



Combi Steamer

Convotherm 4

Installation Manual UL, USA - Original, ENG

Your meal. Our mission.

FOR THE INSTALLER, OPERATOR, RESPONSIBLE OWNER

FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other unit.



WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury and death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.



WARNING

Disconnect power at the main external power switch before servicing or repairing a combi steamer.



WARNING

To reduce the risk of electric shock, do not remove or open cover.
No user serviceable parts inside. Refer servicing to qualified personnel.
Disconnect power supply before servicing.

IMPORTANT

IT IS COMPULSORY TO POST INSTRUCTIONS WHICH ARE TO BE FOLLOWED IN THE EVENT THE USER SMELLS GAS. THESE INSTRUCTIONS MUST BE LOCATED IN A PROMINENT LOCATION, AND BE FULLY UNDERSTOOD BY ALL USERS OF THIS EQUIPMENT. THIS INFORMATION NEED TO BE OBTAINED FROM YOUR LOCAL GAS SUPPLIER.

ALL SERVICE MUST BE PERFORMED BY A QUALIFIED CONVOTHERM AUTHORIZED TECHNICIAN.

KEEP AREA FREE AND CLEAR OF COMBUSTIBLES.

Installation

- Installation of this unit must be done by a licensed professional when installed in the Commonwealth of Massachusetts.
- The wiring diagram is located on the inner part of the side panel.

Customer documentation

- The customer documentation is part of the combi steamer.
- Keep the customer documentation manuals handy at all times so that you can look up any required information.
- Keep the customer documentation manuals for the entire life of the unit.
- Carefully read the installation manual, the operating manual, and the operating instructions before using, handling, and working on this unit.
- If you transfer the combi steamer to a new owner, make sure to give the new owner the customer documentation manuals as well.

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1 General

Purpose of this section

This section provides information on how to identify your combi steamer and how to use this manual.

1.1 Environmental Protection

Policy statement

Our customers' expectations, the legal regulations and standards we have to follow, and our company's reputation are what drives the quality and service behind all our products.

Our environmental management policy is not only designed to ensure that we are always in full compliance with all environmental laws and regulations, but also reflects our commitment to the environment and to continuously improving our performance in this field.

In order to ensure that we meet all of our environmental goals while maintaining the high quality of our products, and that things stay this way, we have developed a quality and environmental management system.

This system meets the requirements set forth in ISO 9001:2008 and ISO 14001:2004.

Environmental protection measures

The following measures apply to this product:

- Uses fully compostable packing products
- Uses RoHS-compliant products
- Complies with the REACH regulation
- Recommends and uses biodegradable cleaning agents
- E-waste recycling
- Environmentally friendly disposal of old units through the manufacturer

Join us in our commitment to protecting the environment!

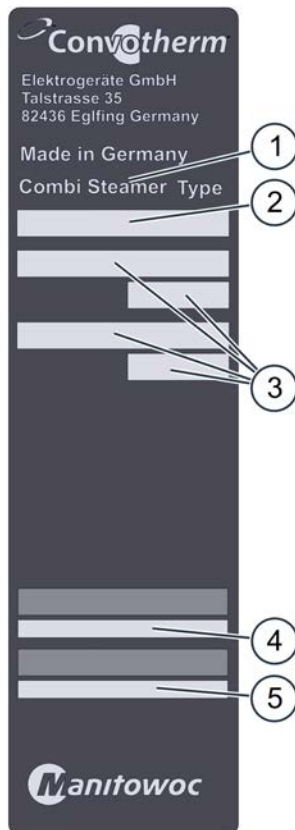
1.2 Identifying Your Combi Steamer

Nameplate location

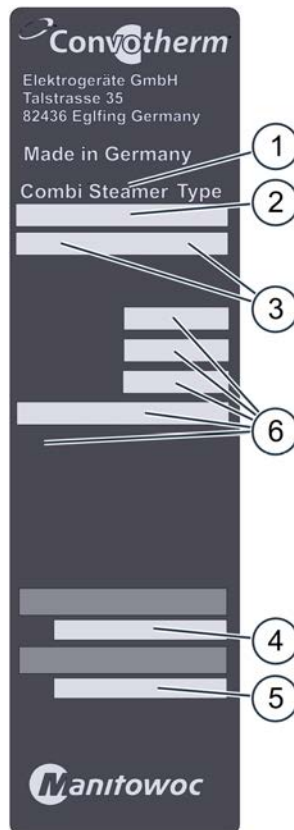
The nameplate is found on the left side of the combi steamer.

Nameplate layout and structure

Electrical units



Gas unit



Designation

1	Unit name	Combi Steamer
2	Trade name	
	Letters	Meaning
	C4	Convotherm 4 line of units
	eT	easyTouch controls
	eD	easyDial controls
	xx.yy numbers	Unit size
	EB	Electrical units with boiler
	ES	Electrical units with water injection
	GB	Gas unit with boiler
	GS	Gas unit with water injection
	-N	On units with NSF certification
3	Electrical specifications	
4	Serial number	
	Letters	Meaning
	Heating method	- Electrical units (X, V) - Gas unit (Y, W)
	Steam generation method	- Sprayer (S) - Boiler (B)
	Unit size	6.10 (1) 6.20 (2) 10.10 (3) 10.20 (4) 12.20 (5) 20.10 (6) 20.20 (7)
	Year of manufacture	2014 (14) 2015 (15) ...
	Month of manufacture	- January (01) - February (02) ...
	Consecutive number	4-digit
5	Item number	
6	Gas specifications	

1.3 Customer Documentation Structure

Customer documentation parts

The customer documentation for the combi steamer is made up of the following:

- Installation manual (this manual)
- Operating manual
- easyTouch operating instructions (extract from the on-screen help pages)
- On-screen help integrated into easyTouch (complete instructions for using the software)
- easyDial Operating Instructions

Installation manual topics

The installation manual is intended for trained qualified personnel; see 'Staff Requirements' on page 45 in the installation manual.

It covers the following topics:

- **Configuration and functions:** Describes the parts that are relevant when installing the combi steamer
- **Safety:** Goes over all the hazards involved in the various installation activities and how to prevent and/or counter them
- **Transportation:** Contains important information on transporting the combi steamer
- **Setup:** Lists and describes the various setup options for the combi steamer
- **Installation:** Goes over all the necessary utility and hose connections
- **Placing into operation:** Explains how to put the combi steamer into operation for the first time
- **Removal from service:** Goes over the activities that need to be carried out at the end of the combi steamer's lifecycle
- **Technical data, connection diagrams:** Contain all the required technical information concerning the combi steamer
- **Checklists:** Includes checklists for the combi steamer's installation and warranty

Operating manual topics

The operating manual is intended for briefed staff and trained qualified staff; see 'Staff Requirements' in the operating manual.

It covers the following topics:

- **Configuration and functions:** Describes the parts that are relevant when using the combi steamer
- **Safety:** Goes over all the hazards involved in using the combi steamer and how to prevent and/or counter them
- **Cooking:** Goes over the various rules, workflows, operating steps, and actions required for cooking
- **Cleaning:** Lists and describes the cleaning methods, cleaning agents, workflows, operating steps, and actions required for cleaning
- **Maintenance:** Contains warranty information; the maintenance schedule; information on faults, errors, and emergency mode; and the workflows, operating steps, and actions required for maintenance

Operating instructions and on-screen help (easyTouch only) topics

The operating instructions and the on-screen help (easyTouch only) are intended for briefed staff and trained qualified staff; see 'Staff Requirements' in the operating manual. For units with easyTouch, the operating instructions will be an extract from the on-screen help pages.

The operating instructions and the on-screen help (easyTouch only) cover the following topics:

- **User interface layout:** Goes over the combi steamer's user interface
- **Using the software:** Contains instructions on how to enter and access cooking profiles, access cleaning profiles, and start cooking and cleaning sequences; describes the various settings and goes over how to import and export data
- **Select cooking profiles:** Lists tried-and-true cooking profiles

1.4 Safety Information That Must Be Read without Exception

Safety information found in the documentation for the customer

Only the installation manual and operating manual provide safety information for the combi steamer.

The installation manual provides safety information for the transportation, setup, installation, placing-into-operation, and removal-from-service tasks it describes.

The operating manual provides safety information for the cooking, cleaning, and maintenance tasks it describes.

When using the operating instructions, the operating manual or installation manual should always be consulted in order to obtain the relevant safety information. When performing activities that go beyond simply using the software, the safety information in the operating manual and installation manual must always be observed.

Parts of this document that must be read without exception

Failure to take the information in this document into account may result in death, injury, or property damage.

In order to ensure their safety and the safety of others, everyone working with/on the combi steamer must read and understand the following parts of this document before starting any work:

- The 'For Your Safety' on page 21 section
- The sections describing the work that will be carried out

Danger symbol

Danger symbol	Meaning
	Used to warn of potential injury. Observe all the precautionary statements following this symbol in order to avoid injury or death.

Precautionary statements

The precautionary statements in this manual are categorized using the following hazard levels:

Hazard level	Consequences	Likelihood
 DANGER	Death / severe injury (irreversible)	Imminent
 WARNING	Death / severe injury (irreversible)	Potential
 CAUTION	Minor injury (reversible)	Potential
NOTICE	Property damage	Potential

1.5 About This Installation Manual

Purpose

The purpose of this installation manual is to provide everyone working with/on the combi steamer with the information they will need to transport, set up, install, and place the unit into operation safely and correctly.

Target groups for this installation manual

Name of target group	Tasks
Person placing the unit into operation (service technician)	- Responsible overall for placing the combi steamer into operation - Briefing the user
Combi steamer owner or the owner's employee who is responsible for the unit	- Briefed on all of the combi steamer's safety-relevant functions, mechanisms, and devices by the person placing the unit into operation - Shown how the unit is operated by the person placing the unit into operation - If necessary, helping out as directed with transportation within the facilities and with setting up the unit
Mover	Transporting the unit within the facilities
Service technician	- Setting up the unit - Installing the fully automatic oven cleaning system ConvoClean / ConvoClean+ (optional) - Placing the unit into operation and removing it from service
Electrician	- Connecting the unit to the electrical connection at the facilities - Uninstalling electrical connections
Water and wastewater installer	- Connecting the unit to the water connection at the facilities - Uninstalling water connections - Connecting the unit to the drain connection at the facilities - Uninstalling the drain connection
Gas technician	Installing and uninstalling gas connections

Installation manual outline

Section / sub-section	Purpose
General	- Helps identify your unit - Explains how to use this installation manual
Configuration and Functions	- Describes the unit's intended use - Explains the unit's functions and describes where its components are located
For Your Safety	Describes all the risks and hazards posed by the unit, as well as appropriate instructions on how to prevent and/or counter them Read this section carefully!
Transportation	- Provides basic unit dimensions - Explains how to transport the unit to its installation location
Setup	- Provides information on adjacent systems used for exhaust and extraction purposes - Provides information on the requirements concerning the installation location - Explains how to unpack the unit and goes over the included equipment and parts - Explains how to set up the unit

Section / sub-section	Purpose
Installation	Explains how to install: ▪ Electrical specifications ▪ Gas ▪ The water and wastewater systems ▪ Exhaust gas and exhaust air systems ▪ The ConvoClean+ / ConvoClean fully automatic cleaning system
Placing into operation	Explains how to put the unit into operation
Removal from service and Disposal	▪ Explains how to remove the unit from service ▪ Provides disposal information
Technical data	Contains technical specifications
Connection drawings	Contains drawings with dimensions and connection points
Checklists and Completing the Installation	▪ Contains the checklists for ▪ Installation ▪ Safety guards, safety devices, and warning labels ▪ Customer briefing ▪ Provides warranty information and goes over how to use the checklists at the end

Decimal mark used

In order to ensure that all numbers can be properly understood internationally, a decimal point is always used.

2 Configuration and Functions

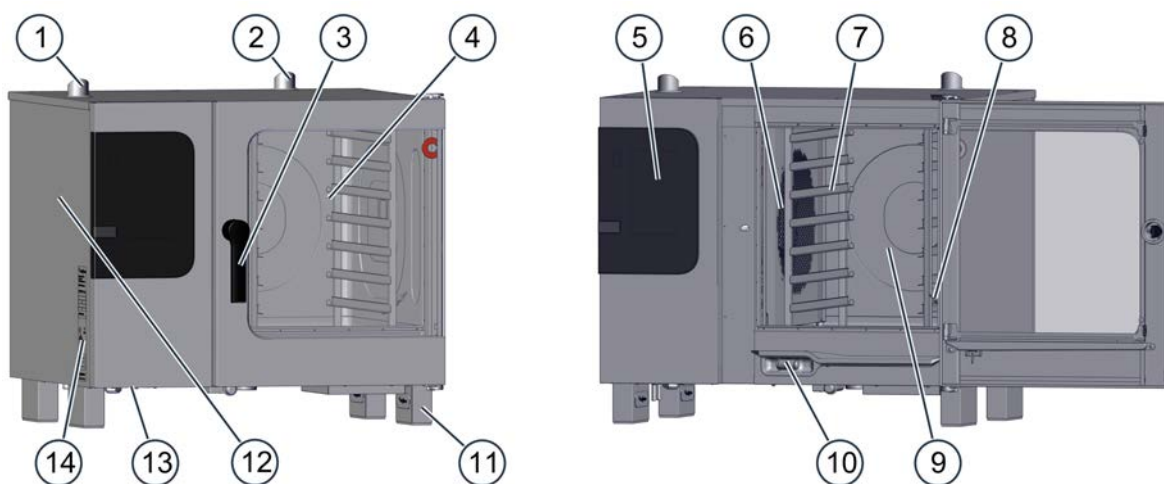
Purpose of this section

This section describes the combi steamer's configuration and explains its functions.

2.1 The Combi Steamer's Configuration and Functions

Parts and functions (electrical table-top models)

The figure below shows a size 6.10 combi steamer used as an example representing all electrical table-top models:

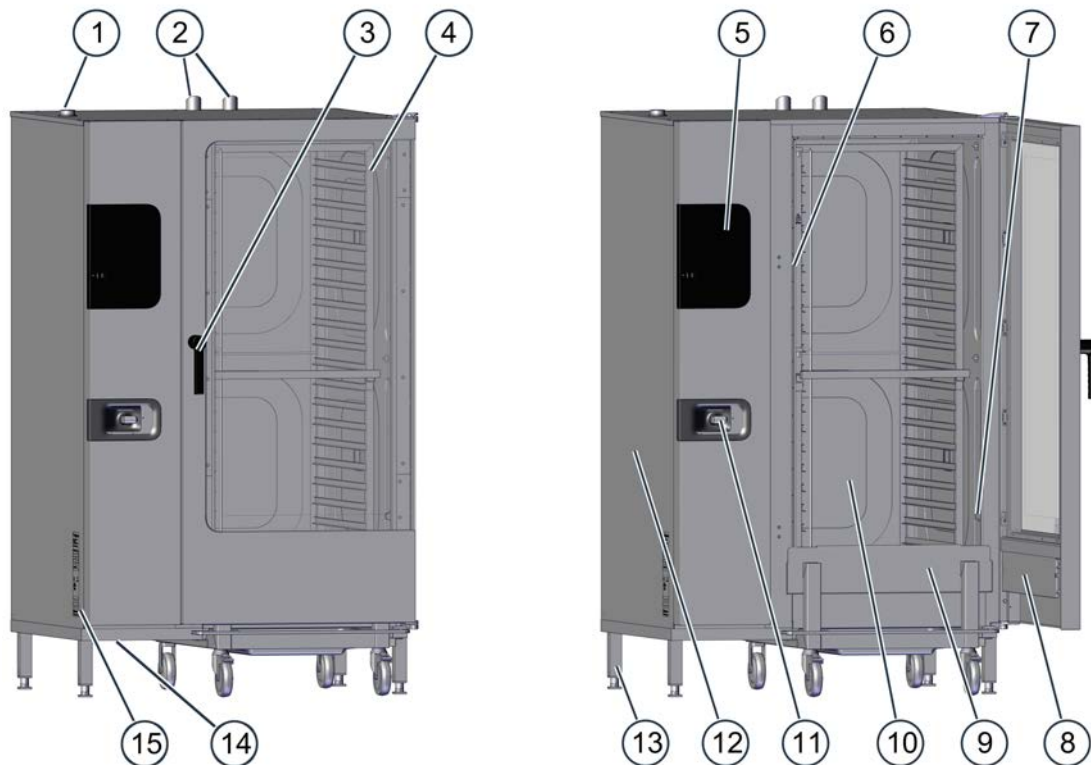


No.	Designation	Function
1	Ventilation port	- Draws in ambient air in order to remove moisture from the oven cavity - Compensates for pressure fluctuations inside the oven cavity
2	Air vent	Lets hot steam escape
3	Door handle	- Used to open and close the unit door - Cracked-open position for safely opening the unit ('safety lock') - Closing-shut function - Antibacterial material with silver ions ("HygienicCare")
4	Unit door	- Seals the oven cavity - When opened, it can be slid backwards along the unit's side in order to save space ('disappearing door') (optional)
5	Operating panel	- Used to operate the unit - Antibacterial ("HygienicCare")
6	Suction panel	- Used to distribute heat uniformly within the oven cavity - Separates the fan compartment from the oven cavity
7	Rack	Used to hold standard-size bakeware
8	Core temperature probe, sous vide probe (optional)	- Used to measure the food's internal temperature - Available as an internal version that is permanently connected inside the oven and/or as an external version that can be temporarily connected
9	Oven cavity	Is where food is placed while it is being cooked
10	Recoil hand shower (not included in certain units)	- Meant exclusively for rinsing the oven cavity with water - Is retracted automatically into its holder after being used - Antibacterial ("HygienicCare")
11	Unit feet	Are height-adjustable so as to make it possible to level the unit

No.	Designation	Function
12	Side panel	Covers the unit's wiring compartment
13	Vents at the bottom of the unit	- Used to ventilate the unit - Must not be blocked
14	Nameplate	Used to identify the unit

Parts and functions (electrical floor-standing models)

The figure below shows a size 20.20 combi steamer used as an example representing all electrical floor-standing models:

