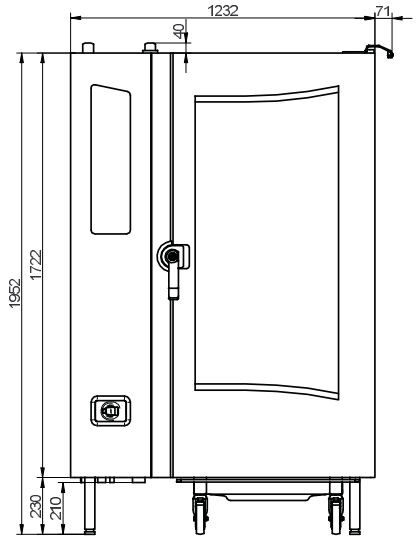


Meaning of labeled elements

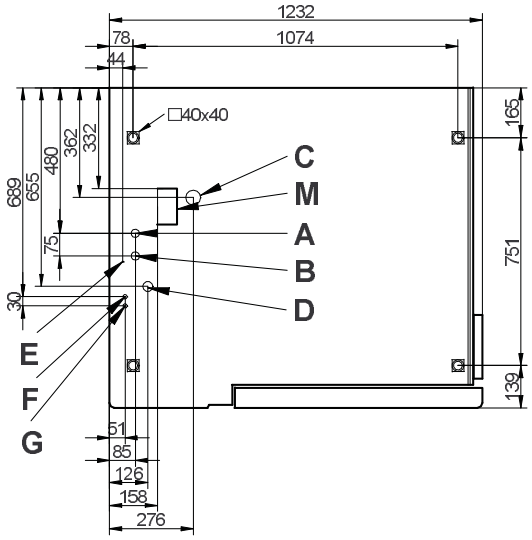
A	Soft water connection G3/4"
S	Cold water connection G3/4"
C	Drain connection DN50
D	Electrical supply
E	Equipotential bonding
F	Rinse agent connection
G	Cleaning agent connection
H	Air vent
I	Low-pressure failsafe device
M	Overflow 120 x 65

OES/OEB 20.20

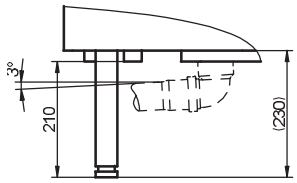
View



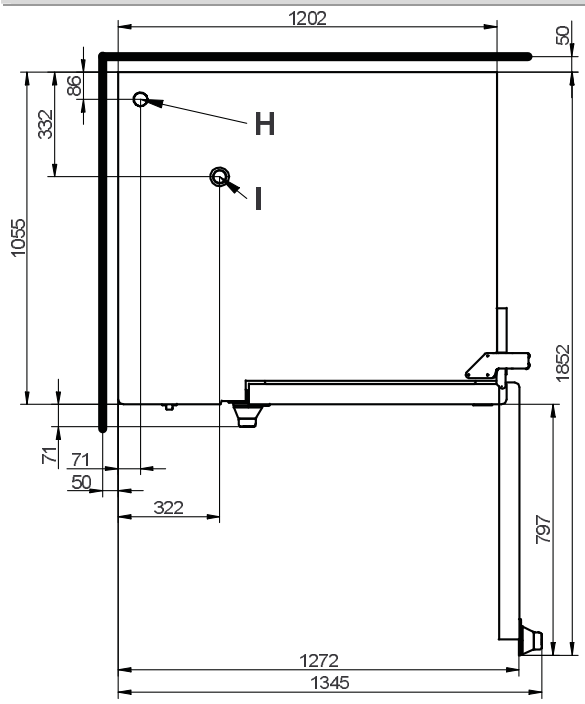
Connections on the underside



Detailed view of water drain



View from above with wall clearances

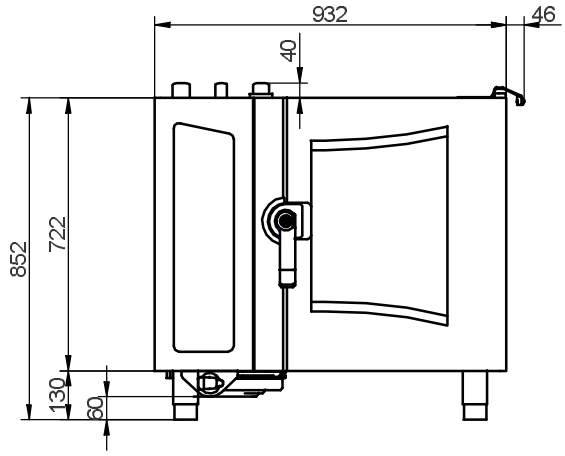


Meaning of labeled elements

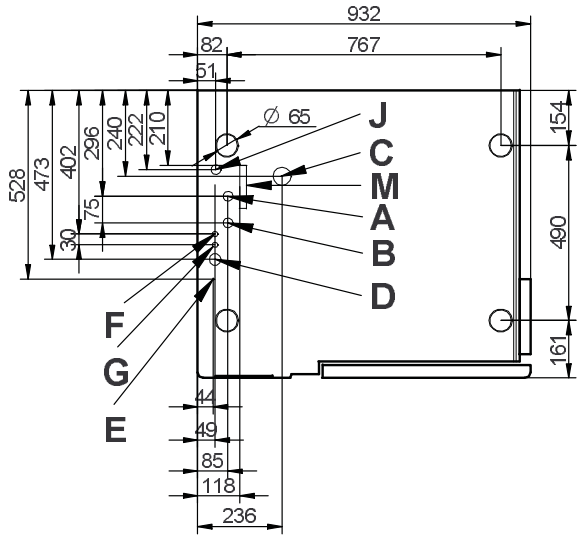
- **A** Soft water connection G3/4"
- **S** Cold water connection G3/4"
- **C** Drain connection DN50
- **D** Electrical supply
- **E** Equipotential bonding
- **F** Rinse agent connection
- **G** Cleaning agent connection
- **H** Air vent
- **I** Low-pressure failsafe device
- **M** Overflow 120 x 65