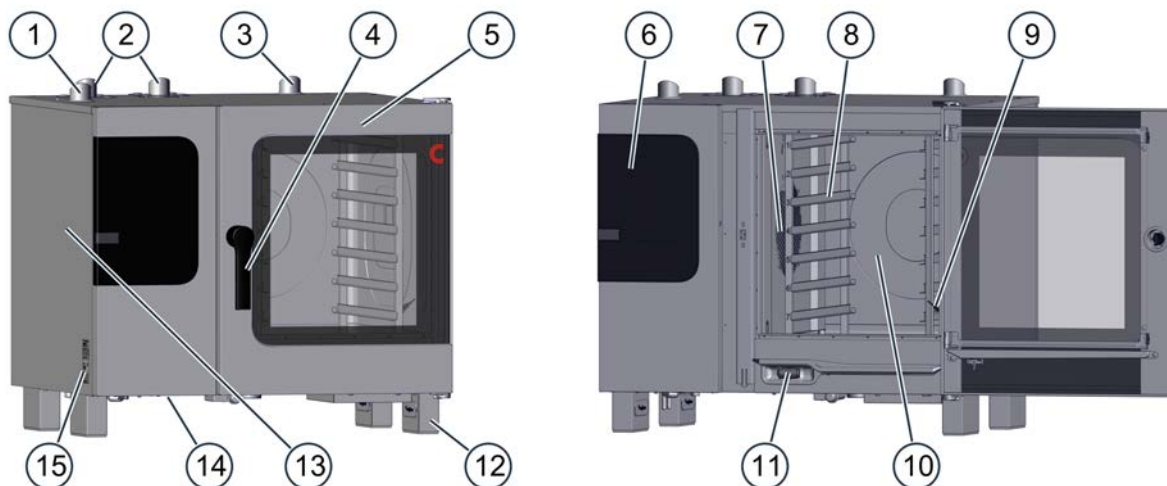


No.	Designation	Function
1	Ventilation port	- Draws in ambient air in order to remove moisture from the oven cavity - Compensates for pressure fluctuations inside the oven cavity
2	Air vent	Lets hot steam escape
3	Door handle	- Used to open and close the unit door - Cracked-open position for safely opening the unit - Antibacterial material with silver ions ("HygienicCare")
4	Unit door	- Seals the oven cavity - When opened, it can be slid backwards along the unit's side in order to save space ('disappearing door') (optional)
5	Operating panel	- Used to operate the unit - Antibacterial ("HygienicCare")
6	Suction panel	- Used to distribute heat uniformly within the oven cavity - Separates the fan compartment from the oven cavity
7	Core temperature probe, sous vide probe (optional)	- Used to measure the food's internal temperature - Available as an internal version that is permanently connected inside the oven and/or as an external version that can be temporarily connected

No.	Designation	Function
8	Integrated preheat bridge in unit door	Works as a safety element during pre-heating and reduces energy losses
9	Loading trolley	Used to hold standard-size bakeware
10	Oven cavity	Is where food is placed while it is being cooked
11	Recoil hand shower (not included in certain units)	- Meant exclusively for rinsing the oven cavity with water - Is retracted automatically into its holder after being used - Antibacterial ("HygienicCare")
12	Side panel	Covers the unit's wiring compartment
13	Unit feet	Are height-adjustable so as to make it possible to level the unit
14	Vents at the bottom of the unit	- Used to ventilate the unit - Must not be blocked
15	Nameplate	Used to identify the unit

Parts and functions (gas table-top models)

The figure below shows a size 6.10 combi steamer used as an example representing all gas table-top models:

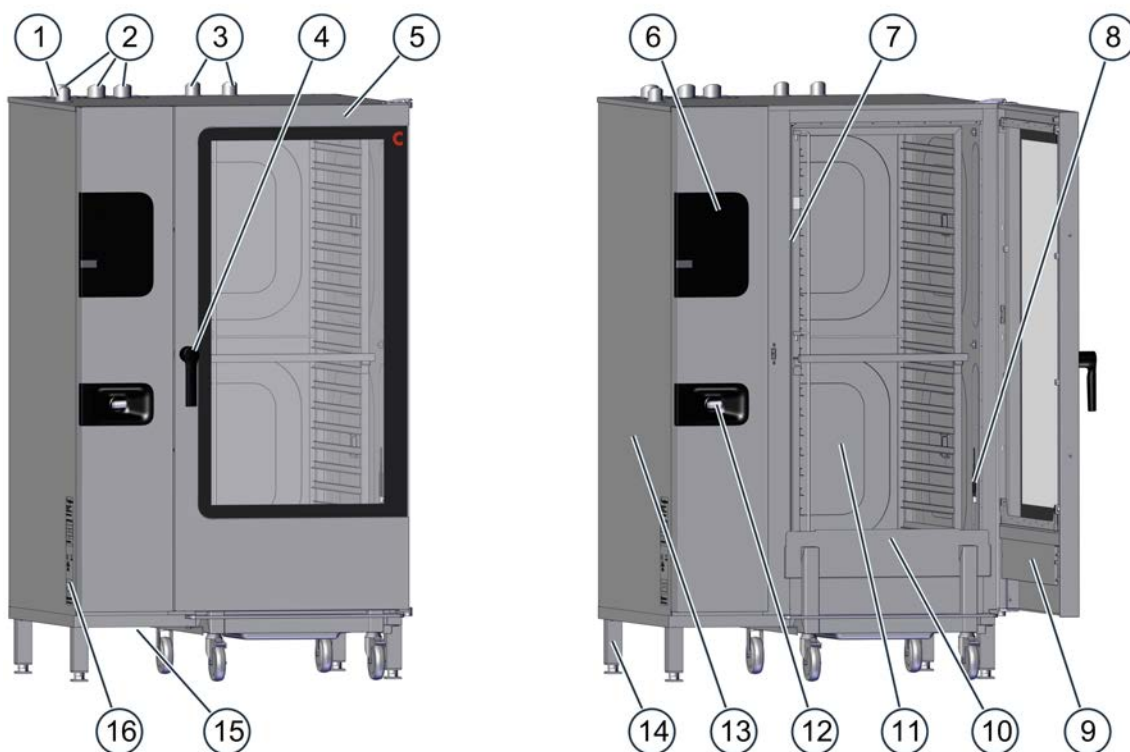


No.	Designation	Function
1	Ventilation port	- Draws in ambient air in order to remove moisture from the oven cavity - Compensates for pressure fluctuations inside the oven cavity
2	Exhaust outlet	Discharges hot exhaust gases
3	Air vent	Lets hot steam escape
4	Door handle	- Used to open and close the unit door - Cracked-open position for safely opening the unit ('safety lock') - Closing-shut function - Antibacterial material with silver ions ("HygienicCare")
5	Unit door	- Seals the oven cavity - When opened, it can be slid backwards along the unit's side in order to save space ('disappearing door') (optional)
6	Operating panel	- Used to operate the unit - Antibacterial ("HygienicCare")
7	Suction panel	- Used to distribute heat uniformly within the oven cavity - Separates the fan compartment from the oven cavity
8	Rack	Used to hold standard-size bakeware

No.	Designation	Function
9	Core temperature probe, sous vide probe (optional)	- Used to measure the food's internal temperature - Available as an internal version that is permanently connected inside the oven and/or as an external version that can be temporarily connected
10	Oven cavity	Is where food is placed while it is being cooked
11	Recoil hand shower (not included in certain units)	- Meant exclusively for rinsing the oven cavity with water - Is retracted automatically into its holder after being used - Antibacterial ("HygienicCare")
12	Unit feet	Are height-adjustable so as to make it possible to level the unit
13	Side panel	Covers the unit's wiring compartment
14	Vents at the bottom of the unit	- Used to ventilate the unit - Must not be blocked
15	Nameplate	Used to identify the unit

Parts and functions (gas floor-standing models)

The figure below shows a size 20.20 combi steamer used as an example representing all gas floor-standing models:

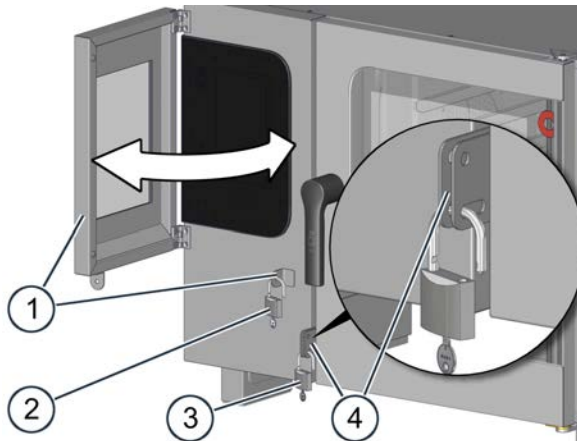


No.	Designation	Function
1	Ventilation port	- Draws in ambient air in order to remove moisture from the oven cavity - Compensates for pressure fluctuations inside the oven cavity
2	Exhaust outlet	Discharges hot exhaust gases
3	Air vent	Lets hot steam escape
4	Door handle	- Used to open and close the unit door - Cracked-open position for safely opening the unit - Antibacterial material with silver ions ("HygienicCare")

No.	Designation	Function
5	Unit door	- Seals the oven cavity - When opened, it can be slid backwards along the unit's side in order to save space ('disappearing door') (optional)
6	Operating panel	- Used to operate the unit - Antibacterial ("HygienicCare")
7	Suction panel	- Used to distribute heat uniformly within the oven cavity - Separates the fan compartment from the oven cavity
8	Core temperature probe, sous vide probe (optional)	- Used to measure the food's internal temperature - Available as an internal version that is permanently connected inside the oven and/or as an external version that can be temporarily connected
9	Integrated preheat bridge in unit door	Works as a safety element during pre-heating and reduces energy losses
10	Loading trolley	Used to hold standard-size bakeware
11	Oven cavity	Is where food is placed while it is being cooked
12	Recoil hand shower (not included in certain units)	- Meant exclusively for rinsing the oven cavity with water - Is retracted automatically into its holder after being used - Antibacterial ("HygienicCare")
13	Side panel	Covers the unit's wiring compartment
14	Unit feet	Are height-adjustable so as to make it possible to level the unit
15	Vents at the bottom of the unit	- Used to ventilate the unit - Must not be blocked
16	Nameplate	Used to identify the unit

Parts and functions for special locking feature (security model only)

The figure below shows a special locking feature for enhanced security on a size 6.10 combi steamer used as an example representing all unit sizes:



No.	Designation	Function
1	Lockable operating panel cover	The cover can be swung in and secured onto the unit case so that it covers the operating panel, preventing unauthorized users from operating the combi steamer.
2	Padlock	- Used to secure the operating panel cover onto the unit case - Not included

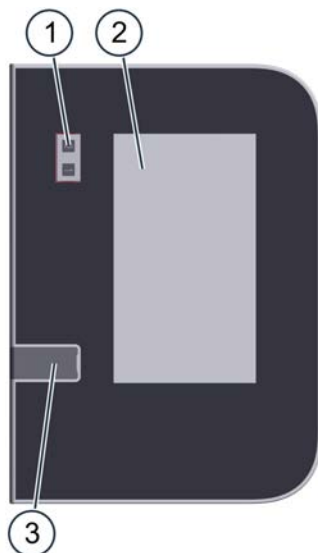
No.	Designation	Function
3	Padlock	▪ Used to secure the unit door onto the unit case ▪ Not included
4	Unit door hasp	Features two different slots that can be used to lock the unit door in order to prevent unauthorized users from opening and closing it Unit door action: ▪ If the unit door is locked using the upper slot, the door will always be fully closed. ▪ If the unit door is locked using the lower slot, it will be possible to open the door all the way to the cracked-open position.

Material

The unit's inner and outer parts are made of stainless steel.

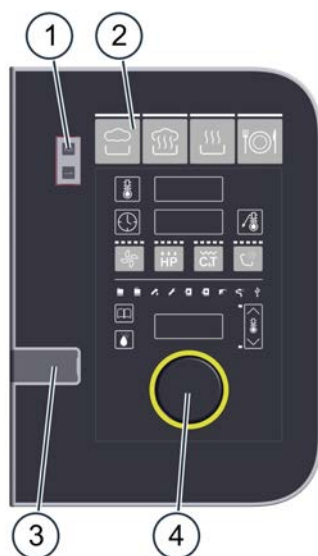
2.2 Operating Panel Layout and Functions

Operating panel layout and parts in easyTouch



No.	Designation	Function
1	Unit ON/OFF switch	Used to turn the combi steamer on and off
2	Full-touch display	The unit's central control interface - Used by touching the icons on the full-touch display - Status indicators
3	USB port	Used to plug in a USB stick

Operating panel layout and parts in easyDial



No.	Designation	Function
1	Unit ON/OFF switch	Used to turn the combi steamer on and off
2	Control panel	The unit's central control interface - Buttons used to enter cooking programs - Displays used to indicate configured values - Prompt indicators for the operator
3	USB port	Used to plug in a USB stick
4	C-Dial	Used to set cooking parameters by turning and pressing the encoder.

3 For Your Safety

Purpose of this section

The purpose of this section is to provide you with all the information you will need in order to safely work with/on the combi steamer without putting yourself and others at risk.

Read this section very carefully!

3.1 Basic Safety Instructions

Purpose of these instructions

The purpose of these instructions is to ensure that everyone working with and on the combi steamer will be fully aware of all the risks, hazards, and safety requirements involved and will observe the warnings in the operating manual and on the combi steamer. Failure to follow these instructions may result in death, injury, or property damage.

Customer documentation manuals

Follow the instructions below:

- Fully read the 'For Your Safety' section, as well as the section that applies to the way you will be interacting with the combi steamer.
- Keep the customer documentation manuals handy at all times so that you can look up any required information.
- If you transfer the combi steamer to a new owner, make sure to give the new owner the customer documentation manuals as well.

Basic rules for installation

The unit must be installed in compliance with all national and state laws and regulations, with all applicable local requirements and regulations set forth by the relevant local utility companies and authorities, and with all other relevant regulations and standards.

These include, but are not limited to:

- The National Electrical Code, ANSI/NFPA 70 (current edition)
- The Canadian Electrical Code, CSA C22.2
- National Fuel Gas Code, ANSI Z223.1 /NFPA 54 (latest version)
- Natural Gas and Propane Installation Code, CSA B149.1
- The Food Code and Food Service Sanitation Manual published by the Food and Drug Administration (FDA) (current editions)
- Latest edition of the International Plumbing Code published by the International Code Council (ICC) or the Uniform Plumbing Code published by the International Association of Plumbing and Mechanical Officials (IAPMO)
- The standards published by the National Sanitation Foundation (NSF)
- All local fire protection and occupational health and safety regulations

Working with/on the combi steamer

Follow the instructions below:

- Only people who meet all the requirements specified in this operating manual should be allowed to use and otherwise work with/on the combi steamer.
- Only use the combi steamer for its intended use as described in this manual. Never, under any circumstance, use the combi steamer for other purposes, even if they seem obvious.
- Observe all the safety measures specified in this operating manual and on the combi steamer. This applies especially to wearing the required personal protective equipment.
- Make sure to always stay in the specified work areas when working with/on the combi steamer.
- Do not make any alterations to the combi steamer. This includes removing components and adding components that have not been expressly approved. Above all, however, make sure not to disable any safety devices or guards.

For more information...

Related subjects

▷ Your Combi Steamer's Intended Use	23
▷ Warning labels on combi steamer table-top models	25
▷ Warning labels on combi steamer floor-standing models	28
▷ Hazards and Safety Measures When Moving the Unit	31
▷ Hazards and Safety Measures During Setup	32
▷ Hazards and Safety Measures During Installation	33
▷ Hazards and Safety Measures When Putting the Unit into Operation	35
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▷ Safety Devices	41
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3.2 Your Combi Steamer's Intended Use

The combi steamer's intended use

- The combi steamer has been designed and built exclusively for cooking a variety of food in standard-size bakeware (steam table pans, sheet pans, etc.). Steam, convection, and combi-steam (steam superheated without pressure) are used for this purpose.
- The bakeware can be made of stainless steel, ceramic, plastic, aluminum, enameled steel, or glass. Glass bakeware must not be damaged.
- The combi steamer is intended exclusively for professional commercial use.

Limitations on use

The combi steamer should not be used to heat up the following materials:

- Dry powders or granular products
- Readily flammable substances or objects with a flashpoint lower than 518 °F, such as readily flammable oils, fats, and plastics
- Food in sealed cans

Staff requirements

- The combi steamer must be run and installed exclusively by staff meeting the specified requirements. For the corresponding training and qualifications requirements, please refer to 'Staff and Work Area Requirements on page 45.'
- All staff must be familiar with the risks, hazards, and rules involved in handling heavy loads.

Requirements concerning the combi steamer's functional capability

- Do not operate the combi steamer unless it has been properly transported, set up, installed, and placed into operation as indicated in the installation manual and the person responsible for placing it into operation has confirmed this.
- The combi steamer should only be used if all safety devices and guards are present, working properly, and correctly locked in place.
- All manufacturer specifications concerning how to run and service the combi steamer must be observed.
- The load placed inside the combi steamer must never exceed the maximum permissible loading weight; please refer to 'Technical Data' on page 114.

Requirements concerning the combi steamer's surroundings

Required combi steamer surroundings

- Ambient temperature between 40 °F and 95 °F
- No toxic or potentially explosive atmospheres
- Do not use or store gasoline or other flammable vapors, gases, or liquids in the vicinity of a combi steamer
- Dry kitchen floor in order to reduce the risk of accidents occurring

Required installation location characteristics

- NO fire alarms or sprinkler system directly above the unit
- NO flammable materials, gases, or liquids above, on, under, or close to the unit

Limitations on use

- When used outdoors, the unit must be protected from rain and wind
- Do NOT shift or move the unit during operation

Prerequisites for cleaning

- Only use the cleaning agents approved by the manufacturer.
- Do NOT use a pressure washer to clean the unit.
- Do NOT use a water jet to clean the outside of the unit. Do not use the recoil hand shower for anything other than cleaning the oven cavity.
- Do NOT use bases or acids to clean the combi steamer and make sure it is not exposed to acid fumes. The only exception is when the oven cavity and the boiler are descaled by an authorized service company following the manufacturer's instructions.

3.3 Warning labels on combi steamer table-top models

Stationary base

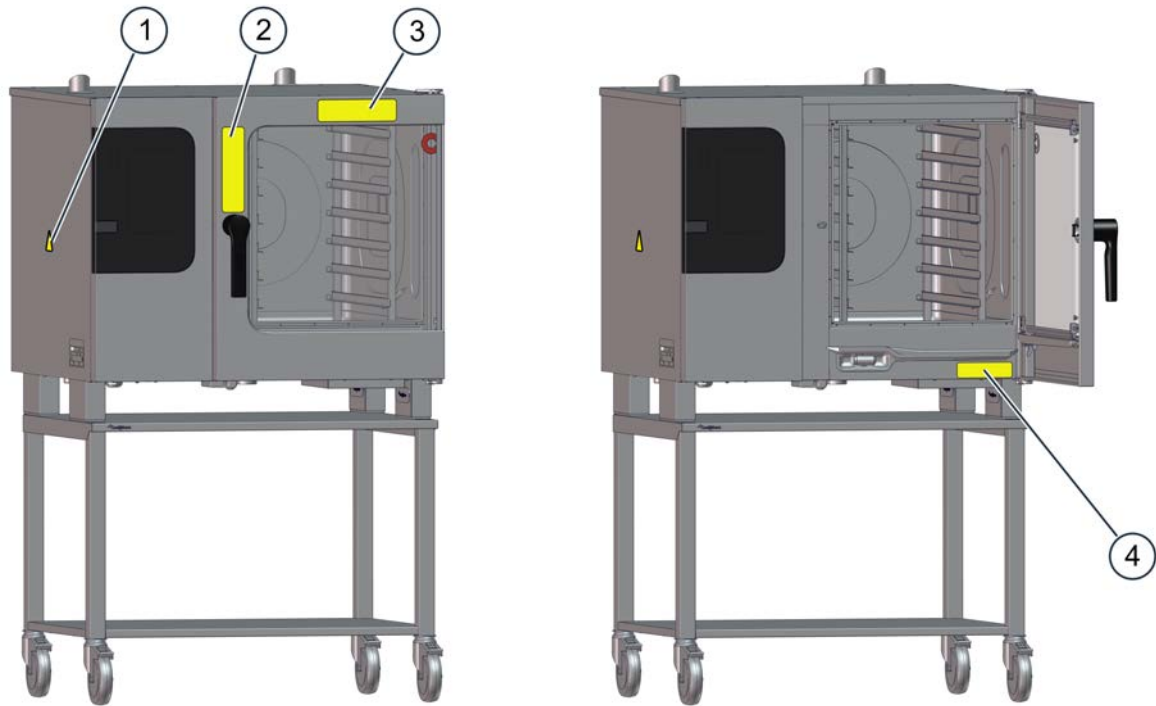
The term 'stationary base' refers to a stationary work table or stand for the combi steamer. These bases are not intended to move and accordingly do not feature any components that would enable them to do so.

Moving base

The term 'moving base' refers, for example, to a work table or stand on casters or to a stacking kit with casters for the combi steamer.

Warning label locations on the unit

The figure below shows a size 6.10 electrical combi steamer with a moving base used as an example representing all table-top models:



Required warning labels on the unit

The following warning labels must always be clearly visible on the combi steamer at the locations shown in the previous figure.

Location	Warning label	Description
1 and 4		WARNING To reduce the risk of electric shock, do not remove or open cover. No user serviceable parts inside. Refer servicing to qualified personnel. Disconnect power supply before servicing. AVERTISSEMENT Afin de réduire le risque d'électrocution, ne pas retirer ou ouvrir le capot. Aucune pièce réparable ne se trouve à l'intérieur. Confier le dépannage à du personnel qualifié. Débrancher l'alimentation électrique avant réparation.

Location	Warning label	Description
2		Hot steam warning There is a risk of scalding posed by the hot steam coming out when the unit door is opened.
2		Hot food, hot bakeware, and hot liquid warning Hot food and hot bakeware can pose a burn hazard if bakeware topples over and out of the shelf levels or if food slides off from bakeware being held in an inclined position. The risk of this occurring is particularly high in the case of shelf levels located above the operator's field of view. Risk of scalding when liquid food is spilled. This hazard exists when liquids, or food that becomes liquefied during cooking, are placed on the upper shelf levels. Do not use shelf levels located above your field of view to hold liquids or food that will become liquefied.
2		Combi steamer tip-over hazard warning for when the combi steamer is placed on a base with casters There is a risk of the combi steamer toppling over when being moved. Exercise extreme caution when moving the combi steamer. When moving the combi steamer, look out for obstacles and uneven surfaces.
2		Unit connection damage and disconnection warning for when the combi steamer is placed on a base with casters There is a risk of the unit's hookups being damaged or disconnected when the combi steamer is moved. Exercise extreme caution when moving the combi steamer and take the connections' length into account. Every time after moving it, secure the combi steamer so that it cannot roll away by accident.
3		CAUTION Do not open combi door during smoking. Outside air entering the combi may cause wood bisquettes to ignite. WARNING The use of improper materials for smoke mode may result in equipment damage or hazards or may shorten the life of the combi. Only use materials listed for smoke mode in the operator's manual.
3		CAUTION Door(s) and handle(s) may be hot. ATTENTION Porte(s) et poignée(s) chaudes

Required warning labels on the optional transport trolley (does not apply to ConvoSmoke)

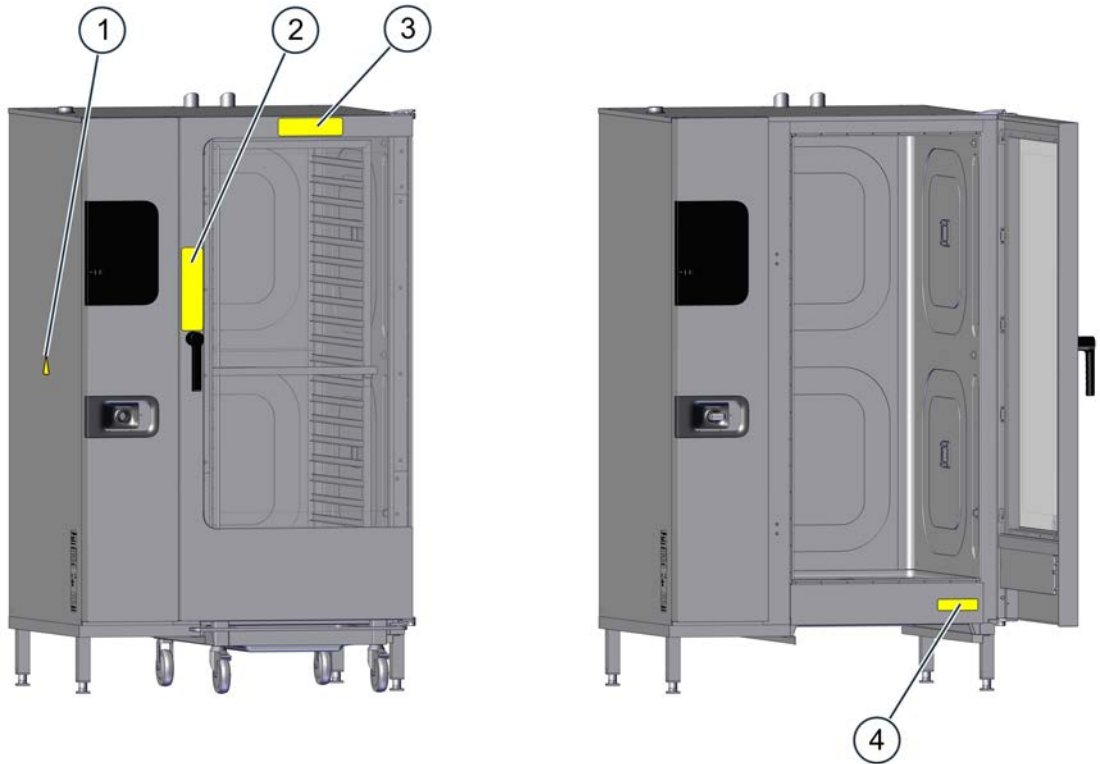
The following warning labels must always be clearly visible on the transport trolley at the location shown in the figure below.

Location 5	Warning label	Description
		Hot food, hot bakeware, and hot liquid warning Hot food and hot bakeware can pose a burn hazard if bakeware topples over and out of the shelf levels or if food slides off from bakeware being held in an inclined position. The risk of this occurring is particularly high in the case of shelf levels located above the operator's field of view. Risk of scalding when liquid food is spilled. This hazard exists when liquids, or food that becomes liquefied during cooking, are placed on the upper shelf levels. Do not use shelf levels located above your field of view to hold liquids or food that will become liquefied.
		Transport trolley tip-over hazard warning There is a risk of the transport trolley toppling over when being moved. Exercise extreme caution when moving the transport trolley. When moving the transport trolley, look out for obstacles and uneven surfaces.

3.4 Warning labels on combi steamer floor-standing models

Warning label locations on the unit

The figure below shows a size 20.20 electrical combi steamer used as an example representing all floor-standing models:



Required warning labels on the unit

The following warning labels must always be clearly visible on the combi steamer at the locations shown in the previous figure.

Location	Warning label	Description
1 and 4		WARNING To reduce the risk of electric shock, do not remove or open cover. No user serviceable parts inside. Refer servicing to qualified personnel. Disconnect power supply before servicing. AVERTISSEMENT Afin de réduire le risque d'électrocution, ne pas retirer ou ouvrir le capot. Aucune pièce réparable ne se trouve à l'intérieur. Confier le dépannage à du personnel qualifié. Débrancher l'alimentation électrique avant réparation.
2		Hot steam warning There is a risk of scalding posed by the hot steam coming out when the unit door is opened.

2

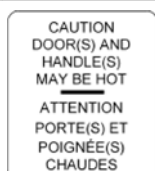


Hot food, hot bakeware, and hot liquid warning

Hot food and hot bakeware can pose a burn hazard if bakeware topples over and out of the shelf levels or if food slides off from bakeware being held in an inclined position. The risk of this occurring is particularly high in the case of shelf levels located above the operator's field of view.

Risk of scalding when liquid food is spilled. This hazard exists when liquids, or food that becomes liquefied during cooking, are placed on the upper shelf levels. Do not use shelf levels located above your field of view to hold liquids or food that will become liquefied.

3



CAUTION

Door(s) and handle(s) may be hot.

ATTENTION

Porte(s) et poignée(s) chaudes

Warning label locations on the loading trolley

The figure below shows a loading trolley and a plate loading trolley for a size 20.20 combi steamer used as examples representing all unit sizes:

Loading trolley

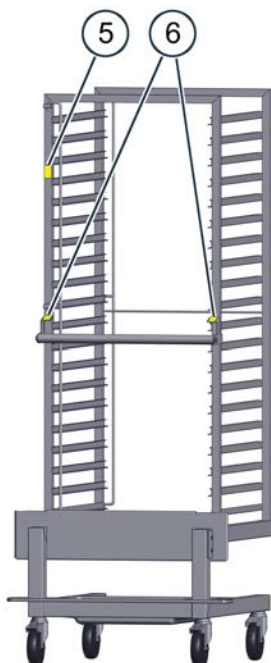
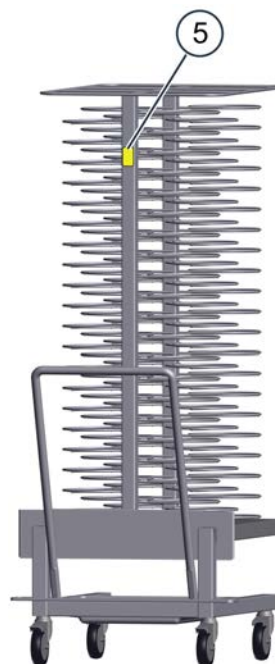


Plate loading trolley (optional)



Required warning labels on the loading trolley

The following warning labels must always be clearly visible on the loading trolley and (if applicable) on the plate loading trolley at the locations shown in the previous figures.

Location	Warning label	Description
5		Hot food, hot bakeware, and hot liquid warning Hot food and hot bakeware can pose a burn hazard if bakeware topples over and out of the shelf levels or if food slides off from bakeware being held in an inclined position. The risk of this occurring is particularly high in the case of shelf levels located above the operator's field of view. Risk of scalding when liquid food is spilled. This hazard exists when liquids, or food that becomes liquefied during cooking, are placed on the upper shelf levels. Do not use shelf levels located above your field of view to hold liquids or food that will become liquefied.
5		Loading trolley and plate loading trolley tip-over hazard warning There is a risk of the loading trolley or plate loading trolley toppling over when being moved. Exercise extreme caution when moving the loading trolley or plate loading trolley. When moving the loading trolley or plate loading trolley, look out for obstacles and uneven surfaces.
6 Security models only		Hot surface warning Hot surfaces on the loading trolley's handle pose a burn hazard.

3.5 Hazards and Safety Measures When Moving the Unit

Safety hazard: moving heavy loads

Risk / hazard	Where and in which situations will the risk / hazard exist?	What to do
Risk of injury due to excessive exertion	When loading and unloading the vehicle or vessel used to transport the unit	▪ Use a forklift or pallet jack ▪ Do not lift or carry too much weight! ▪ Wear the required personal protective equipment

Safety hazard: mechanical unit components

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Crush hazard for all body parts if the unit falls down	Whenever moving the unit	▪ Use appropriate transportation equipment ▪ Transport equipment slowly and carefully and secure it in such a way that it cannot tip over ▪ Keep the unit's center of gravity in mind ▪ Avoid bumping into objects
Crush hazard for all body parts if the unit falls down or topples over	When setting the unit down on the surface on which it will be resting	Observe all the requirements concerning the supporting surface at all times while setting up the unit. Please refer to 'Installation Location Requirements' on page 52

3.6 Hazards and Safety Measures During Setup

Safety hazard: moving heavy loads

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Risk of injury due to excessive exertion	Whenever moving the unit	▪ Use a forklift or pallet jack to place the unit at its installation location or to change its position or location ▪ Make sure that a sufficient number of people help correct the unit's position; do not lift or carry too much weight during the process! ▪ Comply with all occupational health and safety regulations that apply at the installation location ▪ Wear the required personal protective equipment

Safety hazard: mechanical unit components

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Crush hazard for all body parts if the unit topples over	When the unit is slid off the pallet	▪ Before sliding the unit off the pallet, check to make sure that the guide rails are securely fastened to the pallet ▪ Make sure that none of the unit's feet slip from the guide rails sideways ▪ Exercise caution when the unit moves from the guide rails to the non-slip floor
Crush hazard for all body parts if the unit falls down	When lifting the unit	▪ Keep the unit's center of gravity in mind ▪ Avoid bumping into objects
Crush hazard for all body parts if the unit falls down or topples over	When setting up the unit on the surface on which it will be resting	Observe all the requirements concerning the supporting surface at all times while setting up the unit. Please refer to 'Installation Location Requirements' on page 52
Cut hazard posed by sharp edges	Whenever handling sheet metal parts	▪ Exercise caution when performing these activities ▪ Wear the required personal protective equipment

3.7 Hazards and Safety Measures During Installation

Safety hazard: electricity

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Risk of electric shock posed by live parts	▪ Under covers ▪ Under the operating panel ▪ On the power cable	▪ Work on the unit's electrical components should be performed exclusively by a qualified electrician from an authorized service company ▪ Work professionally
		Before removing the covers: ▪ De-energize all connections ▪ Lock out and tag out all switches ▪ If the device was already energized, wait 15 minutes so that the DC bus capacitors can discharge fully ▪ Make sure that the unit is de-energized Before putting the unit into operation, make sure that all electrical connections are undamaged and properly connected
	▪ On the unit and on neighboring metal parts ▪ On the unit and on neighboring metallic accessories	Before putting the unit into operation, make sure that it is bonded to an electrical ground system together with all metallic accessories
Risk of electric shock due to bad water connection	In the entire work area as soon as the water hose bursts or starts leaking	▪ Use a fixed connection ▪ Make sure that the water supply's water pressure is compatible with the pressure specified on the unit ▪ Use appropriate hoses as per the applicable requirements

Safety hazard: gas

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Gas explosion hazard	- Whenever there are leaks in gas lines - Whenever the building's gas valve is opened before the connection is ready	Make sure to only have certified gas installation engineers from an authorized service company establish the gas connection Install a gas shut-off device close to the unit In the case of table-top models on a base with casters that are connected using a flexible connecting hose: - Check to make sure that the retaining element designed to limit how much the base can move with the unit is attached so that the unit will be mechanically secured. - Always check all the connection points on components conveying gas for leaks after connecting the gas system and after performing any work on these components. - Before placing the combi steamer into operation, make sure that none of the specified connection points outside or inside the unit have any leaks.

Safety hazard: mechanical unit components

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Cut hazard posed by sharp edges	Whenever handling sheet metal parts	- Exercise caution when performing these activities - Wear the required personal protective equipment

Safety hazard: cleaning agents

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Skin, eye, and respiratory tract irritation hazard as a result of contact with cleaning agents and their vapors	When installing the cleaning system	- Wear the required personal protective equipment - Observe the instructions and warnings on the cleaning agent labels and in the relevant safety data sheets
	Whenever using aggressive cleaning agents	Only use the cleaning agents specified in the 'How to Clean the Combi Steamer' section of the operating manual (under 'Cleaning Agents')

3.8 Hazards and Safety Measures When Putting the Unit into Operation

Safety hazard: electricity

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Risk of electric shock posed by live parts	▪ Under covers ▪ Under the operating panel ▪ On the power cable	▪ Work on the unit's electrical components should be performed exclusively by a qualified electrician from an authorized service company ▪ Work professionally
		Before removing the covers: ▪ De-energize all connections ▪ Lock out and tag out all switches ▪ If the device was already energized, wait 15 minutes so that the DC bus capacitors can discharge fully ▪ Make sure that the unit is de-energized
		Before putting the unit into operation, make sure that all electrical connections are undamaged and properly connected
	▪ On the unit and on neighboring metal parts ▪ On the unit and on neighboring metallic accessories	Before putting the unit into operation, make sure that it is bonded to an electrical ground system together with all metallic accessories

Safety hazard: gas

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Gas explosion hazard	Whenever the unit is moved	Do not move the unit during operation In the case of table-top models on a base with casters that are connected using a flexible connecting hose: ▪ Do not pull the base with casters forward unless you are cleaning the combi steamer case or the floor/surface below the units, in which case you should make sure not to pull it forward by more than the 20" allowed by the attached retaining element ▪ Make sure to always lock the casters wheels when the unit is running ▪ Every day before using the units, check to make sure that the casters' wheels are locked
Suffocation hazard due to lack of oxygen	At the unit's installation location	▪ Check the exhaust gas readings and have a certified gas installation engineer from an authorized service company adjust the burner if necessary ▪ Make sure that there is a ventilation system that is fully functional and running. In addition, make sure to follow all the ventilation rules and practices specified by the gas installation engineer ▪ Do not block or otherwise obstruct the area below the unit ▪ Operate the unit in windless environments only

Safety hazard: mechanical unit components

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Risk of injury posed by rotating fan	Whenever the oven cavity is cooled down with the 'Cool down' function while the unit door is open and the fan is accessible due to the suction panel not being in place.	Make sure that the suction panel is locked in its place

Safety hazard: moving units on bases with casters

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
All the risks and hazards listed below	When units are being moved on a base with casters	- Before moving the unit (to clean the combi steamer's case or the floor, for example), check to make sure that the retaining element designed to limit how much the base can move with the unit is attached. - De-energize the unit before moving it - When moving the unit, make sure not to roll over any connection lines (electrical, gas, and water)
Pinch point hazard (for multiple body parts)	When units are being moved on a base with casters	- Pay attention to the utility and hose connections. - Use at least two people to move the unit
Pinch point hazard (hand and foot hazard)	When units are being moved on a base with casters	Keep the unit doors shut
Risk of scalding posed by hot wastewater	When units are being moved on a base with casters	- Let the units cool down - Immediately wipe or mop up any water that has leaked - Wear appropriate protective clothing
Risk of scalding posed by hot, liquid food	When units are being moved on a base with casters	Do not move units if there is any food still in them
Risk of electric shock posed by live parts	When units are being moved on a base with casters	Pay attention to the utility and hose connections.
Gas explosion hazard	When units are being moved on a base with casters	Pay attention to the gas supply line
Skin and eye irritation hazard as a result of contact with cleaning agents	When units are being moved on a base with casters	- Make sure that the connections are long enough - When moving the base, keep the cleaning agent canisters closed
Trip hazard as a result of utility and hose connections routed in the open	When cleaning behind units that have been pulled forward	Exercise caution when performing maintenance work
Fall hazard as a result of floors being wet with wastewater	- When cleaning behind units that have been pulled forward - In front of the unit	- Immediately wipe or mop up any water that has leaked - Make sure that the connections are long enough
Fall hazard as a result of floors being wet with cleaning agents	- When cleaning behind units that have been pulled forward - In front of the unit	When moving the units, keep the cleaning agent canisters closed

Additional safety hazards when placing the unit into operation

When placing the unit into operation, make sure to read and understand the following parts of the 'For Your Safety' section in addition to the safety information in this user manual.