OGS 6.10

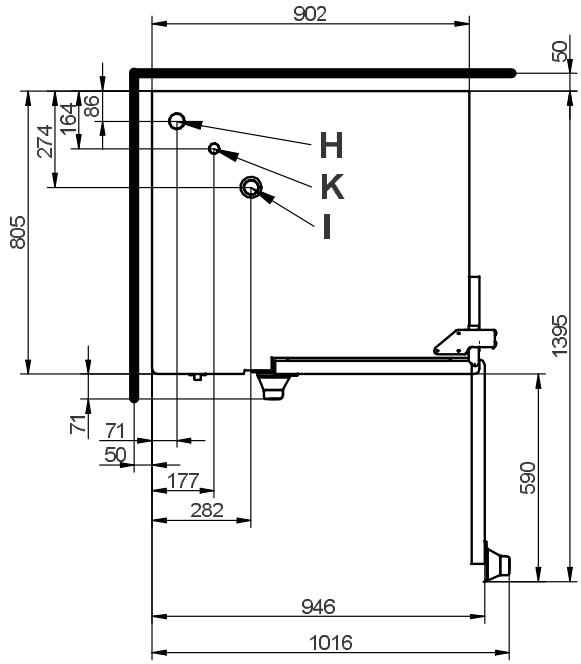
View



Connections on the underside



View from above with wall clearances

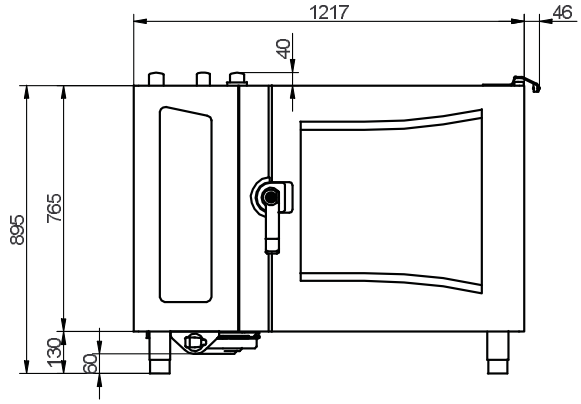


Meaning of labeled elements

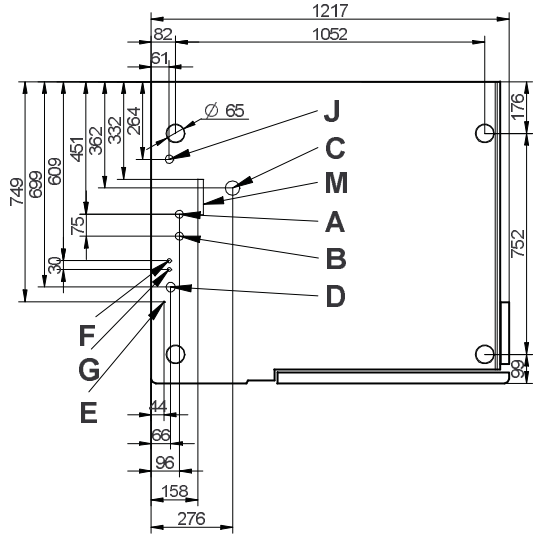
A	Soft water connection G3/4"
S	Cold water connection G3/4"
C	Drain connection DN50
D	Electrical supply
E	Equipotential bonding
F	Rinse agent connection
G	Cleaning agent connection
H	Air vent
I	Low-pressure failsafe device
J	Gas supply
K	Flue gas pipe, gas (convection heater)
M	Overflow 120 x 25

OGS 6.20

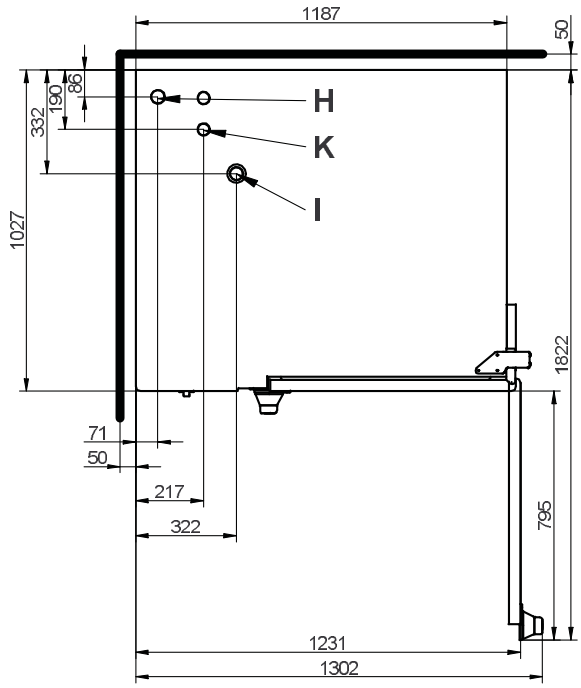
View



Connections on the underside



View from above with wall clearances



Meaning of labeled elements

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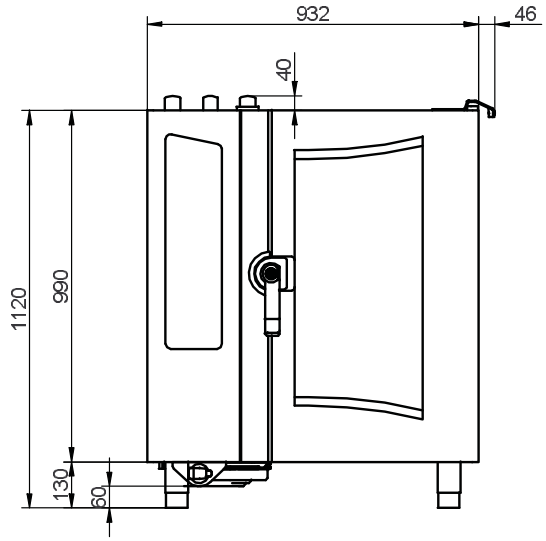
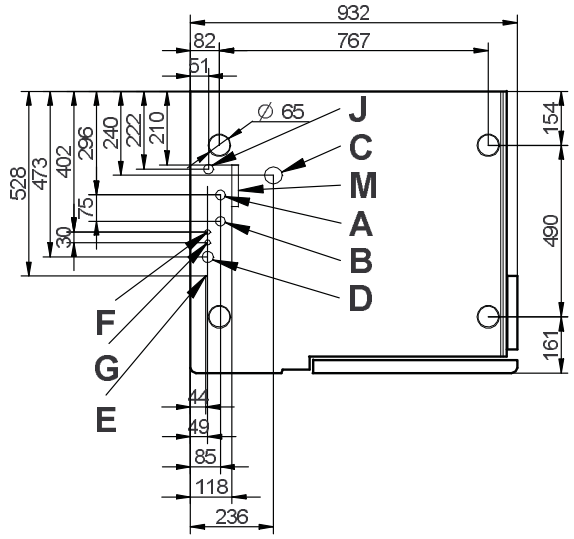
OGS 10.10

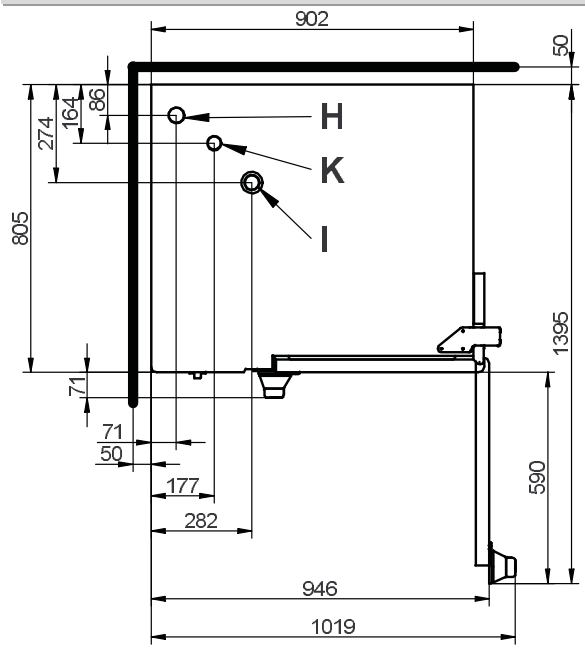
View



Connections on the underside



View from above with wall clearances



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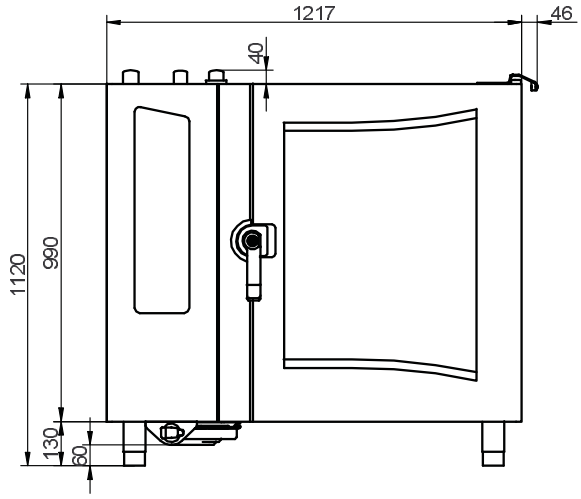
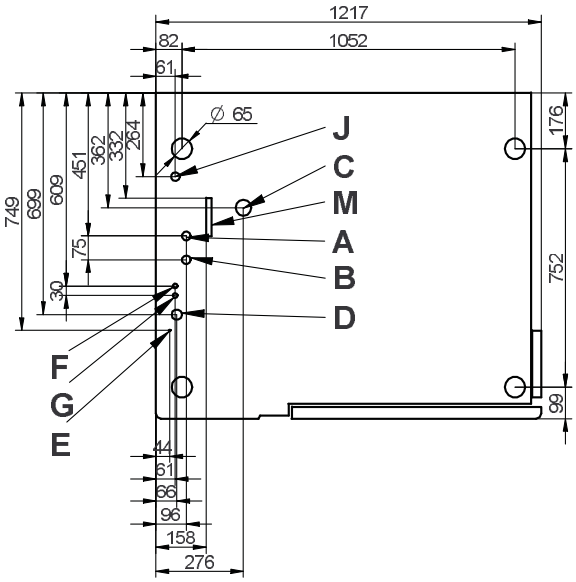
OGS 10.20