- 'Hazards and Safety Measures During Operation'
- 'Hazards and Safety Measures During Cleaning'

3.9 Hazards and Safety Measures When Removing the Unit from Service

Safety hazard: electricity

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Risk of electric shock posed by live parts	▪ Under covers ▪ Under the operating panel	▪ Work on the unit's electrical components should be performed exclusively by a qualified electrician from an authorized customer service company ▪ Work professionally Before removing the covers: ▪ De-energize all connections ▪ Lock out and tag out all switches ▪ Wait 15 minutes so that the DC bus capacitors can discharge fully ▪ Make sure that the unit is de-energized

Safety hazard: gas

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Gas explosion hazard	Whenever the gas is not shut off before starting work on gas units and/or gas installations.	Shut off the gas before starting any work on gas units and/or gas system components Make sure to only have certified gas installation engineers from an authorized service company work on the gas system

Safety hazard: moving heavy loads

Risk / hazard	Where and in which situations will the risk / hazard exist?	What to do
Risk of injury due to excessive exertion	When loading and unloading the vehicle or vessel used to transport the unit	▪ Use a forklift or pallet jack ▪ Do not lift or carry too much weight! ▪ Wear the required personal protective equipment

Safety hazard: moving units on bases with casters

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
All the risks and hazards listed below	When units are being moved on a base with casters	- De-energize the unit before moving it - Check to make sure that the retaining element is attached before moving the base (in order to get access to the back of the unit, for example). This retaining element will limit how much the base with the unit can move. The length of the utility and hose connections (electrical, gas, and water) will already account for the maximum distance that the base can move when the retaining element is attached. - When moving the unit, make sure not to roll over any connection lines (electrical, gas, and water)
Pinch point hazard (for multiple body parts)	When units are being moved on a base with casters	- Pay attention to the utility and hose connections. - Use at least two people to move the unit
Pinch point hazard (hand and foot hazard)	When units are being moved on a base with casters	Keep the unit doors shut
Risk of scalding posed by hot wastewater	When units are being moved on a base with casters	- Let the units cool down - Immediately wipe or mop up any water that has leaked - Wear appropriate protective clothing
Risk of scalding posed by hot, liquid food	When units are being moved on a base with casters	Do not move units if there is any food still in them
Risk of electric shock posed by live parts	When units are being moved on a base with casters	Pay attention to the utility and hose connections.
Gas explosion hazard	When units are being moved on a base with casters	Pay attention to the gas supply line
Skin and eye irritation hazard as a result of contact with cleaning agents	When units are being moved on a base with casters	- Make sure that the connections are long enough - When moving the base, keep the cleaning agent canisters closed
Trip hazard as a result of utility and hose connections routed in the open	When cleaning behind units that have been pulled forward	Exercise caution when performing maintenance work
Fall hazard as a result of floors being wet with wastewater	- When cleaning behind units that have been pulled forward - In front of the unit	- Immediately wipe or mop up any water that has leaked - Make sure that the connections are long enough
Fall hazard as a result of floors being wet with cleaning agents	- When cleaning behind units that have been pulled forward - In front of the unit	When moving the units, keep the cleaning agent canisters closed

Safety hazard: mechanical unit components

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Crush hazard for all body parts if the unit falls down or topples over	Whenever moving the unit (in order to get better access to its connections, for example)	Observe all the requirements concerning the supporting surface at all times while removing the unit from service. Please refer to 'Installation Location Requirements' on page 52
Slip hazard posed by wet kitchen floors	In front of the unit	Always keep the floor around the unit dry

Safety hazard: cleaning agents

Risk / hazard	Where and in which situations will the risk/hazard exist?	What to do
Skin, eye, and respiratory tract irritation hazard as a result of contact with cleaning agents and their vapors	▪ When removing the cleaning system ▪ When disposing of the device	▪ Wear the required personal protective equipment ▪ Observe the instructions and warnings on the cleaning agent labels and in the relevant safety data sheets

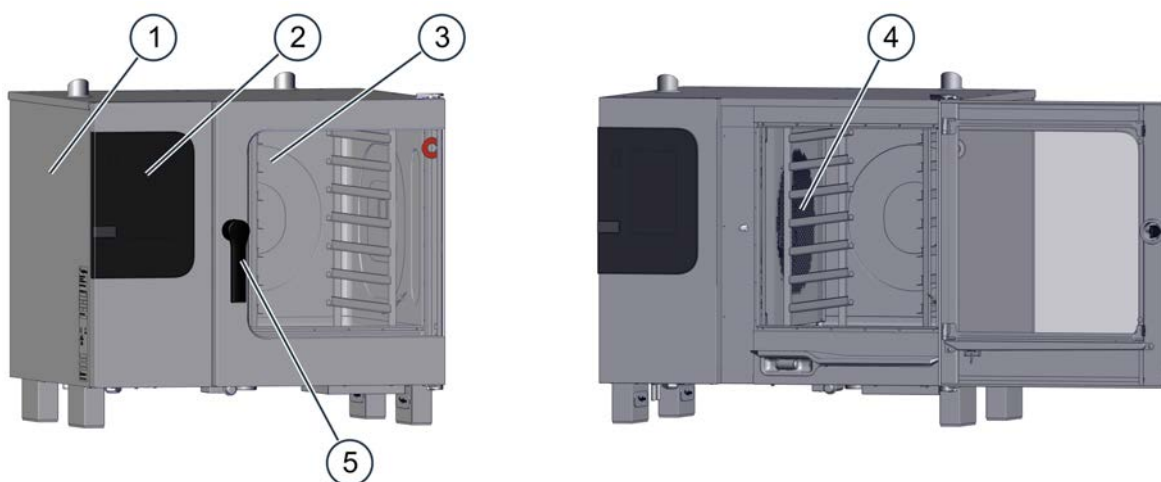
3.10 Safety Devices

Meaning

The combi steamer features a series of safety devices and guards that protect the user from a variety of hazards. All safety devices and guards must be present and fully functional without exception when the combi steamer is being used.

Location and functions (table-top models)

The figure below shows a size 6.10 electric combi steamer used as an example representing all table-top models:

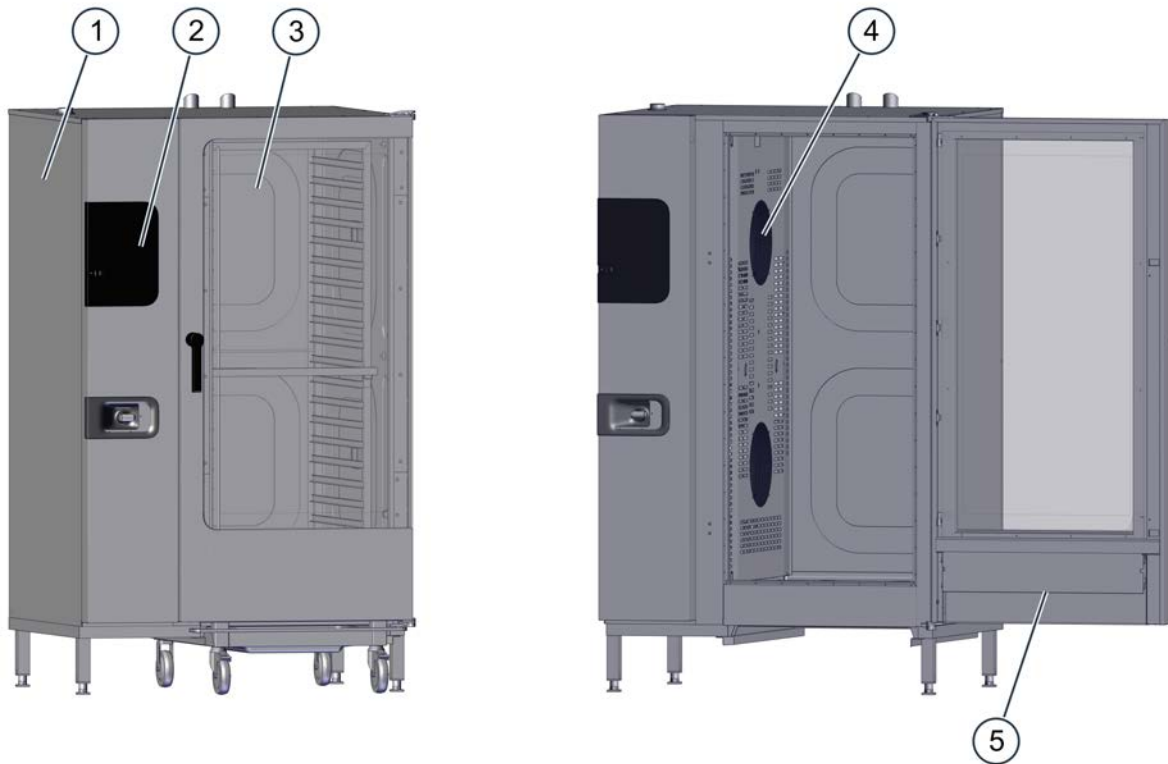


No.	Safety device	Function	Check
1	Cover; can only be removed with tools	- Prevents staff from accidentally touching live parts - Prevents staff from reaching into the moving fan inside the wiring compartment	Check to make sure that the cover is in its proper place
2	Operating panel; can only be removed with tools	Prevents staff from accidentally touching live parts	Check to make sure that the operating panel is in its proper place
3	Unit door with door solenoid switch	Unit door: Protects the operator and the surroundings from hot steam Door solenoid switch (electrical door sensor): - Stops/turns off the following when the unit door is opened: - Fan (will stop after a few seconds) - Heating element - Cleaning agent spraying in the fully automatic oven cleaning process - Prompts the user to close the unit door	Check the pane for scratches, cracks, and other damage on a regular basis and replace it if you detect any damage Test the door solenoid switch with the combi steamer at a low temperature Procedure: - Fully open the unit door - Press Start Result: The motor must not start running.
4	Suction panel inside the oven cavity; can only be removed with tools	Prevents staff from reaching into the moving fan and ensures proper heat distribution	Please refer to 'Releasing the Suction Panel and Locking it Back in Place' in the operating manual

No.	Safety device	Function	Check
5	Unit door cracked-open position	Prevents steam coming out from scalding the operator's face and hands	With the combi steamer at a low temperature, check the door positions as described in 'Safely Opening and Closing the Unit Door' in the operating manual
6 (not shown)	Safety thermostat ▪ Boiler ▪ Oven cavity	Turns off the unit if the temperature exceeds the allowable limit	An error code will be output in the event of a fault (Contact a service company that is authorized to reset the safety thermostat)
7 (not shown)	Resuming after a power outage if there was cleaning agent inside the unit when the power went out	Starts the fully automatic oven cleaning process again, from a defined state, after a power outage	None
8 (installed by the customer)	Disconnect	▪ Installed close to the unit by the customer. Easily visible and accessible, 3-pole, with a contact gap of at least 0.12". ▪ Used to de-energize the unit during cleaning, repairs, and maintenance work, as well as in hazardous situations	Procedure: ▪ Trip the power disconnect ▪ Check that all three phases are de-energized at the unit's X10 terminal block
9 (installed by the customer)	Gas shut-off device	▪ Installed close to the unit by the customer; easily accessible and clearly marked. ▪ Used to disconnect the unit from the gas supply during cleaning, repair, and maintenance work, as well as in hazardous situations.	Procedure: ▪ Close the gas shut-off device ▪ Make sure that the gas flow to the unit has been shut off
10 (not shown)	Only for setups involving a stand with casters: Retaining element	Limits how much the entire setup (base and unit) can move from its location	Check to make sure that the retaining element is properly attached

Location and functions (floor-standing models)

The figure below shows a size 20.20 electrical combi steamer used as an example representing all floor-standing models:



No.	Safety device	Function	Check
1	Cover; can only be removed with tools	- Prevents staff from accidentally touching live parts - Prevents staff from reaching into the moving fan inside the wiring compartment	Check to make sure that the cover is in its proper place
2	Operating panel; can only be removed with tools	Prevents staff from accidentally touching live parts	Check to make sure that the operating panel is in its proper place
3	Unit door with door solenoid switch	Unit door: Protects the operator and the surroundings from hot steam Door solenoid switch (electrical door sensor): - Stops/turns off the following when the unit door is opened: - Fan (will stop after a few seconds) - Heating element - Cleaning agent spraying in the fully automatic oven cleaning process - Prompts the user to close the unit door	Check the pane for scratches, cracks, and other damage on a regular basis and replace it if you detect any damage Test the door solenoid switch with the combi steamer at a low temperature Procedure: - Fully open the unit door - Press Start Result: The motor must not start running.
4	Suction panel inside the oven cavity; can only be removed with tools	Prevents staff from reaching into the moving fan and ensures proper heat distribution	Please refer to 'Releasing the Suction Panel and Locking it Back in Place' in the operating manual

No.	Safety device	Function	Check
5	Integrated preheat bridge in unit door	Prevents scalding caused by escaping steam if the loading trolley is not inside the unit during pre-heating	None
6 (not shown)	Safety thermostat ▪ Boiler ▪ Oven cavity	Turns off the unit if the temperature exceeds the allowable limit	An error code will be output in the event of a fault (Contact a service company that is authorized to reset the safety thermostat)
7 (not shown)	Resuming after a power outage if there was cleaning agent inside the unit when the power went out	Starts the fully automatic oven cleaning process again, from a defined state, after a power outage	None
8 (installed by the customer)	Disconnecter	▪ Installed close to the unit by the customer. Easily visible and accessible, 3-pole, with a contact gap of at least 0.12". ▪ Used to de-energize the unit during cleaning, repairs, and maintenance work, as well as in hazardous situations	Procedure: ▪ Trip the power disconnecter ▪ Check that all three phases are de-energized at the unit's X10 terminal block
9 (installed by the customer)	Gas shut-off device	▪ Installed close to the unit by the customer; easily accessible and clearly marked. ▪ Used to disconnect the unit from the gas supply during cleaning, repair, and maintenance work, as well as in hazardous situations.	Procedure: ▪ Close the gas shut-off device ▪ Make sure that the gas flow to the unit has been shut off

3.11 Staff and Work Area Requirements

Staff requirements

The table below specifies the qualifications needed for each role. Provided that they have the required qualifications, a single person can take over more than one role if necessary.

Role	Required qualifications	Tasks
Combi steamer owner or the owner's employee who is responsible for the unit and for the staff operating it	Is familiar with the rules involved in handling heavy loads	- Briefed on all of the combi steamer's safety-relevant functions, mechanisms, and devices by the person placing the unit into operation so that the information can be relayed to all the staff operating the unit - Shown how the unit is operated by the person placing the unit into operation so that the information can be relayed to all the staff operating the unit - If necessary, helping out as directed with transportation within the facilities and with setting up the unit
Mover	- Trained in the use of forklifts and/or pallet jacks - Is familiar with the rules involved in handling heavy loads	Transporting the unit within the facilities
Service technician	- Qualified staff from an authorized service company - Has relevant technical training - Has unit-specific training - Is familiar with the rules involved in handling heavy loads - Is able to assess whether the unit's power, gas, water, and drain connections have been correctly set up. - If performing maintenance work on the gas system: Is part of the maintenance staff of a service company authorized by the gas utility	- Setting up the unit - Installing the fully automatic oven cleaning system - Placing the unit into operation - Removing the unit from service
Gas technician	- Is a technician authorized by the gas provider - Has relevant training - Qualified staff from an authorized service company	- Connecting the unit to the gas connection at the facilities - Uninstalling gas connections
Electrician	- Qualified staff from an authorized service company - Has relevant training - Is a qualified electrician	- Connecting the unit to the electrical connection at the facilities - Uninstalling electrical connections

Role	Required qualifications	Tasks
Water and waste-water installer	▪ Qualified staff from an authorized service company ▪ Has relevant training	▪ Connecting the unit to the water connection at the facilities ▪ Uninstalling water connections ▪ Connecting the unit to the drain connection at the facilities ▪ Uninstalling the drain connection
Person placing the unit into operation (service technician)	▪ Is an employee from an authorized service company who is responsible overall for placing the unit into operation ▪ Has relevant technical training ▪ Has unit-specific training ▪ Is familiar with the rules involved in handling heavy loads ▪ Is able to assess whether the unit's power, gas, water, and drain connections have been correctly set up.	▪ Briefing the owner or the responsible employee ▪ Checking all steps and conditions as per the checklists

Work areas during installation and placement into operation

During installation and placement into operation, the work area for staff will be the entire area occupied by the unit and its surroundings.

3.12 Personal Protective Equipment

Transportation and setup

Task	Tools used	Personal Protective Equipment
▪ Transporting the unit within the facilities ▪ Setting up the unit on a work table or stand or inside a stacking kit ▪ Setting up the unit at the installation location	▪ Carrying straps ▪ Appropriate lifting equipment ▪ A forklift or pallet jack	▪ Protective gloves ▪ Safety footwear ▪ A hard hat (e. g., when there are suspended loads, doing overhead work)

Installation, placing the unit into operation, and removing it from service

Task	Tools used	Personal Protective Equipment
Installing and uninstalling (removing from service) the following: ▪ Electrical connection ▪ Water connections ▪ Drain Connection ▪ Gas connection ▪ Automatic grease management	Tools and equipment necessary for the specific task at hand	Work clothes and personal protective equipment based on the required task in accordance with country-specific regulations
Installing and uninstalling the fully automatic oven cleaning system	Tools and equipment necessary for the specific task at hand	The protective equipment required will depend on the cleaning agents being used, and may include: ▪ Respirator ▪ Safety eyewear ▪ Protective gloves ▪ Protective clothing/apron More detailed specifications regarding this equipment can be found in the EC safety data sheets for the cleaning agent(s) being used. For the latest version of these data sheets, please contact the manufacturer. Always follow the instructions and observe all warnings found on the labels used for the cleaning agent(s).
▪ Placing the unit into operation ▪ Briefing the user	Tools and equipment necessary for the specific task at hand	Wear appropriate work clothes for kitchen work as required by your country-specific standards and regulations, especially: ▪ Protective clothing ▪ Heat-resistant gloves ▪ Safety footwear
Removing the unit (removing it from service)	▪ Carrying straps ▪ Appropriate lifting equipment ▪ A forklift or pallet jack	▪ Protective gloves ▪ Safety footwear ▪ A hard hat (e. g., when there are suspended loads, doing overhead work)

4 Transportation

Purpose of this section

This section provides information on how to transport the unit.

This section is intended for the owner's employee who is responsible for the unit, as well as for qualified staff from an authorized service company.

4.1 Safely Using the Unit

For Your Safety

Before starting your work, read and understand the hazards described in 'Hazards and Safety Measures During Transportation.' on page 31

Personnel qualifications required for transporting the unit

Required qualifications for transporting the unit:

- The unit should be transported exclusively by personnel trained in the use of forklifts and/or pallet jacks.
- All staff must be familiar with the rules involved in handling heavy loads.

Personal Protective Equipment

Wear the personal protective equipment specified for your work in the 'Personal Protective Equipment' on page 47 section of 'For Your Safety.'

Moving heavy loads

WARNING

Risk of injury when lifting loads incorrectly

Lifting the unit incorrectly may result in injury (especially in the area of the torso) due to the unit's weight.

- ▷ Use a forklift or pallet jack to transport the unit.
- ▷ When lifting the unit, make sure to use an appropriate number of people as required by the unit's weight (guideline: 30 lbs to a maximum of 120 lbs depending on age, sex, and build). Comply with all occupational health and safety regulations that apply at the installation location!
- ▷ Wear the required personal protective equipment.