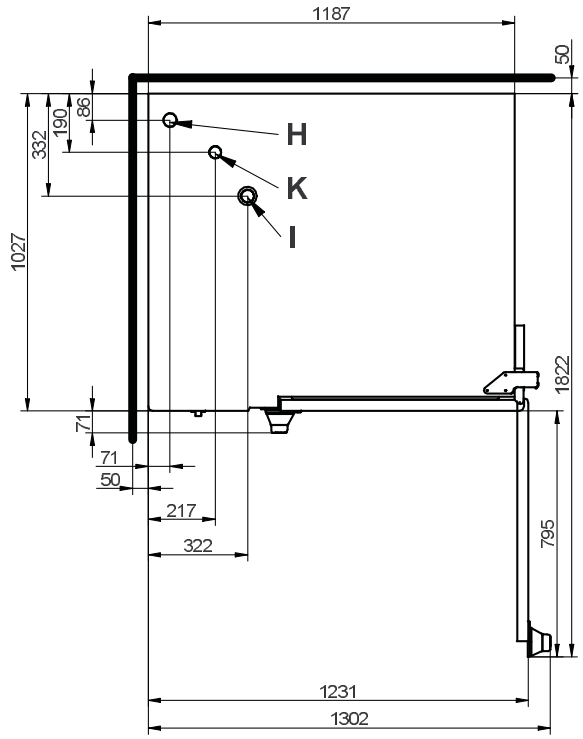
View



Connections on the underside



View from above with wall clearances



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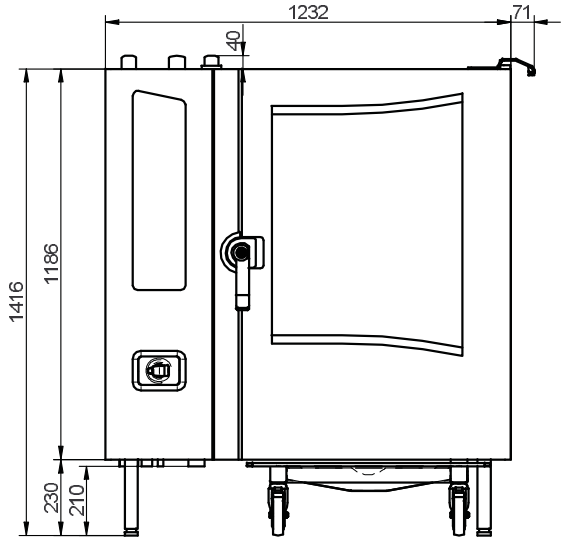
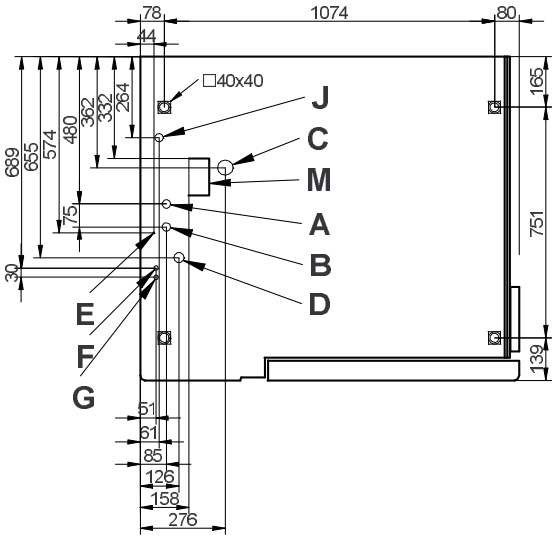
OGS 12.20

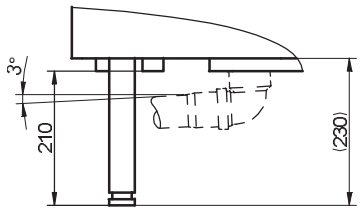
View



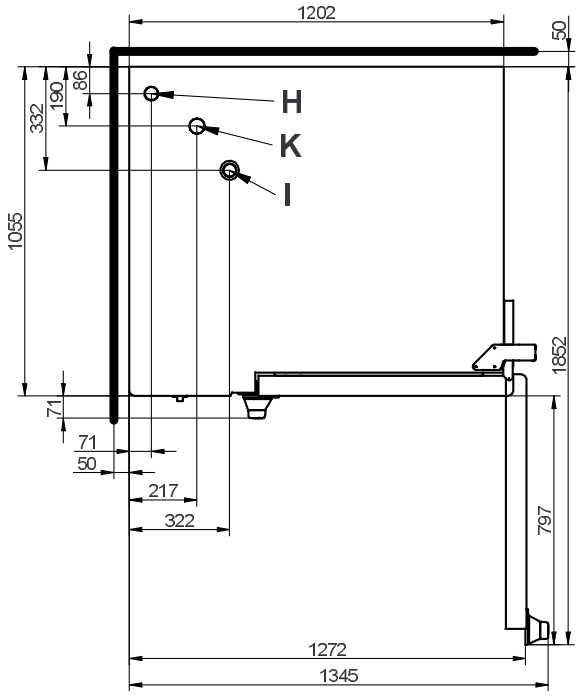
Connections on the underside



Detailed view of water drain



View from above with wall clearances



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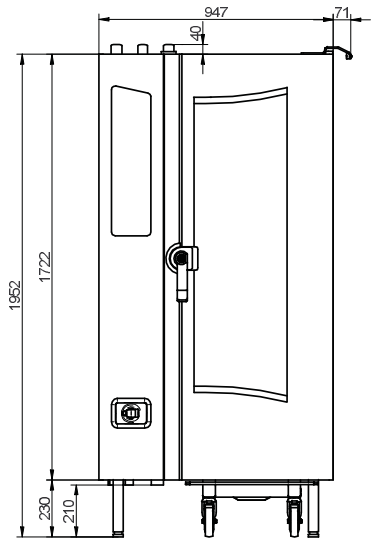
OGS 20.10

View



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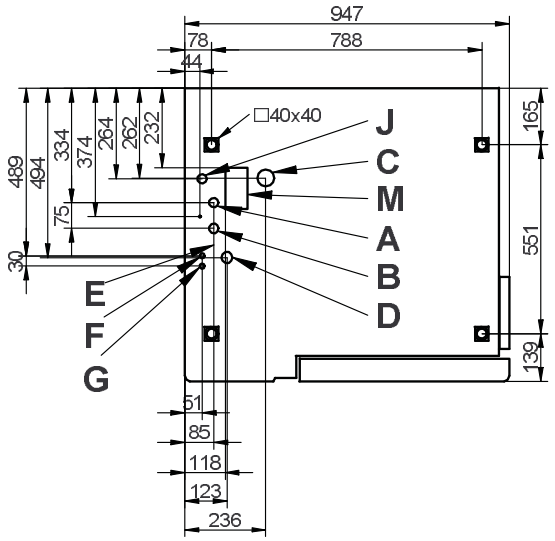

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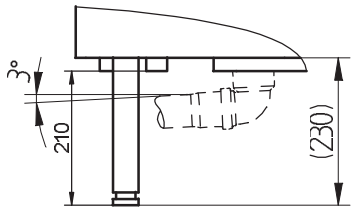
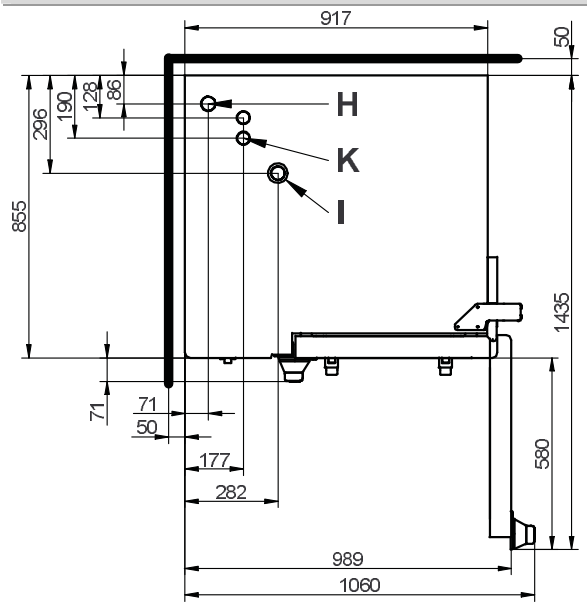