Unsuitable supporting surfaces

WARNING

Crush hazard posed by the unit falling down or toppling over

Body parts may be crushed if the unit falls down or topples over.

- ▷ Make sure never to place the unit on an unsuitable supporting surface.

4.2 Transporting the unit to the installation location

Required space during transportation

Make sure that the transportation route you will be following has enough space to accommodate the unit's entire width and height at all times.

The following table lists the dimensions for the units together with their packaging. This list can be used to figure out the required minimum door width and height required in order to be able to get the unit to its intended installation location.

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Width	[in]	43.3	53	43.3	53	55.5	45.9	55.5
Height	[in]	39.8	39.8	50.4	50.4	63.6	84.7	84.7
Depth	[in]	37	44.9	37	44.9	46.1	38.2	46.1

Load capacity for transportation

Make sure that the transportation equipment you will be using is able to handle the loads it will be transporting.

To determine the minimum load capacity that the transportation equipment must have, check the unit's weight, including its packaging, in the 'Dimensions and Weights' on page 115 section.

Transporting the unit to the installation location

Observe the following when transporting the unit:

- Always use a pallet to transport the unit.
 - Always keep the unit upright when moving it.
 - Transport the unit slowly and carefully and secure it in such a way that it cannot tip over.
Make sure not to bump into the unit.
- Avoid uneven transportation routes and steep inclinations.

5 Setup

Purpose of this section

This section provides information on how to set up your unit.

This section is intended for the owner's employee who is responsible for the unit, as well as for qualified staff from an authorized service company.

5.1 Working Safely During Setup

For Your Safety

Before starting your work, read and understand the hazards described in 'Hazards and Safety Measures During Setup.' on page 32

Personnel qualifications required for setting up the unit

The unit should be set up exclusively by qualified staff from an authorized service company.

Setup standards and regulations

All national, state, and local standards and regulations concerning commercial kitchen operations must be complied with. These include, but are not limited to, the Food Code published by the Food and Drug Administration (FDA) (current edition) and the standards published by the National Sanitation Foundation (NSF).

The local rules and regulations that apply to the installation location, as defined by the relevant local authorities and utility companies, must be complied with.

Personal Protective Equipment

Wear the personal protective equipment specified for your work in the 'Personal Protective Equipment' on page 47 section of 'For Your Safety.'

Moving heavy loads

WARNING

Risk of injury when lifting loads incorrectly

Lifting the unit incorrectly may result in injury (especially in the area of the torso) due to the unit's weight.

- ▷ Use a forklift or pallet jack to place the unit at its installation location or to change its position or location.
- ▷ When adjusting the unit's location, make sure to use an appropriate number of people to lift the unit as required by the latter's weight (guideline: 30 lbs to a maximum of 120 lbs depending on age, sex, and build). Comply with all occupational health and safety regulations that apply at the installation location!
- ▷ Wear the required personal protective equipment.

Unsuitable supporting surfaces

WARNING

Crush hazard posed by the unit falling down or toppling over

Body parts may be crushed if the unit falls down or topples over.

- ▷ Make sure never to place the unit on an unsuitable supporting surface.

5.2 Adjacent Systems

Handling exhaust air

During operation, the combi steamer will produce heat and moisture, most of which will escape upwards into the ambient air in the form of hot steam coming through the air vent(s). Do not connect any lines or ducts directly to the combi steamer's air vent(s)!

The manufacturer recommends removing this exhaust air from the combi steamer's working area with a range hood or ventilated ceiling.

In order to prevent fire hazards and other structural issues, such as corrosion, mold, and/or a decrease in stability, there must be sufficient clearance between the top of the unit and the ceiling. This clearance must be determined by taking the following into account:

- The reference point for the minimum vertical clearance (refer to 'Installation Location Requirements' on page 52).
- The type of exhaust system being used
- The characteristics of the ceiling at the installation location

The combi steamer must always be set up, installed, and operated in compliance with all applicable country-specific and local standards and regulations.

Handling exhaust gas from gas units

Exhaust gas with a temperature of up to 930 °F will escape into the ambient air through the exhaust outlet(s) at the top of the unit. Do not connect any lines or ducts directly to the combi steamer's exhaust outlet(s) in order to divert this exhaust gas!

It is absolutely mandatory to use a ventilation system with a safety shutdown function in order to evacuate the exhaust gas.

In order to prevent fire hazards, there must not be any flammable materials above the unit, and there must be sufficient clearance between the top of the unit and the ceiling. This clearance must be determined by taking the following into account:

- The reference point for the minimum vertical clearance, refer to 'Installation Location Requirements' on page 52
- The type of exhaust system and exhaust gas extraction system being used
- The characteristics of the ceiling at the installation location

The combi steamer must always be set up, installed, and operated in compliance with all applicable country-specific and local standards and regulations.

5.3 Installation location requirements

Meaning

This section provides information on how to choose a suitable installation location for the unit. Carefully check the intended installation location to make sure it is adequate before bringing the unit there and starting with the installation!

Rules for safely setting up the unit

In order to prevent hazards that may be posed by the installation location and by the unit's surroundings, follow the rules below:

- It must be possible to adhere to the operating conditions at all times. For these operating conditions, please refer to 'Requirements concerning the combi steamer's surroundings on page 23.'
- The heat loss at hot surfaces poses a fire hazard. Accordingly, set up the unit in non-combustible environments only.
- There must not be any flammable materials, gases, or liquids at a distance of less than 18" from the sides of the unit (right, left, front, back) and 40" from the top of the unit. When choosing an installation location, make sure to observe this requirement together with the requirements in the 'Adjacent Systems' on page 51 section and the unit's minimum space requirements without exception!
- Substructures (tables, frames) and supporting surfaces (floors, bases, countertops) must be made of non-combustible materials and must not be coated or covered with any flammable materials (no fiberboard, no contact between flammable materials and the bottom of the unit). Likewise, there must not be any flammable materials on the undersides of these structures. The unit supporting surfaces on substructures of this type must project beyond the unit's base on all sides by 12" or more.
- The minimum distance from heat sources in the vicinity of the units is 20".
- The unit must be set up in such a way that liquids from the unit and from cooking processes will not be able to get to deep fryers and open kettle fryers under any circumstance. The minimum distance that must be maintained between the unit and any deep fryers or open kettle fryers in the vicinity is as follows:
 - 41" for size X.10 table-top models
 - 57" for size X.20 table-top models
 - 63" for floor-standing models
- Do not set up the unit directly under a fire alarm or sprinkler system. The sensitivity of fire alarms and sprinkler systems must be adjusted in line with the amount of vapor and steam that the unit is expected to produce.
- The connection between the combi steamer's drain pipe and the sewer system must be located outside the perimeter of the unit's base area. Due to potential wastewater vapors, there must not be a drain connection or open sewer line below the unit's base area.
- In the case of table-top models, it must be possible to set up the unit's base (work table, stand, or stacking kit) at the installation location in such a way that it will not topple over or shift. It must be possible to set up floor-standing models at the installation location in such a way that they will not topple over or shift. All supporting surface requirements must be met.
- In the case of table-top models placed on a base with casters, a retaining element that limits how much the whole setup (base and unit) can move must be attached. It must not be possible to pull the base with the unit more than 20" forward.

The length of the corresponding utility and hose connections must take into account how much the retaining element will allow the base and unit to move. Do not roll over, pull, or otherwise subject the utility and hose connections to any tension when moving the whole setup (base and unit).
- With its current configuration, the unit is not designed to be used in environments where it could be subjected to strong vibrations or mechanical shock (e.g., on vehicles or ships).
- In the case of table-top models, vibrations must be avoided in general when using stands or stacking kits.

Supporting surface requirements

The supporting surface must have the following characteristics:

- The supporting surface must be flat and level.
- The supporting surface must be capable of bearing the unit's weight.
- In the case of table-top models, the countertop or stand must have a load capacity equal to or greater than the unit's empty weight plus the maximum permissible loading weight.

The unit's weight will be made up of the following depending on its specific model and equipment:

- The combi steamer's empty weight
- Maximum permissible loading weight
- The maximum cleaning agent weight when the unit is equipped with a ConvoClean / ConvoClean+ system
- The weight of the stand or work table in the case of table-top models

Add the following individual weights to calculate the total unit weight:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
The combi steamer's empty weight	[lbs]	See the weight without packaging in 'Dimensions and Weights' on page 115						
Maximum permissible loading weight	[lbs]	66	132	110	220	265	220	397
Maximum weight of cleaning agents	[lbs]	44	44	44	44	44	44	44
Weight of stand (model-specific)	[lbs]	44 - 110	66 - 143	44 - 110	66 - 143	-	-	-

Space required

In order to ensure that the combi steamer will be used safely – especially when it comes to safely handling hot food –, it is necessary to keep a lot more free space in front of the units than is specified in the space requirements!

In order to determine the actual space required between the top of the combi steamer and the ceiling, please consult the 'Adjacent Systems' on page 51 section.

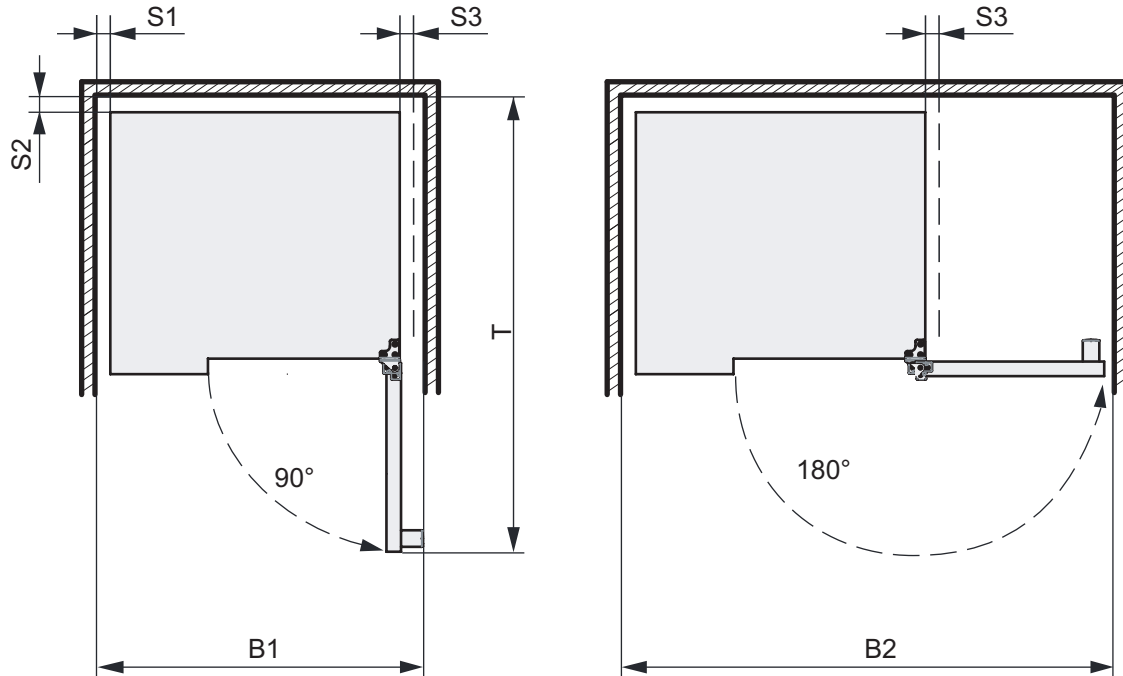
Generally speaking, it is recommended to maintain large clearances between the units and the walls in order to make it easier for service staff to access the unit as needed.

Do not cover, obstruct, or block the following parts at the installation location (please refer to 'The Combi Steamer's Configuration and Functions' on page 14 as well):

- The air vents and exhaust outlets at the top of the unit
- The dry air intake at the top of the unit
- The ventilation openings at the bottom of the unit

Required space for units with a right-hinged door – width and depth

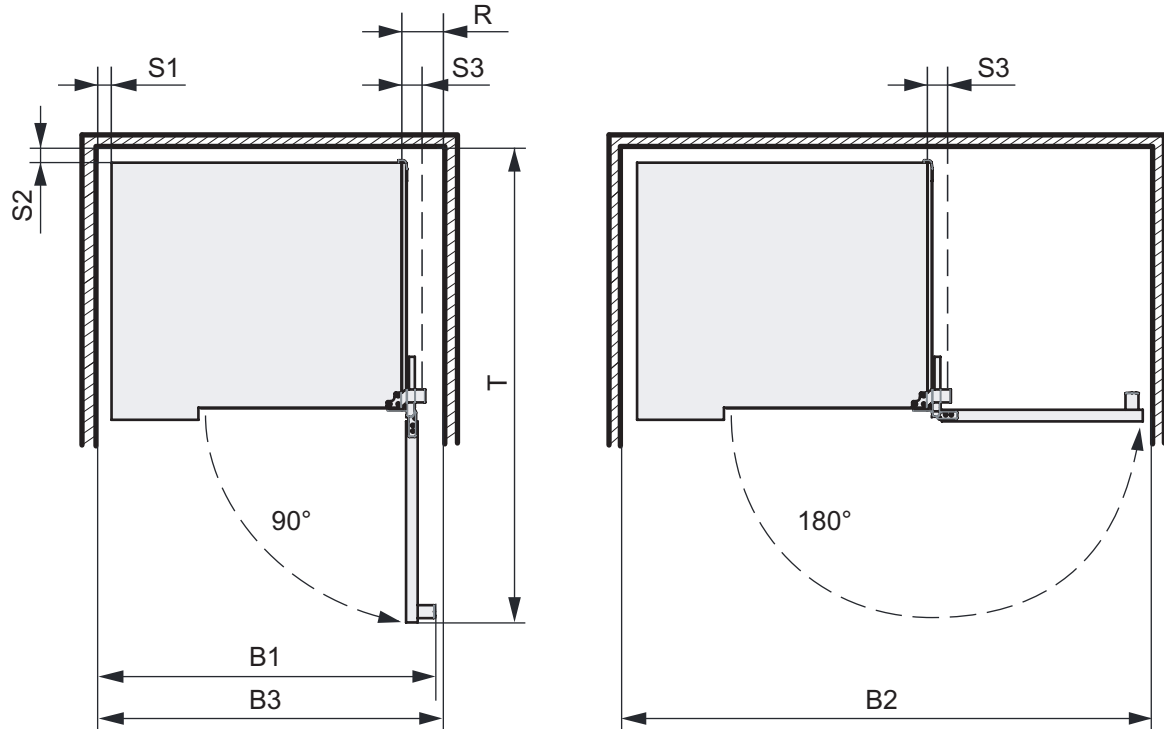
The following diagrams, as well as the following table, show the space required by the unit for various installation and operating situations, as well as the minimum horizontal clearances required relative to adjacent walls and surfaces. The safety clearances on the left, right, and rear must be maintained without exception.



Meaning		6.10	6.20	10.10	10.20	12.20	20.10	20.20
B1	Required width when the unit door is open 90°	[in] 39	49	39	49	52	42	52
B2	Required width when the unit door is open 180°	[in] 56	73	56	73	77	59	77
D	Required depth when opening the unit door	[in] 54	70	54	70	72	56	72
S1	Safety clearance on left-hand side	[in] 2	2	2	2	2	2	2
S2	Rear safety clearance	[in] 2	2	2	2	2	2	2
S3	Safety clearance on right-hand side	[in] 2	2	2	2	2	2	2

Required space for units with a disappearing door – width and depth

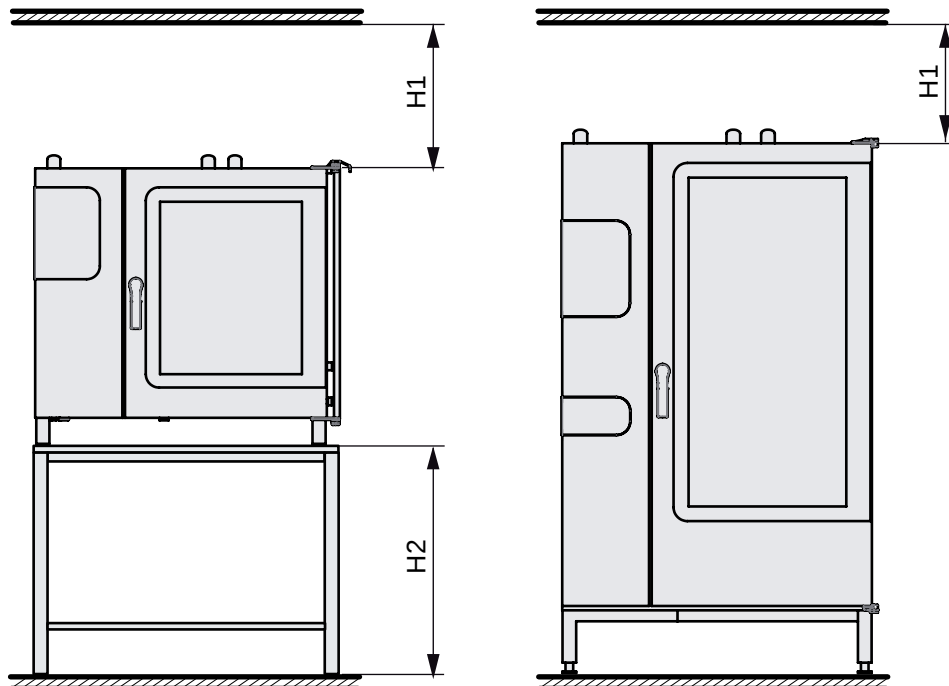
The following diagrams, as well as the following table, show the space required by the unit for various installation and operating situations, as well as the minimum horizontal clearances required relative to adjacent walls and surfaces. The safety clearances on the left, right, and rear must be maintained without exception.



Meaning		6.10	6.20	10.10	10.20	12.20	20.10	20.20
B1	Required width when the unit door is open 90°	[in] 41	51	41	51	53	43	53
B2	Required width when the unit door is open 180°	[in] 59	77	59	77	79	61	79
B3	Required width when the disappearing door has been slid back	[in] 42	51	42	51	53	43	53
R	Required space on right-hand side when the disappearing door has been slid back	[in] 5	5	5	5	6	6	6
D	Required depth when opening the unit door	[in] 56	72	56	72	73	57	73
S1	Safety clearance on left-hand side	[in] 2	2	2	2	2	2	2
S2	Rear safety clearance	[in] 2	2	2	2	2	2	2
S3	Safety clearance on right-hand side	[in] 2	2	2	2	2	2	2

Required space – height

The following diagram and table show the vertical space required by the unit:



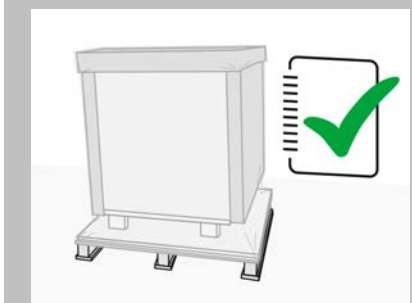
The service technician responsible for setting up the unit must take into account the ceiling's properties and any adjacent systems being used (air ventilation system, range hood) when determining the actual clearance required between the top of the unit and the ceiling. Vertical clearance H1 is only meant to serve as a reference point for the minimum vertical clearance!