View from above with wall clearances



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OGS 20.20

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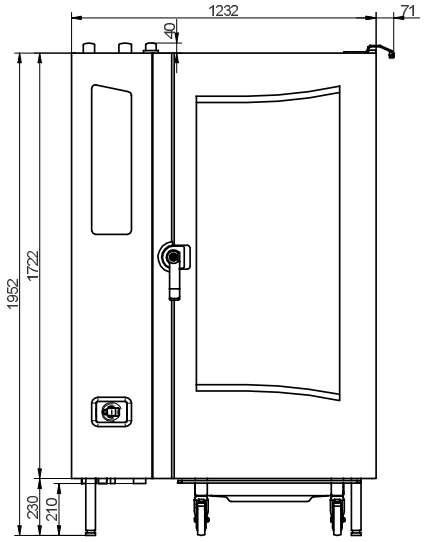

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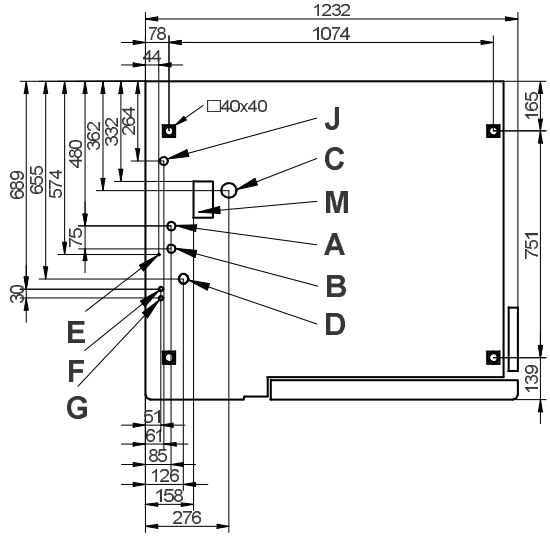

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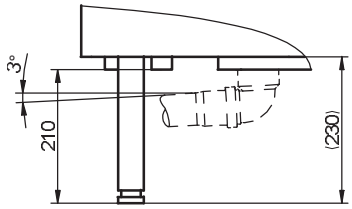
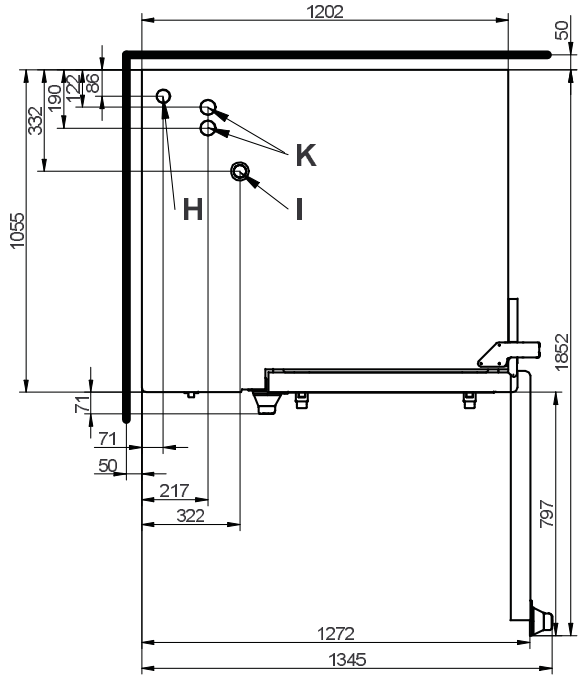


View from above with wall clearances



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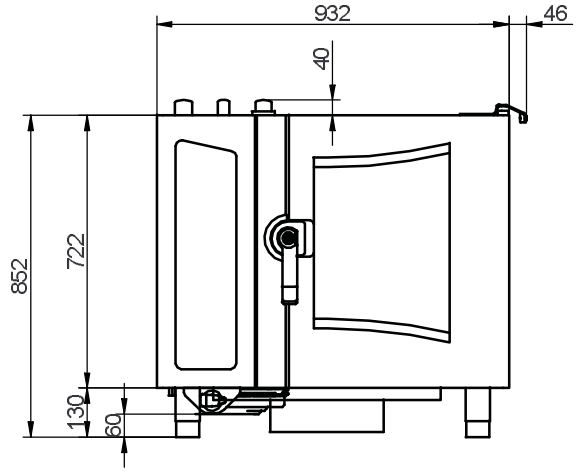
OGB 6.10

View



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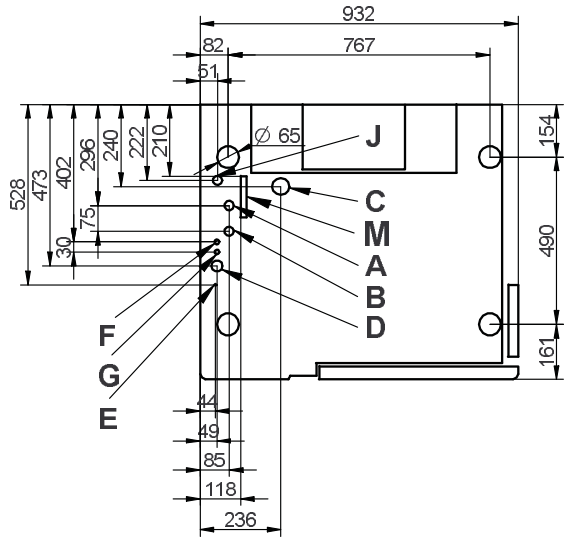

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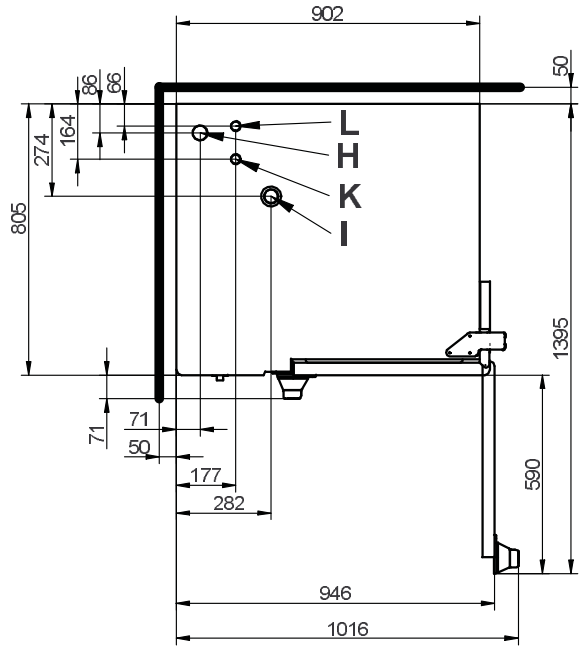

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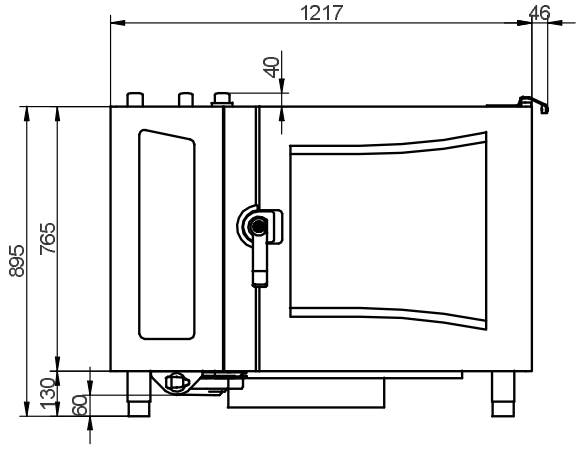
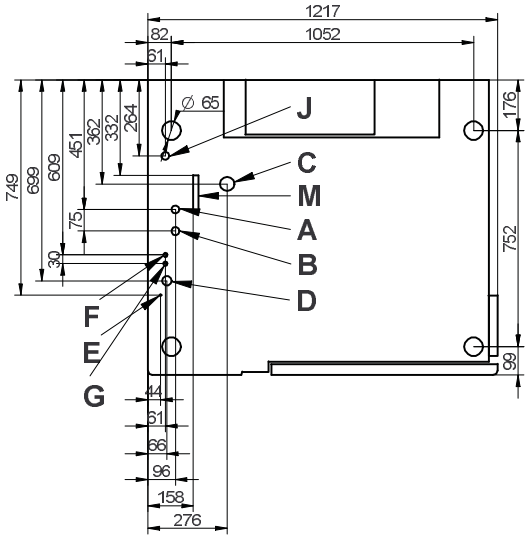
OGB 6.20

View



Connections on the underside



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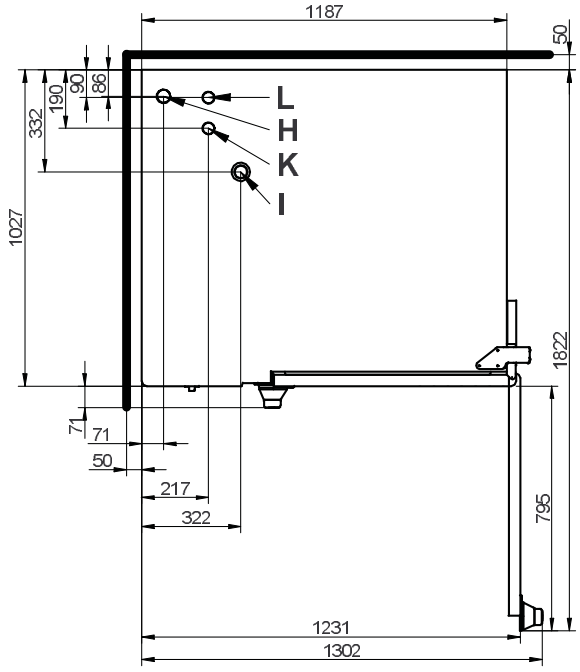

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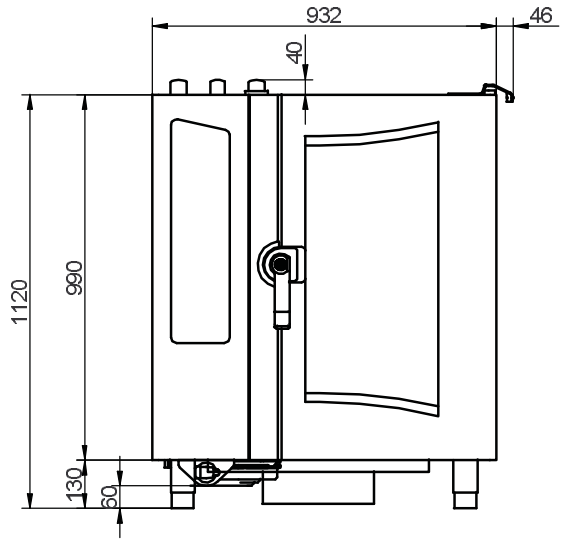
OGB 10.10

View



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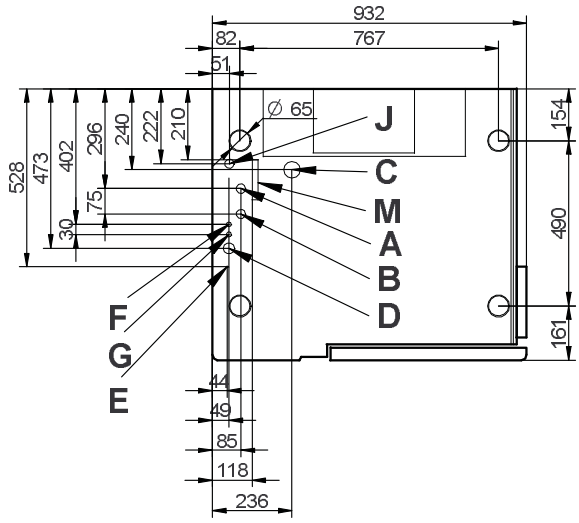

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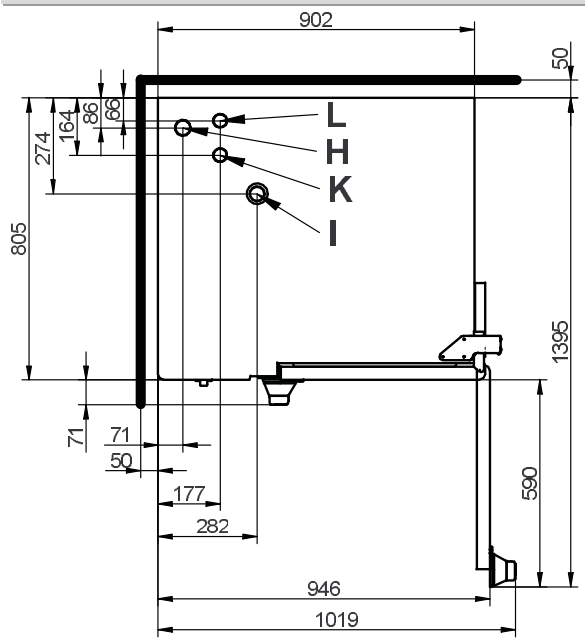

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OGB 10.20

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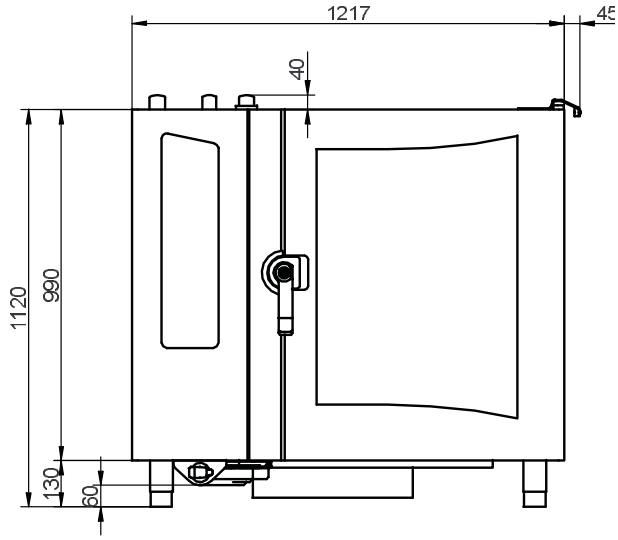

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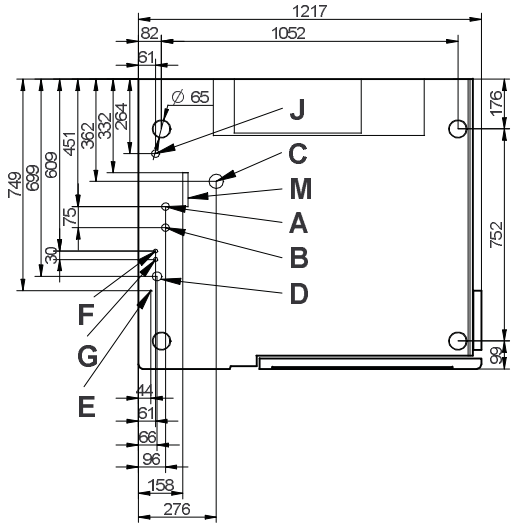

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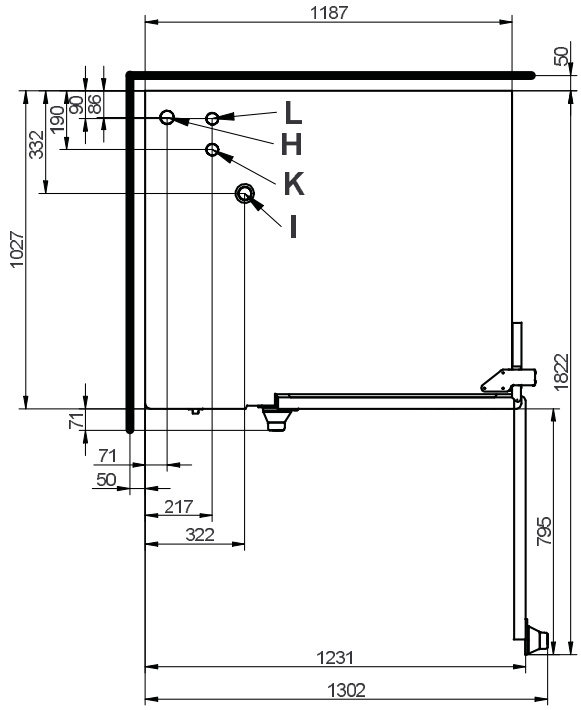