Meaning		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Electrical units								
H1	Reference point for minimum vertical clearance [in]	20	20	20	20	20	20	20
Gas units								
H1	Reference point for minimum vertical clearance [in]	39	39	39	39	39	39	39
Electrical units and gas units								
H2	Installation height [in]	24 - 35	24 - 35	24 - 35	24 - 35	-	-	-

5.4 Unpacking

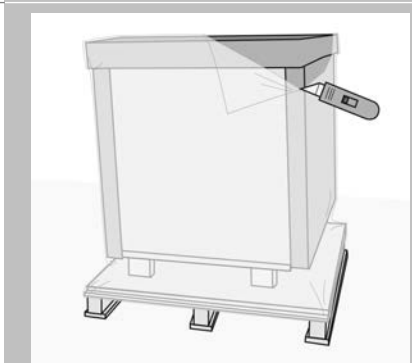
Unpacking the unit (table-top models)

1.



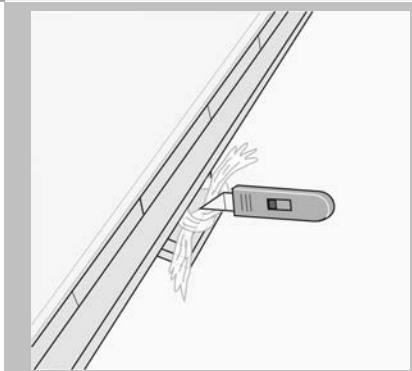
Before signing off on the delivery receipt, check the unit for damage. Document any damage on the delivery receipt and notify the carrier and manufacturer.

2.

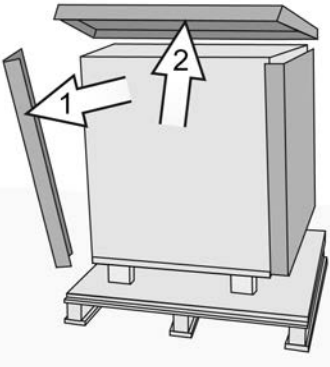
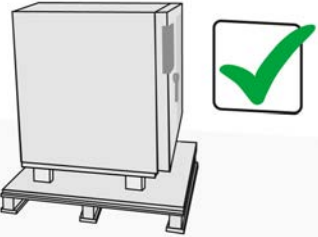


Use a utility knife to cut the stretch wrap along one of the edge protectors, starting from the top and cutting the wrap open all the way down.

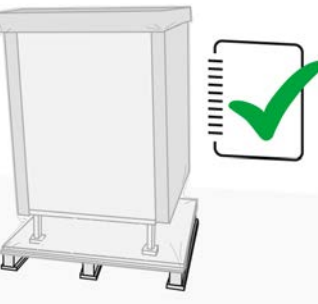
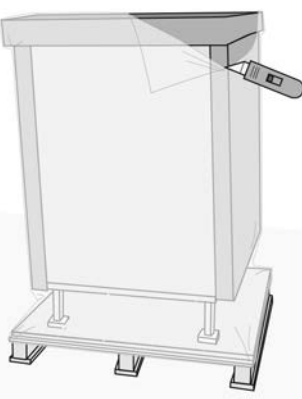
3.

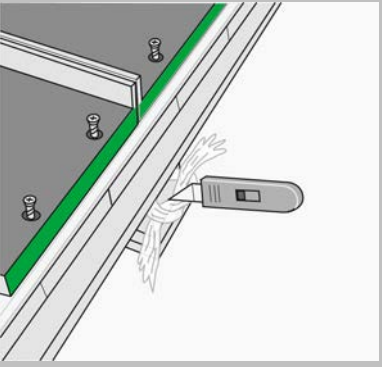
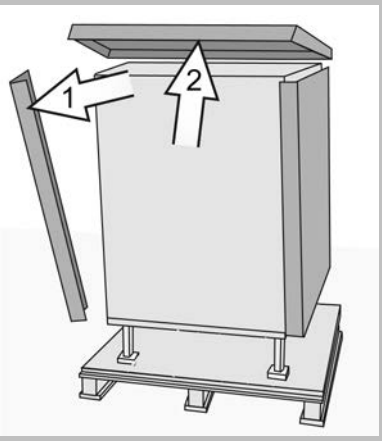
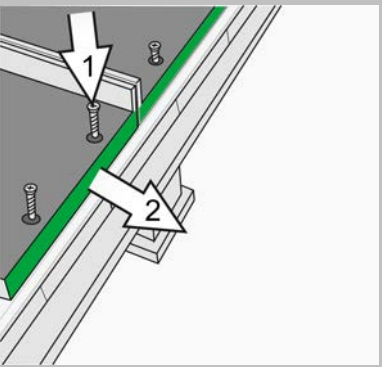
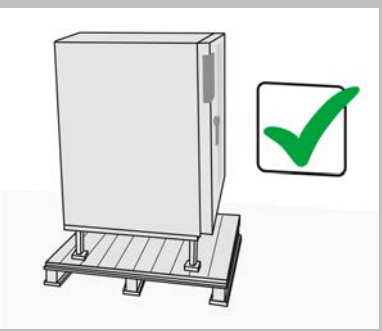


Cut off the point where the stretch wrap is secured onto the pallet.

- | | | |
|----|---|---|
| 4. |  | <ul style="list-style-type: none"> ▪ Remove all the edge protectors one after the other by quickly lifting the top cover at the corresponding corners. ▪ Once you are done removing the edge protectors, remove the top cover. ▪ Take the customer documentation from the top of the unit. ▪ If applicable, completely remove any additional protective films, cardboard, securing devices for shipping, etc., from the unit. |
| 5. |  | <p>Check the unit for damage again.
If you suspect there is any transit damage, immediately notify your specialty retailer/carrier. In addition, notify the manufacturer in writing within three days.
Do not, under any circumstance, install or operate damaged units.</p> |

Unpacking the unit (floor-standing models)

- | | | |
|----|---|--|
| 1. |  | <p>Before signing off on the delivery receipt, check the unit for damage. Document any damage on the delivery receipt and notify the carrier and manufacturer.</p> |
| 2. |  | <p>Use a utility knife to cut the stretch wrap along one of the edge protectors, starting from the top and cutting the wrap open all the way down.</p> |

3.		Cut off the point where the stretch wrap is secured onto the pallet.
4.		▪ Remove all the edge protectors one after the other by quickly lifting the top cover at the corresponding corners. ▪ Once you are done removing the edge protectors, remove the top cover. ▪ Take the customer documentation from the top of the unit. ▪ If applicable, completely remove any additional protective films, cardboard, securing devices for shipping, etc., from the unit.
5.		Unscrew the screws holding the guide rails in place and pull the rails out. Safely store the screws and the guide rails. Additional information: You will be using these guide rails as a ramp for the device.
6.		Check the unit for damage again. If you suspect there is any transit damage, immediately notify your specialty retailer/carrier. In addition, notify the manufacturer in writing within three days. Do not, under any circumstance, install or operate damaged units.

Included equipment and parts

The following should be included:

- One combi steamer
- One left-hand side rack (table-top models only)
- One right-hand side rack (table-top models only)
- One loading trolley (floor-standing models only)
- One installation manual
- One operating manual (hardware)
- One operating instructions document (software)
- One empty canister with a capacity of 2.64 gallons for cleaning agent (for units with easyDial controls, this canister will only be included if the unit includes the ConvoClean option)
- One flat elbow for installing the drain connection (table-top models only)
- One empty canister for pumped-out grease (on grill version only)
- One connection tube with an attached screw closure for the grease collection canister (on grill version only)

5.5 Removing the unit from the pallet

Removing the unit from the pallet using the carrying straps (table-top models)

To find out how much your unit weighs, consult the 'Technical Data' on page 114 section.

The figure below shows a size 6.10 combi steamer used as an example representing all table-top models:

1.



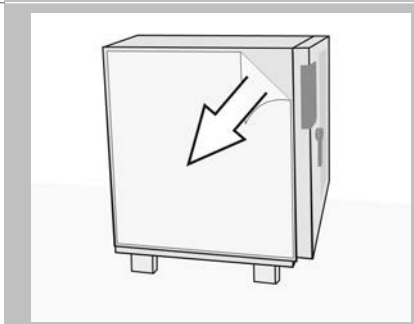
Attach the carrying straps to the unit feet.

2.

The pallet has four studs that project into the unit feet in order to ensure that the combi steamer cannot shift on the pallet.

Because of this, you will need to lift the unit evenly from all four feet and away from the pallet. Once you have lifted the unit out from the studs, take it to the location where it will be installed.

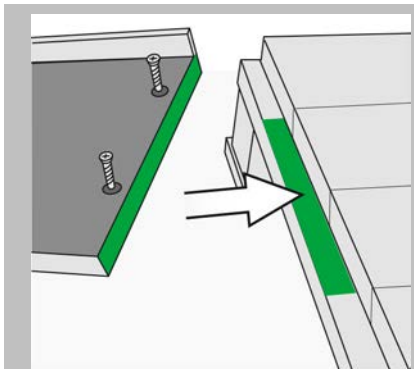
3.



Remove the protective film from the combi steamer.

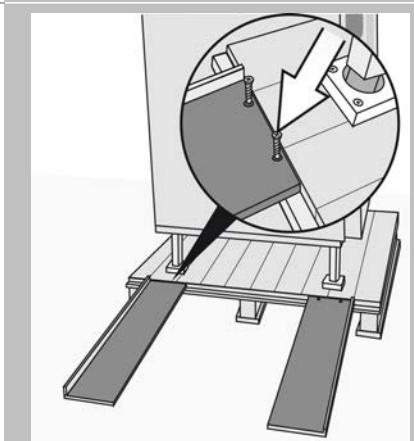
Removing the unit from the pallet (floor-standing models with standard equipment)

1.



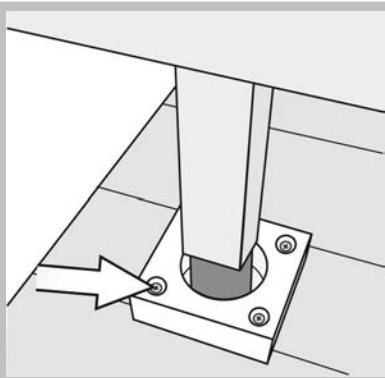
Place the guide rails, with the raised edge on the outside, on the green markings on one of the pallet's sides. Make sure that the ends of the guide rails are lying right against the side of the pallet so that the screws will engage the pallet's lip properly.

2.



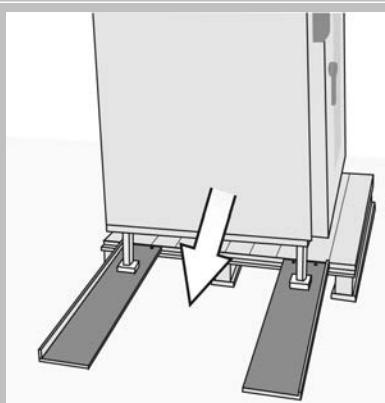
Screw the two guide rails together with the pallet.

3.



Remove all the screws from the sliding blocks.

4.

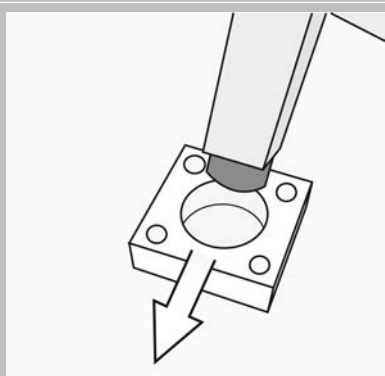


Use at least two people to slide the unit on the sliding blocks all the way across the guide rails and onto the floor all the way to the installation location.

WARNING! Crush hazard if the unit topples over

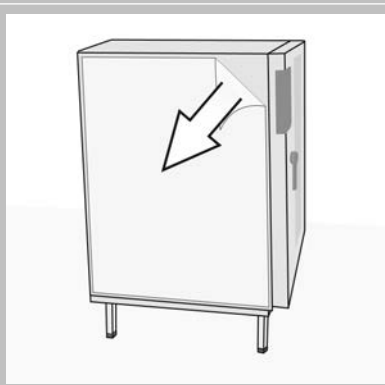
- Before sliding the unit off the pallet, check to make sure that the guide rails are securely fastened to the pallet.
- Make sure that none of the unit's feet slip from the guide rails sideways.
- Exercise caution when the unit moves from the guide rails to the non-slip floor.

5.



Slightly lift the combi steamer and remove the sliding blocks.

6.



Remove the protective film from the combi steamer.

5.6 Setting Up Table-Top Models on a Work Table (Standard Equipment)

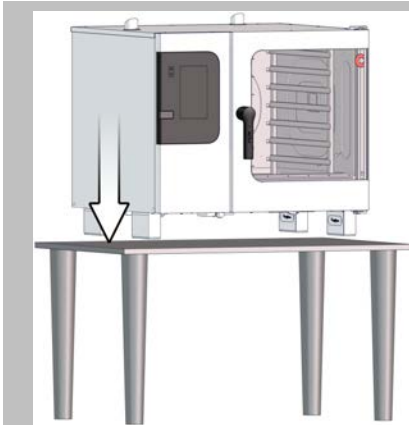
⚠ Rules for safely setting up the unit

Observe the following rules in order to ensure that the unit will have the required stability:

- It must be possible to set up the work table at the installation location in such a way that it will not topple over or shift. All supporting surface requirements must be met.
- The unit must be set up on the work table's surface in such a way that it will not topple over or shift.
- If you will be using mobile shelf racks or plate racks to place food inside the combi steamer (does not apply to ConvoSmoke), the unit must be installed at the right height for the transport trolley. The roll-in frame inside the oven cavity and the mobile shelf rack's / plate rack's support surface on the transport trolley must be at the same height if the transport trolley is secured to the combi steamer. It must be possible to move the transport trolley all the way to the oven cavity unobstructed on a horizontal surface and then secure it onto the roll-in frame.

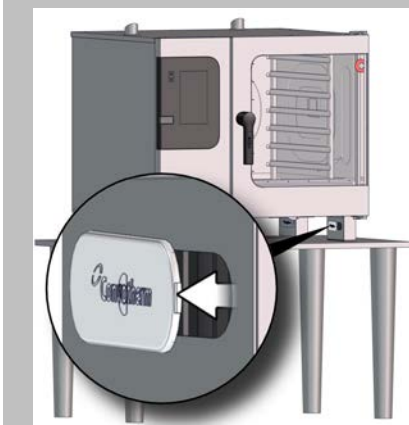
Setting up the unit on a work table

1.



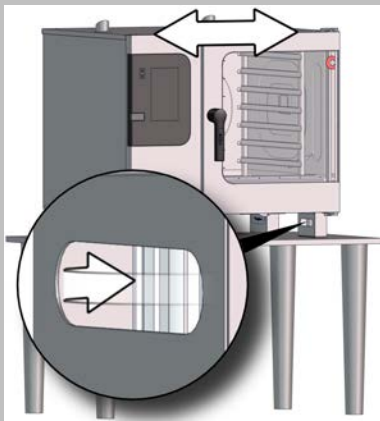
Place the unit on the work table.

2.



Remove the cover found on the unit foot.

3.



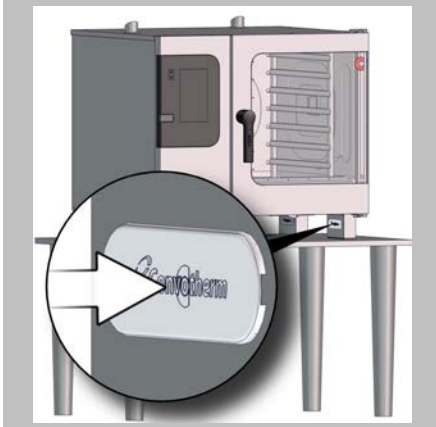
Use the adjusting screw to level the unit. To turn the adjusting screw, use the unit foot tool or water pump pliers. In addition, use a spirit level to make sure that the unit is properly leveled.

The unit's absolute inclination during operation must not exceed max. 2° (3.5%).

Additional information:

The unit foot tool is enclosed with the customer documentation.

4.



Put the unit foot cover back in its place.

5.7 Setting Up Table-Top Models on an Equipment Stand (Standard Equipment)

Rules for safely setting up the unit

Observe the following rules in order to ensure that the unit will have the required stability:

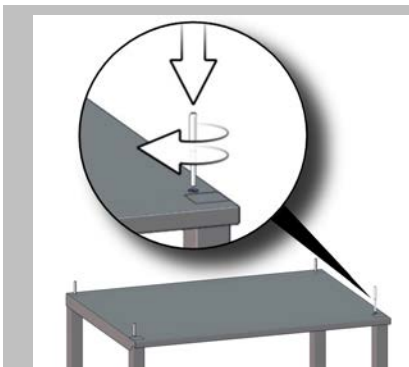
- It must be possible to set up the stand at the installation location in such a way that it will not topple over or shift. All supporting surface requirements must be met.
- If you will be using mobile shelf racks or plate racks to place food inside the combi steamer (does not apply to ConvoSmoke), the unit must be installed at the right height so that it is aligned with the transport trolley. To ensure this, just make sure that the transport trolley's contact surface and the support surface of the stand with the combi steamer on it are aligned with each other. It must be possible to move the transport trolley all the way to the oven cavity unobstructed on a horizontal surface and then secure it onto the roll-in frame.

In order to comply with hygiene standards, the following rule must be observed:

- In the case of equipment stands with shelf levels for bakeware, the equipment stands' upper panel must be correctly in place in order to prevent food being temporarily stored in the equipment stand from being contaminated.

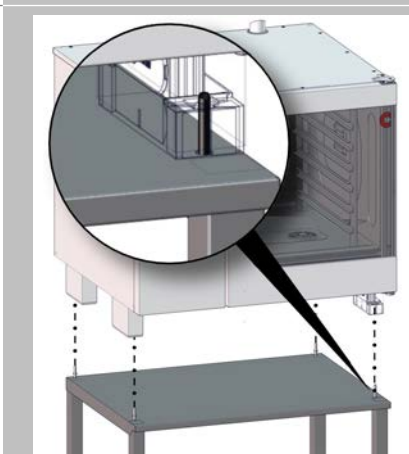
Setting Up the Unit on a Stand

1.



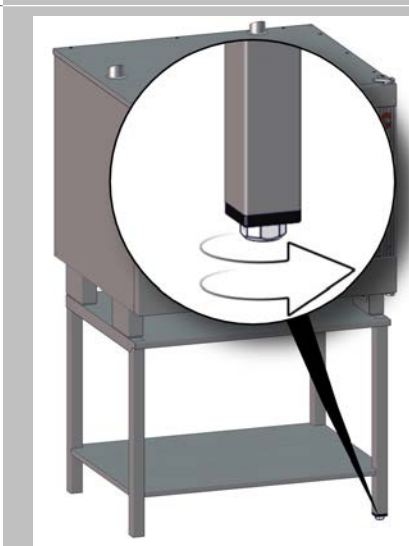
Screw the studs into the corresponding stand threads, then tighten them using the screwdriver.

2.



Place the unit on the stand. Make sure that all four studs go into the locating holes at the bottom of the unit's feet.