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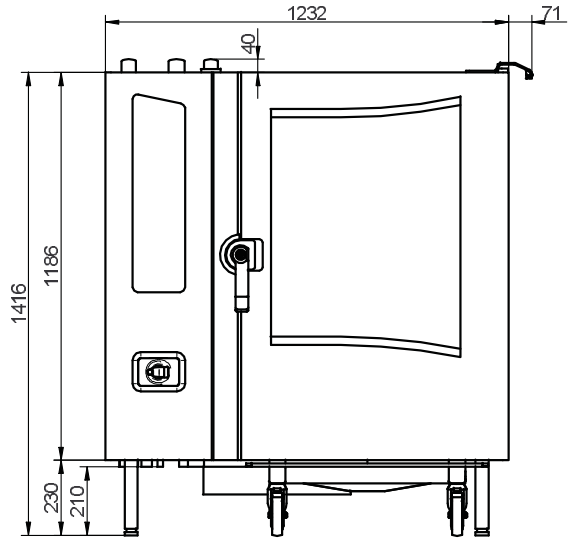

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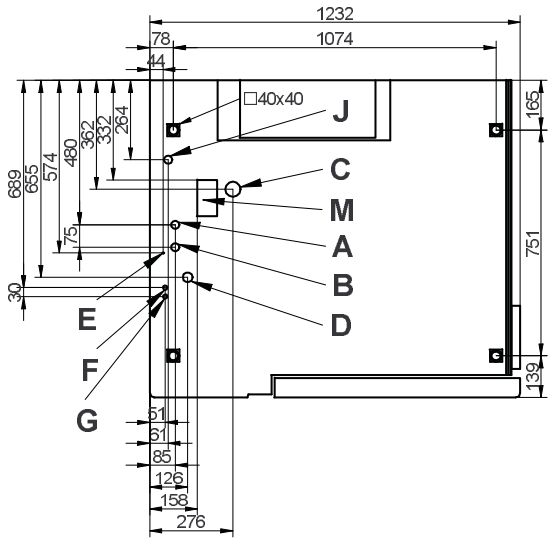
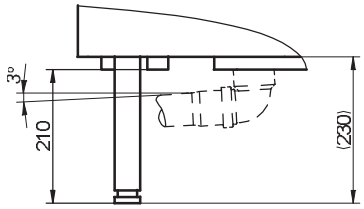
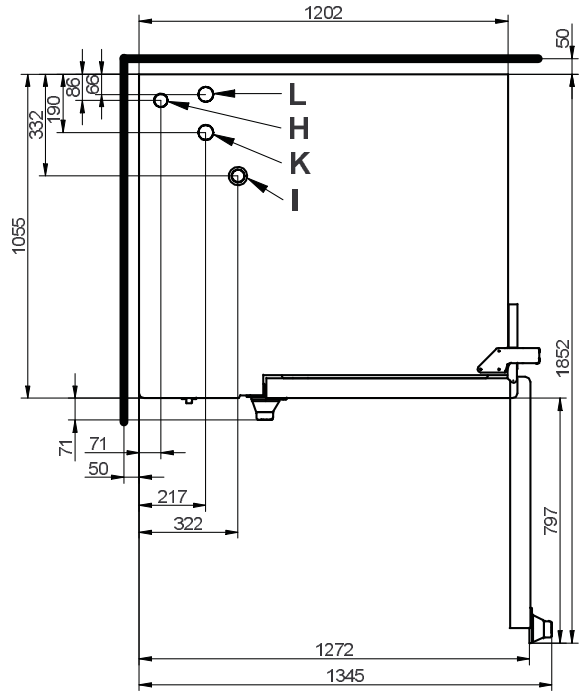


Detailed view of water drain



View from above with wall clearances



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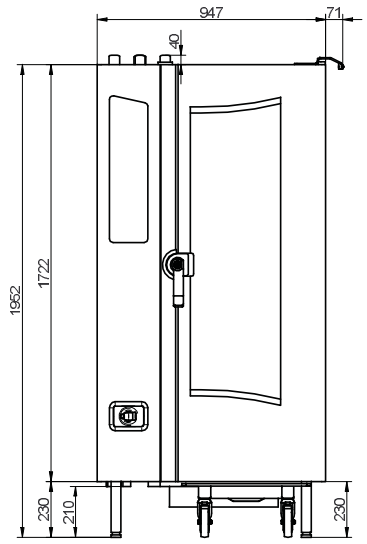
OGB 20.10

View



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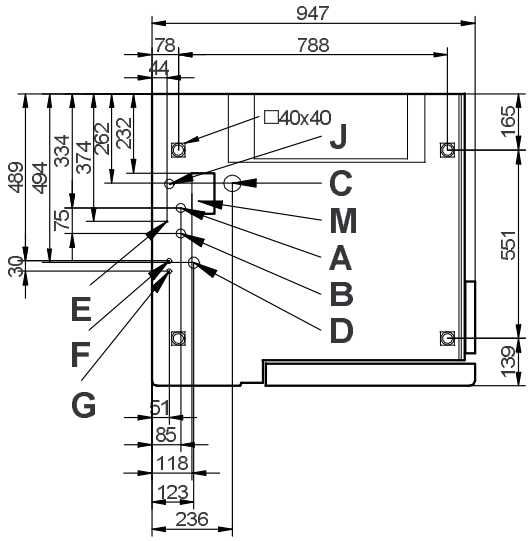

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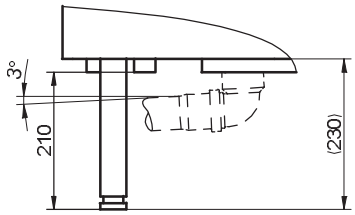

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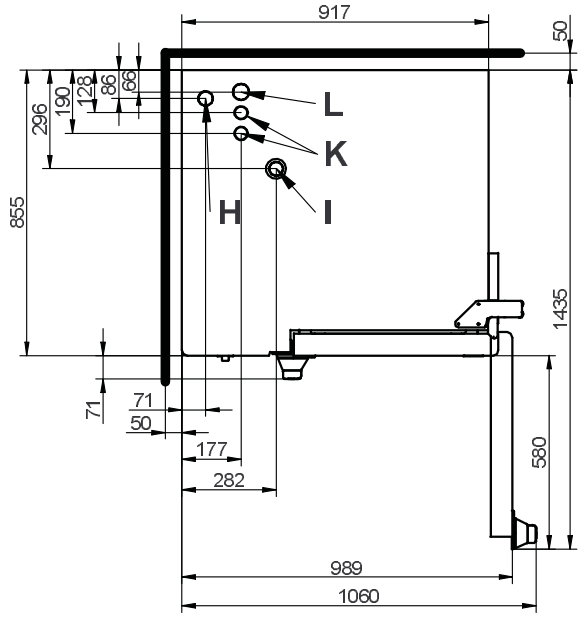

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OGB 20.20

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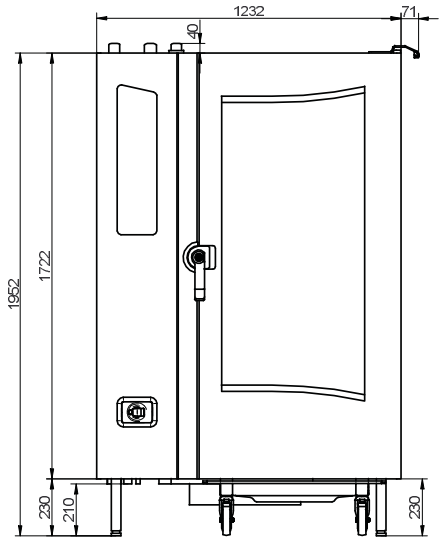

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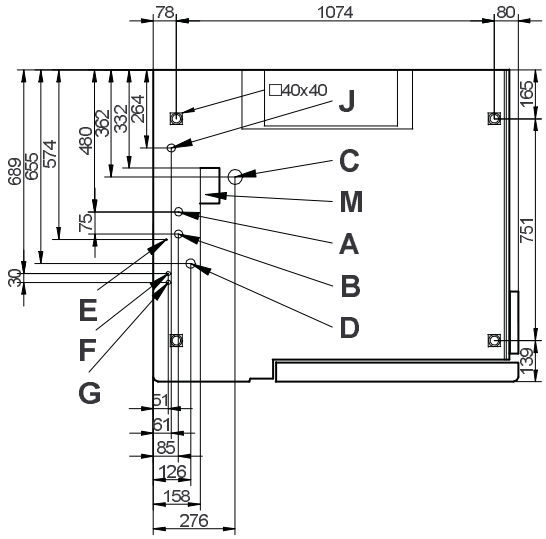

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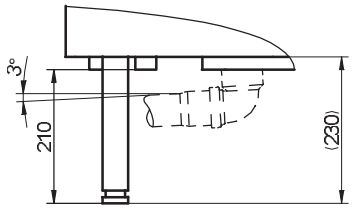

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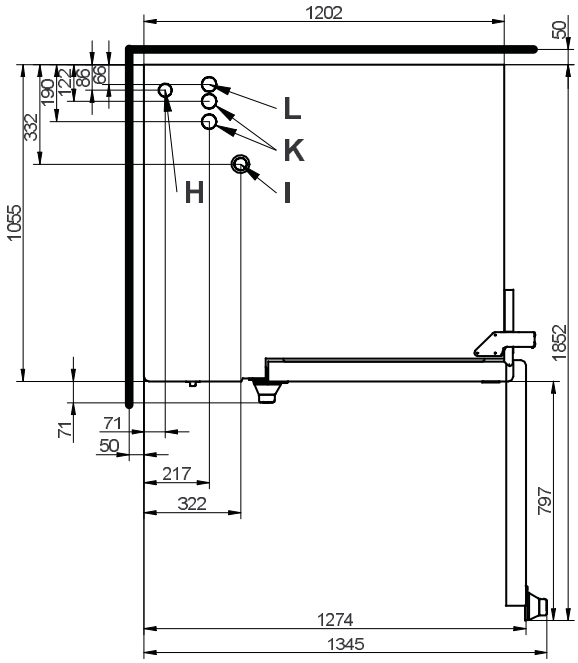

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9 Checklists and completion of installation

Purpose of this chapter

This chapter contains the installation checklists and instructions for the user. The checklists are used to prove that the combi steamer has been installed correctly.

Contents

This chapter contains the following topics:

Checklist: Installation

Requirements

The combi steamer has been set up and connected by qualified personnel of an approved customer service office in accordance with the requirements given in this installation manual.

Target reader

The following check lists are aimed at that person employed by the approved customer service office who has overall responsibility for preparing the appliance for first-time use (start-up engineer).

Action

As start-up engineer, enter the basic information and check the installation against the following check-lists.
Check the box of those conditions that have been satisfied.

Basic information

Enter the basic information below.

Location of installed appliance	
Appliance number (as given on type plate)	
Product number (as given on type plate)	

Installation

Check the following points and check them off in the boxes.

Requirements for the installation location	Yes
Is the combi steamer set up horizontally?	☐
Can air flow freely around the base of the appliance? The area under the appliance must not be blocked or obstructed by objects.	☐
Are the air-vent and gas-flue pipes completely open and not covered by any objects?	☐
Safety clearances	**Yes**
Does the minimum distance from the nearest heat source equal 500 mm on all sides of the appliance?	☐
Are deep-fat fryers or cooking appliances that use hot, uncovered fat located at a distance greater than the radius of action of the hand shower?	☐
Electrical supply	**Yes**
Does the electrical safety cut-out at the customer's site comply with local regulations?	☐
Has the customer connected an accessible all-pole disconnection device with a minimum contact separation of 3 mm on the line side close to the appliance?	☐
Is the appliance integrated in an equipotential bonding system?	☐
Is the appliance protected by a ground fault circuit interrupter with appropriate rated current as stipulated in the relevant installation regulations?	☐
Is the combi steamer protected by its own separate circuit breaker, i.e. the circuit breaker is not shared with other loads?	☐
Have all connecting terminals been checked for a secure connection and tightened if necessary?	☐
Water supply	**Yes**
Is the appliance connected to the drinking water/cold water supply?	☐
Does the water hardness exceed the maximum permitted level? no ☐ yes ☐ If yes, what corrective steps have been taken:	
Does the flow pressure/water pressure comply with the following specifications:	
Appliance **without** automatic cleaning: Pressure >2 bar and <6 bar, or >200 kPa and <600 kPa?	☐
Appliances **with** automatic cleaning: Pressure >3 bar and <6 bar, or >300 kPa and <600 kPa?	☐
Is a water treatment system installed (water filter)?	☐
Has the water drain been installed with a fixed connection?	☐

Water supply	Yes
Has the water drain been installed with an open drain connection?	☐

	Yes
Table-top appliances:	☐
Is the funnel trap situated beside the combi steamer?	
Table-top appliances:	☐
Is the funnel trap situated behind the combi steamer?	
Floor-standing appliances:	☐
Has the water drain been installed with an open tank?	
Floor-standing appliances:	☐
Has the water drain been installed with a gully?	
Table-top and floor-standing appliances:	
Has a different drain installation been chosen?	

Is the size of the customer's water drain pipe at least DN 50?	☐
Does the water drain have a slope of at least 5 % or 3° ?	☐

Gas supply	Yes
Has the gas system and flue system been installed correctly?	☐
Has the gas system and flue system been approved by the registered chimney sweep?	☐
Are there only non-flammable ceilings/materials above the appliance?	☐

Installation	Yes
Has the protective film been removed from the appliance?	☐

Checklist: Safety devices and warnings

Requirements

The combi steamer has been set up and connected by a qualified person in accordance with the requirements given in this installation manual.

Checklist for safety devices

Check the following safety devices and check them off in the boxes.

Safety device	Yes
Left-hand side cover of the appliance is fitted	☐
Control panel is fitted	☐
Appliance door has no scratches, cracks or dents	☐
On-latch position of appliance door is working	☐
suction panel is fitted	☐
Magnetic door switch: electric door sensor for appliance door is working	☐
Emergency opening of appliance door is working	☐
Preheat bridge is fitted (on floor-standing appliances)	☐

Checklist for warnings

Check that the following warnings are present and check them off in the boxes.

Oven door above the door handle		Yes
	Warning of hot liquids	☐
	Warning of hot steam and vapor	☐
	For CONVOClean *system*: Warning of corrosive cleaning agents injected into oven	☐
Left-hand side cover of the appliance		**Yes**
	Warning of electric shock	☐
Floor-standing appliances only: Loading trolley		**Yes**
	Warning of hot liquids	☐

Checklist: Customer guidance and instruction - safety

Customer guidance and instruction - safety

Inform the customer of the following operational and safety-related points, checking off the relevant check box as you go:

User manual

Before working with the combi steamer, the user must familiarize himself/herself with the appliance and must have read the user manual, in particular the chapter "For your safety".

Customer has been referred to the chapter "For your safety" in the user manual.	☐

Intended use

The combi steamer must only be used for the purposes specified below:

- The combi steamer is designed and built solely for cooking different foodstuffs. Steam, convection and superheated steam are used for this purpose.
- The combi steamer is intended solely for professional, commercial use.
- The ambient temperature must lie between 4°C and 35°C.

In addition, the combi steamer is only being used as intended when the following conditions are met:

- To avoid accidents and damage to the combi steamer, the owner must train staff regularly. The combi steamer must only be operated by trained staff.
- The manufacturer regulations for operation and maintenance of the combi steamer must be observed.