3.



Use the height-adjustable feet to level the stand. Use a spirit level to make sure that the unit is properly leveled. The unit's absolute inclination during operation must not exceed max. 2° (3.5%).

5.8 Setting up the table-top model on a stand with casters

Rules for safely setting up the unit

Observe the following rules in order to ensure that the unit will have the required stability:

- It must be possible to set up the stand at the installation location in such a way that it will not topple over or shift. All supporting surface requirements must be met.
- In the case of table-top models placed on a base with casters, a retaining element that limits how much the whole setup (base and unit) can move must be attached. It must not be possible to pull the base with the unit more than 20" forward.
The length of the corresponding utility and hose connections must take into account how much the retaining element will allow the base and unit to move. Do not roll over, pull, or otherwise subject the utility and hose connections to any tension when moving the whole setup (base and unit).
- If you will be using mobile shelf racks or plate racks to place food inside the combi steamer (does not apply to ConvoSmoke), the unit must be installed at the right height so that it is aligned with the transport trolley. To ensure this, just make sure that the transport trolley's contact surface and the support surface of the stand with the combi steamer on it are aligned with each other
It must be possible to move the transport trolley all the way to the oven cavity unobstructed on a horizontal surface and then secure it onto the roll-in frame.

In order to comply with hygiene standards, the following rule must be observed:

- In the case of equipment stands with shelf levels for bakeware, the equipment stands' upper panel must be correctly in place in order to prevent food being temporarily stored in the equipment stand from being contaminated.

Required tools

- A suitable element that can be anchored to the facilities' structure and to which a suitable retaining element can be attached.
One possible example is an eyebolt anchored to the wall behind the combi steamer using a drilled hole and a screw anchor.
The element anchored to the facilities' structure must be able to withstand the tension that may be produced by the weight of the stand and unit together and by the forces exerted by the user when moving the combi steamer on the stand with casters.
- A suitable retaining element that can be attached to the anchor on the structure and to the stand's retainer bracket eye.
One possible example is a chain with carabiners on both ends.
The retaining element must be able to withstand the tension that may be produced by the weight of the stand and unit together and by the forces exerted by the user when moving the combi steamer on the stand with casters.
In combination with the anchoring element attached to the facilities' structure and the retainer bracket eye on the stand, the length of the retaining element must ensure that the combi steamer will not be able to move by more than 20".

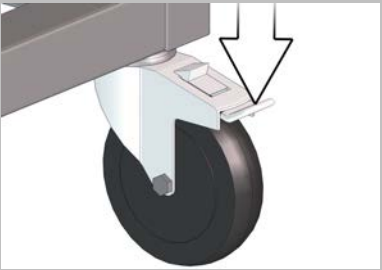
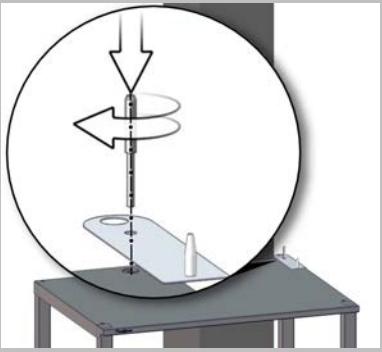
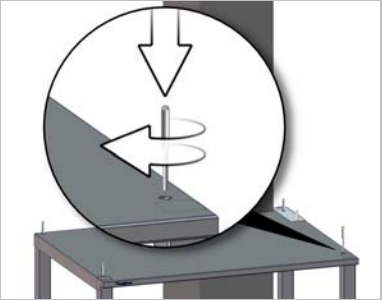
Prerequisites

The anchoring element must be installed before the stand on casters is set up.

In combination with the length of the retaining element and the attachment position on the stand, the anchoring element's position must ensure that the combi steamer will not be able to move by more than 20".

Ideally, the anchoring element should be placed directly behind the stand's retainer bracket eye and at the same height.

Setting up the unit on a stand with casters

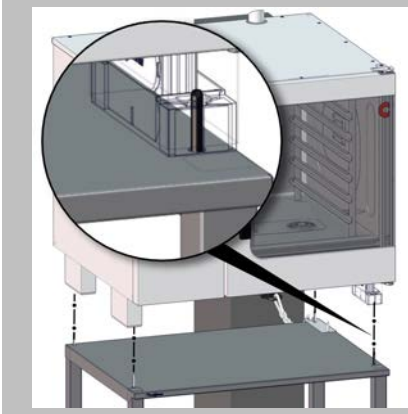
- | | | |
|----|---|---|
| 1. |  | Place the equipment stand with casters at the installation location and level it in such a way that the unit's absolute inclination during operation will not exceed max. 2° (3.5%). |
| 2. |  | Lock all of the casters wheels. |
| 3. |  | Figure out which corner you will be using to attach the retaining element.
Take the retainer bracket with the eye and screw it into the thread found at the corner you just chose.
The bracket must be parallel to the stand's edge and the eye must be pointing away from the stand (toward the back).
Use a screwdriver to tighten the stud. |
| 4. |  | Screw the other three studs into the corresponding stand threads, then tighten them using the screwdriver. |

5.



Now attach the retaining element (a chain in the figure to the left) that will limit how much the stand with casters can move.

6.



Place the unit on the stand.
Make sure that all four studs, as well as the retainer bracket's pin, go into the locating holes at the bottom of the unit's feet.

5.9 Setting Up Floor-Standing Models on the Floor (Standard Equipment)

⚠ Rules for safely setting up the unit

Observe the following rules in order to ensure that the unit will have the required stability:

- It must be possible to set up the unit at the installation location in such a way that it will not topple over or shift. All supporting surface requirements must be met.
- It must be possible to move the loading trolley all the way to the oven cavity unobstructed on a horizontal surface.

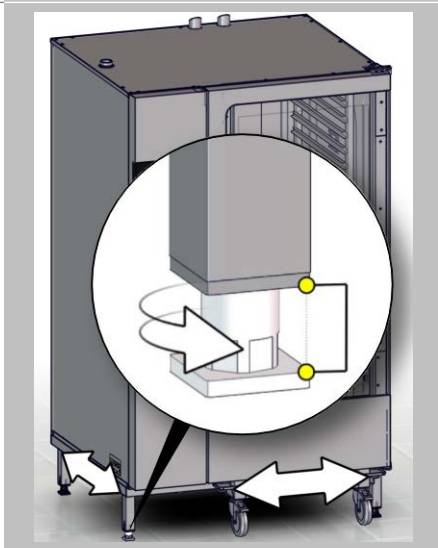
Setting up the unit

1.



Place the unit on the floor.

2.



Use the unit's height-adjustable feet to level the unit. Use a spirit level to make sure that the unit is properly leveled.

Make sure that the loading trolley can move without a problem into the unit and is in a horizontal position inside the unit.

The unit's absolute inclination during operation must not exceed max. 2° (3.5%).

6 Installation

Purpose of this section

This section goes over how to connect your combi steamer. This section is intended for trained electricians from an authorized service company, trained and certified gas technicians who have undergone unit-specific training and are authorized by the relevant local gas company, trained technicians from an authorized service company who specialize in water and wastewater system installations, and qualified staff from an authorized service company.

6.1 Electrical installation

6.1.1 Working Safely When Installing the Electrical Installation

For Your Safety

Before starting your work, read and understand the hazards described in 'Hazards and Safety Measures During Installation.' on page 33

Personnel qualifications required for electrically installing the unit

Work on electrical equipment should be performed exclusively by electricians from an authorized service company who have the training and certifications required by all applicable country-specific and local regulations.

Personal Protective Equipment

Wear the personal protective equipment specified for your work in the 'Personal Protective Equipment' on page 47 section of 'For Your Safety.'

Electrical installation standards and regulations

In order to prevent hazards related to improperly installed electrical connections, make sure to observe the following standards and regulations:

- The connection to the power supply must be installed in accordance with the National Electrical Code, ANSI/NFPA 70 (current edition); the Canadian Electrical Code, CSA C22.2; all other applicable national and state laws and regulations; and the local requirements set forth by the relevant local utility companies, trade associations, and authorities.

Live parts

WARNING

Risk of electric shock posed by live parts and loose cables

Electric shock may occur when coming into contact with live parts after opening the safety cover.

- ▷ Make sure that all electrical work is performed exclusively by a qualified electrician from an authorized service company.
- ▷ Follow the steps below before removing the safety covers:
 - De-energize all connections.
 - Lock out and tag out all switches.
 - If the device was already energized, wait 15 minutes so that the DC bus capacitors can discharge fully.
 - Make sure that the unit is de-energized.
- ▷ Before putting the unit into operation, make sure that all electrical connections are undamaged and firmly connected.
- ▷ Before putting the unit into operation, make sure that it is bonded to an electrical ground system together with all metallic accessories.

6.1.2 Planning the Electrical Installation

Meaning

It is crucial for the unit's electrical system to be carefully and correctly installed in order for the unit to run safely and without any problems. All the rules and specifications specified in this section, as well as the procedures described, must be followed to the letter.

Rules for safely installing the units electrically

In order to prevent hazards related to improperly installed electrical connections, make sure to observe the following rules:

- The unit's case must be properly grounded and connected to an electrical ground system.
- If there are two table-top models mounted in a single stacking kit, both the units' cases and the stacking kit must be properly grounded and connected to an electrical ground system.
- The field installed conductors must be routed through a flexible conduit.
- The length of the field installed conductors and the length of the flexible conduit used for table-top models placed on a base with casters must take into account how much the retaining element on the base allows the unit to move. Do not roll over, pull, or otherwise subject the field installed conductors to any tension when moving the whole setup (base and unit). This also applies to any other additional electrical connection cables between the combi steamer and optional accessories, such as a signal tower.
- While placing the unit into operation, check all electrical connections to make sure they have been routed properly and installed correctly.

Equipment provided by the customer and electrical installation rules

The following table shows the equipment that must be provided by the customer and the rules that have to be followed when making the relevant electrical connections.

Equipment	Rules
Fuse	The unit must be fused and connected in accordance with all applicable local regulations and country-specific installation regulations.
Bonding	The unit must be connected to an electrical ground system. Electrical Bonding: An electrical connection that brings the frames of electrical equipment and other conductive parts to the same or approximately the same potential.
Ground fault circuit interrupter (GFCI)	If installation regulations require for a ground fault circuit interrupter (GFCI) to be connected upstream as protection, unit leakage circuit interrupters that are appropriate as per the applicable country-specific regulations must be used. If the installation encompasses multiple units, a separate ground fault circuit interrupter must be provided for each unit.
Disconnecter	An easily accessible all-pole power disconnection with a contact gap of at least 0.12" must be installed. The unit must be connected through this power disconnector. The power disconnection will then be used to de-energize the unit before performing cleaning, repair, and installation work.

Recommended ground fault circuit interrupter

The unit features one variable frequency drive (VFD) or two variable frequency drives (size 20.10 and 20.20 units) with an integrated EMC filter and an EMC line filter. This equipment can result in a leakage current of more than 3.5 mA per VFD.

Use an appropriate GFCI as required for the relevant rated voltage:

Variable frequency drive (single-phase)	Variable frequency drive (three-phase)
Rated voltage	
3~ 240V 60Hz	3~ 440-480V 60Hz
3~ 208/240V 60Hz	-
3~ 208V 60Hz	-
Recommended ground fault circuit interrupter	
Class C GFCI	Class C GFCI

Ground fault circuit interrupter characteristics

The ground fault circuit interrupter (GFCI) must have the following characteristics:

- High-frequency current filtering
- 'Delayed trip' trip characteristic in the case of ground fault interrupters with a trip threshold > 30 mA: helps prevent the GFCI from tripping due to capacitor charges and parasitic capacitances when the unit is powered on
- 'Type SI leakage current protection' trip characteristic in the case of ground fault interrupters with a trip threshold ≤ 30 mA: helps prevent nuisance tripping

Power supply

The field installed conductors must be routed through an oil-resistant, liquid-tight conduit. Moreover, the field installed conductors and the conduit must comply with all local requirements and regulations. It is recommended for the field installed conductors not to exceed a length of 5½ yd.

In the case of table-top models placed on a base with casters, the field installed conductors must be routed through a flexible, oil-resistant, liquid-tight conduit that complies with all local requirements and regulations. The length of the field installed conductors and the length of the flexible conduit used for table-top models placed on a base with casters must take into account how much the retaining element on the base allows the unit to move. Do not pull or otherwise subject the field installed conductors to any tension when moving the whole setup (base and unit).

A specific phase rotation direction or phase sequence is not required when connecting the unit.

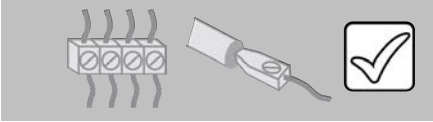
6.1.3 Performing the Electrical Installation

Prerequisites

Check whether the following prerequisite is met:

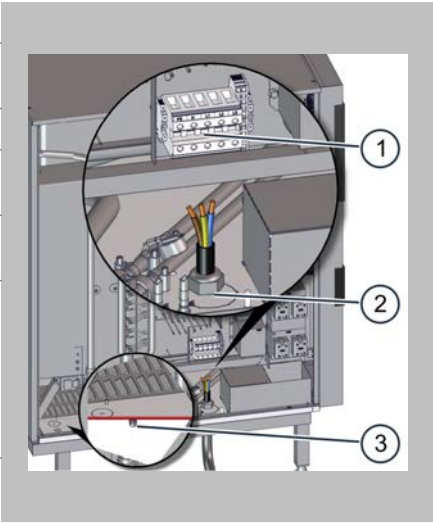
- The unit's connection point has been de-energized and locked and tagged out.

Checking the rating data and electrical connections

- | | | |
|----|---|--|
| 1. |  | Remove the unit's side panel.
The circuit diagram and the spare parts list will be located inside the wiring compartment. |
| 2. |  | Check to make sure that the electrical rating data on the nameplate (please refer to 'Identifying Your Combi Steamer' on page 9) matches the specifications in the circuit diagram and the characteristics of the building's electrical system. Do not connect the unit unless all specifications match. |
| 3. |  | Check all screw and crimp terminal connections on the unit.
The connections may have become loose during transportation. |

Performing the Electrical Installation

The figure below shows a size 12.20 combi steamer used as an example representing all unit sizes:

- | | | |
|----|---|--|
| 1. |  | Remove the unit's side panel. |
| 2. | | Connect the unit to an electrical ground system at the intended connection point (3). |
| 3. | | Pull the field installed conductors through the conduit. |
| 4. | | Mechanically secure the conduit to the access opening (2) for the electrical connection. |
| 5. | | Use the field installed conductors to connect the unit to the power supply at terminal block -1X0 (1). |
| 6. | | For C4 ES/GS:
If necessary, reset the safety thermostat for the oven cavity.
For C4 EB/GB:
If necessary, reset the safety thermostats for the oven cavity and boiler. |
| 7. | | Put the unit's side panel back in place and check that it is mounted properly. |

6.1.4 Connecting an Energy Optimization System (for Electrical Units Only)

Purpose of energy optimization system

You can connect the combi steamer to an energy optimization system (e.g. SICOTRONIC). Energy optimization system compensate for peak loads that occur while your units are running and can help lower your electricity costs as a result.

Setting up the energy optimization system

Set up the energy optimization system as follows:

- The combi steamer must be on without interruption for at least eight minutes, since this is the minimum time required in order to ensure that the cooking temperature setpoint will be reliably reached.
- The power interruption effected by the energy optimization system must not last longer than 30 seconds, as a longer interruption will result in uncertain cooking results.

When connecting the energy optimization system, observe the circuit diagram and follow the operating instructions for the system.

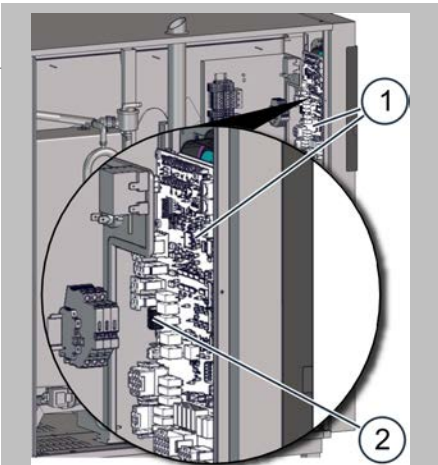
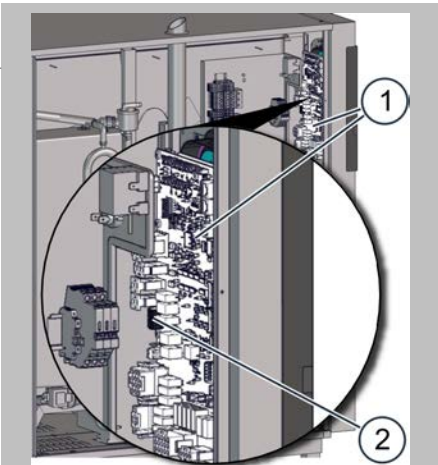
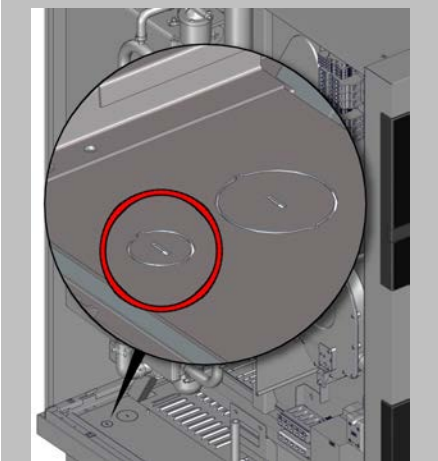
Required accessories

You will need the following accessories to connect the energy optimization system:

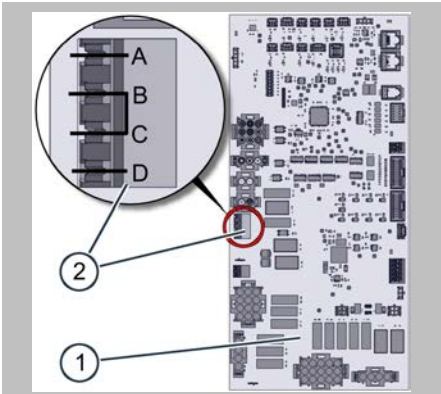
- Connection cable for energy optimization system
- M20 cable fitting
- Cable ties

Connecting the energy optimization system

The figure below shows a size 12.20 combi steamer used as an example representing all unit sizes:

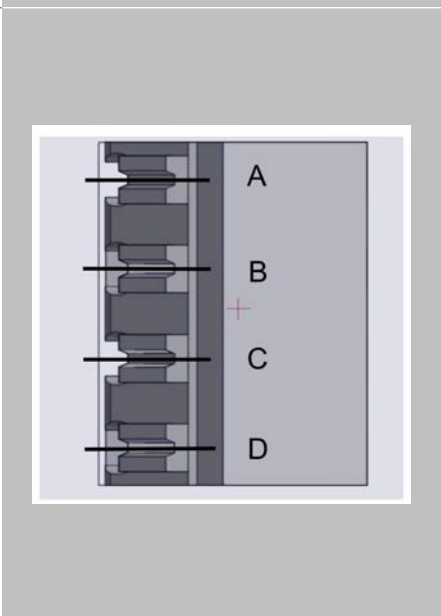
1.  De-energize the energy optimizing system and the combi steamer.
2.  Remove the side panel from the combi steamer in order to access terminal block -X37 (2) on the system interface board (SIB) (1) in the area behind the operating panel.
3. 
 - Remove the small pre-perforated knockout on the combi steamer's bottom panel. The knockout's location is shown on the left
 - Using the cable fitting, guide the energy optimization system's connection cable through the knockout and into the combi steamer's wiring compartment
 - Connect the connection cable to the SIB and secure it inside the wiring compartment, e.g., by using cable ties to secure it to the cable harnesses already inside the compartment.