Customer has been advised as to proper use	☐

Restrictions on use

The following restrictions on use must be observed:

- The combi steamer must not be operated in toxic or potentially explosive atmospheres.
- The combi steamer must only be operated at ambient temperatures between +4°C and +35°C.
- The combi steamer must only be used by trained personnel.
- The combi steamer must be suitably sheltered from the rain and wind if operated outdoors.
- The combi steamer must not be loaded over the maximum permissible loading weight for the given model.
- The combi steamer must only be operated when all safety devices are fitted and in working order.
- Dry powder or granulated material must not be heated in the combi steamer.
- Highly flammable objects with a flash point below 270 °C must not be heated in the combi steamer. These include items such as highly flammable oils, fats or cloths (kitchen cloths).
- Food in sealed tins or jars must not be heated in the combi steamer.

Customer has been advised of the restrictions on use	☐

Risk of explosion

⚠DANGER

Risk of explosion from escaping gas

Escaping gas can ignite and cause an explosion.

If you smell gas, follow the instructions below:

- Cut off the gas supply immediately.
- Ventilate the room thoroughly.
- Avoid creating a spark (e.g. by operating a switch, using a phone or touching electrical switching elements).
- Tell the gas supplier or even the fire brigade (external telephone).
- Leave the building together with all other personnel.

Customer has been warned of the risk of explosion ☐

Electric shock

⚠DANGER

Risk of electric shock from live parts

There is a risk of electric shock from touching live parts located under the covers.

- Never open any covers.
- Never remove any covers.
- Disconnect the combi steamer from the power supply outside working hours.

Customer has been warned of the risk of electric shock ☐

Electric shock

⚠DANGER

Risk of electric shock from live parts

Water on the exterior of the combi steamer can cause a short-circuit, which may result in electric shock on touching the combi steamer.

- Do not spray the exterior of the combi steamer with water.
- Protect from rain if operated outdoors.

Customer has been warned of the risk of electric shock ☐

Hot surfaces

⚠WARNING

Risk of burns from high temperatures inside the oven and on the inside of the appliance door

You may get burnt if you touch any of the interior parts of the oven, the inside of the appliance door or any parts that were inside the oven during cooking.

- Wear personal protection equipment as specified in safety regulations.

Customer has been warned of the risk of burns ☐

Risk of burns

⚠WARNING

Risk of burns if water splashes into hot fat

There is a risk of burns for the operator if water splashes into hot oil/grease.

- Make sure that there are no deep-fat fryers or uncovered pans of fat within the radius of action of the hand shower.
- Follow the instructions given in the section "Requirements for the installation location".

Customer has been warned of the risk of burns ☐

Hot steam

⚠WARNING

Risk of scalding from hot steam

If water is sprayed into the hot oven using the hand shower, steam will be produced that may scald.

- Do not clean until the oven interior has cooled to below 60 °C.

Customer has been warned of the risk of scalding ☐

Hot liquids

⚠WARNING

Risk of scalding from hot liquids

Spilling liquid foods can result in scalds to face and hands.

- Those containers holding liquids or food that will liquefy during cooking must only be placed on shelves that are below a height of 1.60 m, indicated by the warning sign "Hot Liquids" on the appliance or loading trolley. Only these shelves can be seen by all users.
- During loading, make sure that the racks are fixed in place properly.
- Insert the containers correctly into the U-rail of the rack. Do not place containers on the top rail.
- Engage the transport securing mechanism of the shelf rack on the transport trolley.
- During movement, cover containers holding hot liquids.
- Always cover hot liquids when conveying them on the transport trolley or loading trolley.
- Take care not to tilt the transport trolley carrying the shelf rack, or the loading trolley.

Customer has been warned of the risk of scalding ☐

Hot steam / vapor

⚠WARNING

Risk of scalding from hot steam and vapor

Escaping hot steam and vapor can cause scalding to face, hands, feet and legs.

- Open the appliance door as specified in the user manual. Never put your head into the oven!
- For floor-standing appliances, insert the preheat bridge if there is no loading trolley in the combi steamer during preheating.

Customer has been warned of the risk of scalding ☐

Skin and eye irritation / chemical skin burns

⚠WARNING

Risk of skin and eye irritation / chemical skin burns

The CONVOClean forte and CONVOCare cleaning agents will irritate/burn the skin and eyes if there is any direct contact, and care must be exercised when handling the cleaning canisters.

- ▶ Do not let CONVOClean forte or CONVOCare come into contact with eyes or skin.
- ▶ Never open the appliance door during fully automatic cleaning.
- ▶ Wear protective gloves and safety goggles as specified in safety data sheet.

Customer has been warned of the risks associated with using cleaning agents ☐

Cleaning agents coming into contact with food

⚠WARNING

Risk of cleaning agents coming into contact with food

If the CONVOClean and CONVOCare connections are swapped over, there is a health risk from eating the cooked dishes.

- ▶ Make sure that CONVOClean and CONVOCare are connected correctly.
- ▶ Use only products approved by the manufacturer.

Customer has been warned of the risk of cleaning agents coming into contact with food ☐

Risk of crushing

⚠CAUTION

Risk of hand injuries from crushing

When cleaning the appliance door and interior door there is the risk that you will crush your hand.

- ▶ Take care not to place your hand between door and end stop on the right-hand side of the appliance door or interior door.

Customer has been warned of the risk of hand injuries ☐

Contamination hazard

⚠WARNING

Risk from microbiological contamination of food

When loading the oven ahead of time, e.g. for pre-setting the start time of the cooking program, the cold chain of chilled foodstuffs may be broken.

▶ When planning the loading times, always ensure there is no break in the cold chain.

Customer has been warned of the risk of contamination	☐

Interrupting cooking

⚠WARNING

Risk from microbiological contamination of food

Micro-organisms may multiply if cooking is interrupted.

▶ Make sure that you do not interrupt the cooking process.

Customer has been warned of the risk of microbiological contamination	☐

Checklist: Customer guidance and instruction - operation and maintenance

Customer guidance and instruction - operation and maintenance

Inform the customer of the following points, checking off the relevant check box as you go:

Operation and maintenance	Yes
Inform the customer that...	
operating personnel must be trained in how to operate the combi steamer and must be taught about the appliance safety devices before starting work.	☐
it is essential to check the combi-steamer safety devices (see the chapter "For your safety" in the user manual).	☐
it is not permitted to fit any combustible materials above the appliance or place them on the appliance.	☐
the gas flue pipe (rear left), its seal and the flue gases are very hot. Hot flue gases and hot sheet metal parts can cause burns.	☐
the combi steamer must only be operated when all safety devices are working correctly.	☐
the combi steamer must only be operated when all equipment covers and panels are fitted correctly.	☐
cleaning and maintenance work needs to be performed. Discuss with the customer the cleaning and maintenance schedule in the user manual.	☐
the annual service of gas components is essential.	☐
CONVOClean cleaning agent only must be used. Otherwise there is a risk of chemical burns to the lungs and skin.	☐
the appliance must not be cleaned with high-pressure cleaners or water jets.	☐
the hand shower must only be used for cleaning inside the oven. Do not spray it onto gas supply connections, ventilation holes or flue gas outlets.	☐
the combi steamer must not be exposed to acids or acid fumes. There is a risk of corroding the stainless steel of the appliance.	☐
the glass plate must be replaced if it suffers surface damage (e.g. scratches, cracks, dents). There is a risk of the glass breaking.	☐

Completion of the installation

Warranty

The warranty does not cover damage resulting from improper setting up, installation, use, cleaning, maintenance, repair or descaling.

Confirmation that appliance is ready for use

The appliance has been installed in accordance with the requirements given in this installation manual.

date _____

Name of appliance installer (block letters) _____

Signature of appliance installer _____

Confirmation of guidance given to customer

The customer has been informed of important points relating to operation and safety, which have been checked off against the checklist.

date _____

Name of customer (block letters) _____

Signature of customer _____

Return of documentation

Please return the completed checklist to:

CONVOTHERM Elektrogeräte GmbH
z. Hd. After Sales Service
Talstraße 35
82436 Eglfing
Germany

Combi steamer

OES OEB OGS OGB /

OES OEB OGS OGB easyTOUCH

7017101_00 02/10

Subject to technical changes.

CONVOTHERM Elektrogeräte GmbH
Talstraße 35
D-82436 Eglfing

Tel,+49 (0) 8847/67-0
Fax +49 (0) 8847/414
info@convotherm.de

www.convotherm.de