4.



Remove the jumper between terminals (B) and (C) on terminal block -X37 (2).

5.



Connect terminals (A), (B), (C), and (D) on terminal block -X37 (2) to the energy optimization system.

Terminal	Combi Steamer	Energy optimization system
A	Phase (when the combi steamer is turned on)	-
B	Phase (when the combi steamer is turned on)	Electronic relay
C	The energy optimization system must connect heater enable terminals B and C to each other with electronic relays in order to allow heating	Electronic relay
D	Neutral	-

6.



Put the combi steamer's side panel back in place.

7.

Place the combi steamer and the energy optimization system into operation.

6.1.5 Connecting the Signal Tower

Signal tower purpose

If a signal tower is electronically connected to the combi steamer, the tower will visually and acoustically indicate the combi steamer's current operating state using acoustic signals and three indicator lights (green, yellow, red). This pilot device, which signals the combi steamer's operating state, can be seen and heard across large distances.

Required accessories

The equipment included with the signal tower includes the following original accessories, which you will need in order to connect the signal tower to the combi steamer:

- Connection cable (approx. 10.9 yards long) with an M12 connector
- NPS 2" gland grommet

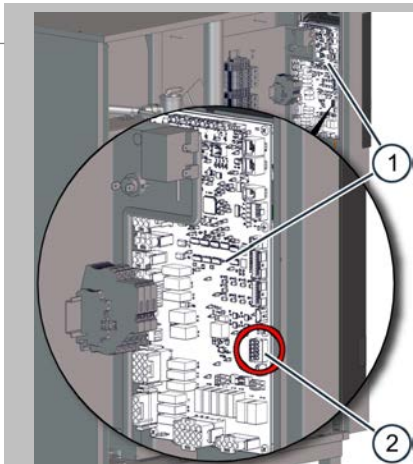
You will also need the following additional accessories:

- Cable ties

Connecting the Signal Tower

The figure below shows a size 12.20 combi steamer used as an example representing all unit sizes:

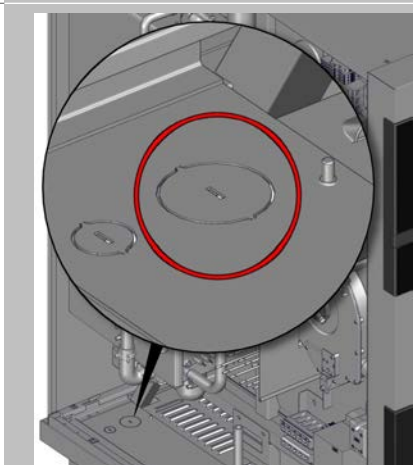
- 1.
- 2.



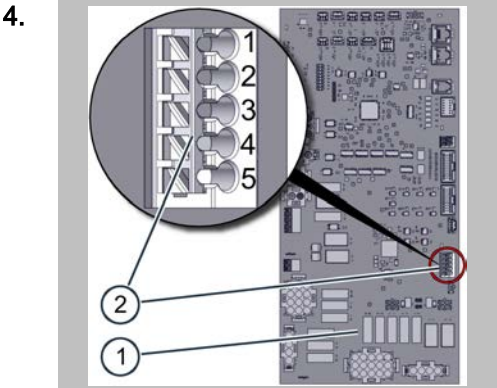
De-energize the combi steamer.

Remove the side panel from the combi steamer in order to access terminal block X32 (2) on the system interface board (SIB) (1) in the area behind the operating panel.

- 3.



- Remove the large pre-perforated knockout on the combi steamer's bottom panel. The knockout's location is shown on the left
- Using the gland grommet, guide the signal tower's connection cable through the knockout and into the combi steamer's wiring compartment
- Connect the connection cable to the SIB and secure it inside the wiring compartment, e.g., by using cable ties to secure it to the cable harnesses already inside the compartment.



Connect the signal tower's connection cable to the combi steamer, observing the following pinout:

Pin	Signal	Wire color
1	GND	BU (blue)
2	Signal: Buzzer	GY (gray)
3	Signal: Red light	BK (black)
4	Signal: Yellow light	WH (white)
5	Signal: Green light	BN (brown)



Put the combi steamer's side panel back in place.

Place the combi steamer and the signal tower into operation.

6.1.6 Connecting the Water Treatment Filter Monitoring System

Water treatment filter monitoring system purpose

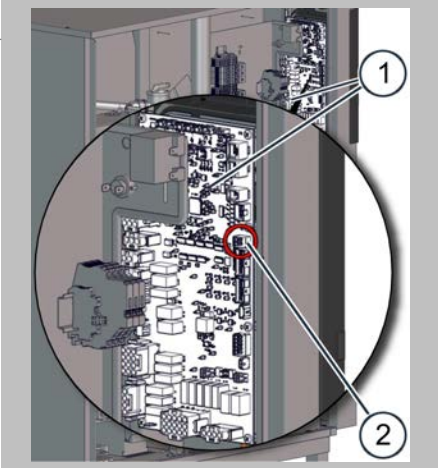
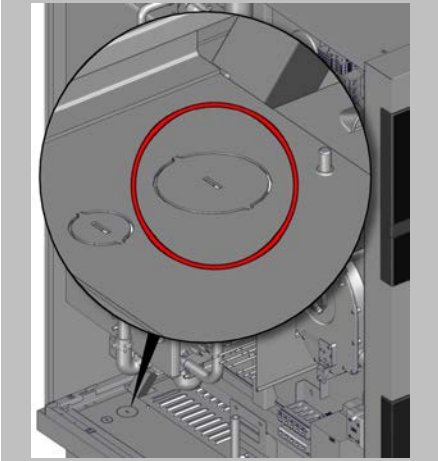
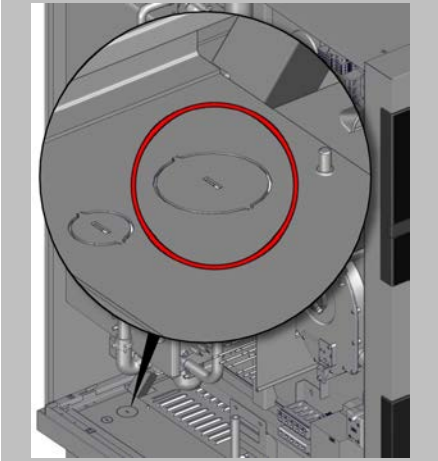
You can electrically connect the combi steamer to the remote indicator for a connected water treatment filter. When you do so, the combi steamer's software will monitor the water treatment filter's condition. The system will provide a warning when the filter's capacity is down to 10% and the water treatment filter needs to be replaced soon.

Required accessories

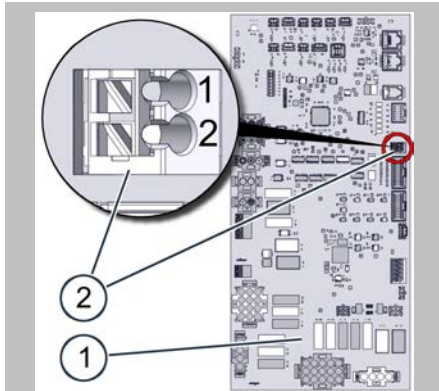
- Two-conductor, oil-resistant connection cable (approx. 80" long)
- NPS 2" gland grommet
- Cable ties

Connecting the Water Treatment Filter Monitoring System

The figure below shows a size 12.20 combi steamer used as an example representing all unit sizes:

1. 
2.  De-energize the combi steamer.
Remove the side panel from the combi steamer in order to access terminal block X33 (2) on the system interface board (SIB) (1) in the area behind the operating panel.
3. 
 - Remove the large pre-perforated knockout on the combi steamer's bottom panel. The knockout's location is shown on the left
 - Using the gland grommet, guide the water treatment filter monitoring system's connection cable through the knockout and into the combi steamer's wiring compartment
 - Connect the connection cable to the SIB and secure it inside the wiring compartment, e.g., by using cable ties to secure it to the cable harnesses already inside the compartment.

4.



Connect the water treatment filter monitoring system's connection cable to the combi steamer, observing the following pinout:

Pin	Signal
1	Signal
2	GND

5.

6.



Put the combi steamer's side panel back in place.

Place the combi steamer and the water treatment filter monitoring system into operation.

6.2 Gas Installation

6.2.1 Working Safely When Installing the Gas System

For Your Safety

Before starting your work, read and understand the hazards described in 'Hazards and Safety Measures During Installation.' on page 33

Personnel qualifications required for installing the gas system for the unit

The unit should be connected exclusively by gas technicians who have the training and certifications required by all applicable country-specific and local regulations, have undergone unit-specific training, and are authorized by the local gas company. It must be connected as required by local standards and regulations.

Personal Protective Equipment

Wear the personal protective equipment specified for your work in the 'Personal Protective Equipment' on page 47 section of 'For Your Safety.'

Gas installation codes

- The installation must comply with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1 /NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1, as applicable, including the following rules:
 - The unit and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psi (3.5 kPa).
 - The unit must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psi (3.5 kPa).
 - The vent line from the gas unit pressure regulator shall be installed to the outdoors.
- For caster-equipped combi stands and combis, the installation of the gas supply shall be made with a connector that complies with the Standard for Connectors for Movable Gas Unit, ANSI Z21.69 / CSA 6.16, and a quick-disconnect device that complies with the Standard for Quick Disconnect Devices for Use With Gas Fuel, ANSI Z21.41 / CSA 6.9.
The quick disconnect device must be located at the supply end of the flexible gas line.

What to do if you smell gas

If you smell gas, follow the steps below without exception:

- Immediately shut off the gas.
- Thoroughly ventilate the room.
- Do not operate any electrical devices or equipment. Make sure not to cause any sparks.
- Evacuate the building.
- Call the gas utility and, if necessary, the fire department on a telephone found outside the hazardous area.

Leaking gas

DANGER

Explosion hazard posed by gas leaks

Gas leaks may result in an explosion in the presence of an ignition source.

- ▷ Install a gas shut-off device close to the unit.
- ▷ Make sure that the gas is shut off before starting any work on gas units and/or gas installations.
- ▷ Always check all the connection points on components conveying gas for leaks after connecting the gas system and after performing any work on these components. Before placing the combi steamer into operation, make sure that none of the specified connection points outside or inside the unit have any leaks.
- ▷ If using a table-top model that is placed on a base with casters and is connected using a flexible connecting hose, check to make sure that the retaining element designed to limit how much the base can move with the unit is attached so that the unit will be mechanically secured.

6.2.2 Planning the Gas Installation

Rules for safely installing the unit's gas system

In order to prevent hazards related to improperly installed gas connections, make sure to observe the following rules:

- The combi steamer is designed to work with a specific type of gas (check the unit's nameplate). In order to run the combi steamer with other types of gas, it will first need to be retrofitted by qualified staff from an authorized service company.
- Always check all the connection points on components conveying gas for leaks after connecting the gas system and after performing any work on these components. Before placing the combi steamer into operation, make sure that none of the specified connection points outside or inside the unit have any leaks.
- In the case of table-top models placed on a base with casters, the gas connection must use a flexible line.
- The length of the gas connection line used for table-top models placed on a base with casters must take into account how much the retaining element on the base allows the unit to move. Do not roll over, pull, or otherwise subject the gas connection line to any tension when moving the whole set-up (base and unit).

Gas unit type

The combi steamer belongs to the following gas unit type category:

Gas unit type	Meaning
B23	Open-flued gas appliances ▪ With a burner fan in front of the burner ▪ With no draft diverter

Equipment provided by the customer and gas installation rules

The following table shows the equipment that must be provided by the customer and the rules that have to be followed when making the relevant electrical connections.

Equipment	Rules
Fixed connection	The unit is designed for a permanent connection installed on-site. Gas connection location: point J in the connection drawing. The unit must be mechanically secured.
Gas shut-off device	A gas shut-off device must be installed close to the unit. This gas shut-off device must be easily accessible and positioned in such a way that it can be closed even in hazardous situations.
Pressure regulator	A pressure regulator must be installed if the supply flow pressure is too high.
All connection parts	All connection parts installed on-site must be inspected in compliance with all applicable local and country-specific regulations.

Ensuring that there is a proper combustion air supply

Based on the installation setup and the combi steamer's output, all measures required in order to ensure that the unit will be supplied with sufficient combustion air should be taken in accordance with all applicable local regulations and standards. Make sure, as the gas technician responsible for the installation, that the unit will be supplied with sufficient combustion air.

Keep the following in mind:

- The required combustion air will depend on the connection rating; refer to the 'Exhaust Gas Volume' on page 122 section.

Ensuring that there is proper ventilation

The unit will produce combustion exhaust gases that need to be discharged into the open through an appropriate flue. Make sure to follow all the instructions and indications in the 'Adjacent Systems' section on page 51 without exception.

In order to prevent combustion exhaust gases that are harmful to health from reaching impermissible concentration levels, you, as the gas technician responsible for the installation, must ensure that the unit is installed in such a way that appropriate ventilation conditions for running the combi steamer will always be guaranteed.

Exhaust gas temperature

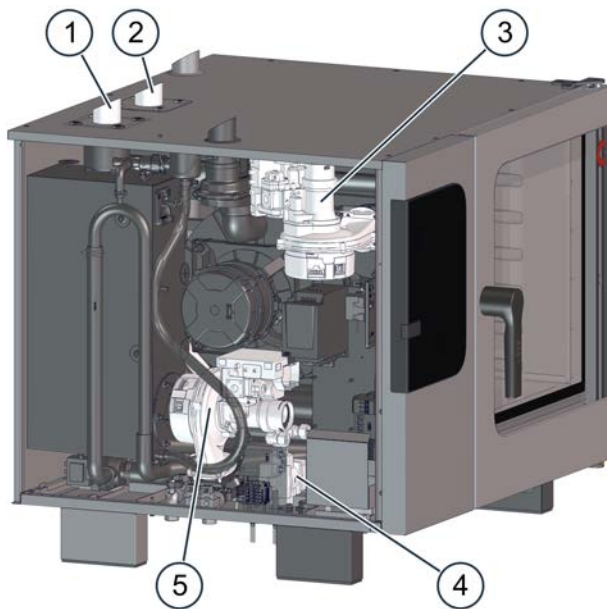
The undiluted exhaust gas may reach temperatures of up to 930 °F.

Comply with all fire safety regulations.

6.2.3 Forced Air Burner and Gas Main Valve Locations

Forced air burner locations in unit sizes 6.10, 6.20, 10.10, 10.20, and 12.20

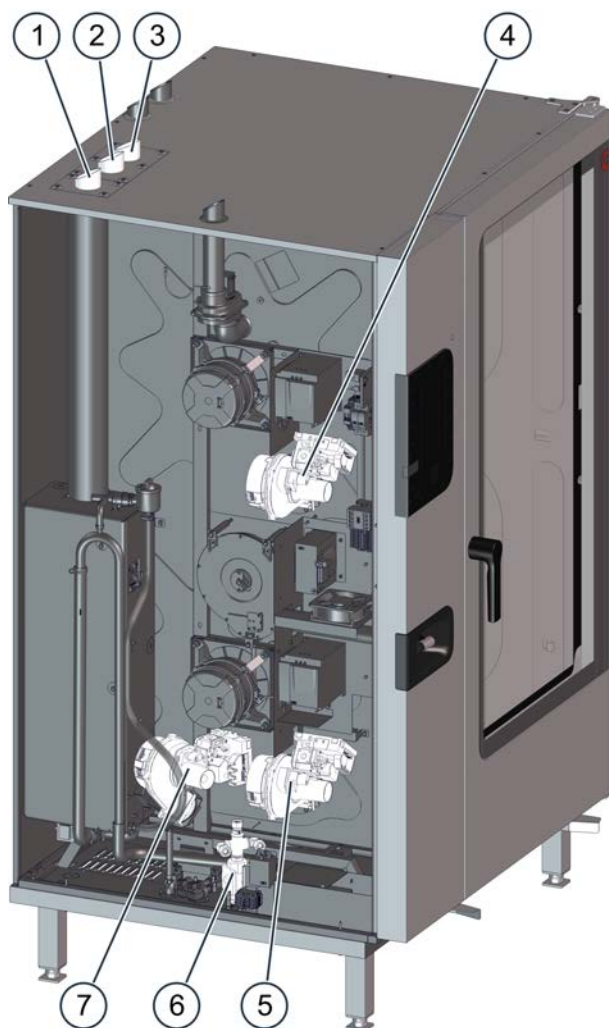
The figure below shows a size 6.10 combi steamer with a boiler used as an example representing all size 6.10, 6.20, 10.10, 10.20, and 12.20 gas units:



No.	Designation
1	Boiler burner exhaust outlet (found in boiler units only, i.e., units with a sprayer will not have this outlet)
2	Convection burner exhaust outlet
3	Convection burner
4	Gas main valve, gas connection at the bottom of the unit
5	Boiler burner (found in boiler units only, i.e., units with a sprayer will not have this outlet)

Forced air burner locations in unit sizes 20.10 and 20.20

The figure below shows a size 20.20 combi steamer with a boiler used as an example representing all size 20.10 and 20.20: gas units:



No.	Designation
1	Boiler burner exhaust outlet (found in boiler units only, i.e., units with a sprayer will not have this outlet)
2	Lower convection burner exhaust outlet
3	Upper convection burner exhaust outlet
4	Upper convection burner
5	Lower convection burner
6	Gas main valve, gas connection at the bottom of the unit
7	Boiler burner (found in boiler units only, i.e., units with a sprayer will not have this outlet)

6.2.4 Performing the Gas Installation

Prerequisites

Check whether the following prerequisite is met:

- A gas shut-off device has been installed on-site.

Required tools

- Leak detector spray / gas detector

Performing the Gas Installation

1. Check the type of gas, the gas pressure, and the gas connection rating against the specifications on the unit's nameplate.
Do not place the unit into operation or connect it to the gas supply point unless all specifications match.
2. Connect the gas connection.
3. Make sure that none of the connection points outside the unit are leaking.
4. Find out where the burners and their components are located and familiarize yourself with the burners' configuration.
5. Turn on the unit.
6. Make sure that none of the connection points outside or inside the unit are leaking. If required, fix any leaking connection points.
7. Start a cooking profile with the 'convection' operation mode.
8. Measure the supply flow pressure at the gas valve.
Result:
 - If the supply flow pressure exceeds the specified upper limit, it can be reduced if necessary.
 - If the supply flow pressure falls below the specified lower limit, you, as the installer, will not be able to correct the problem.
 - If the reading falls within the specified limits, continue to step 9.
 - If you cannot get the supply flow pressure to fall within the specified limits, use the gas shut-off device to shut off the gas supply to the combi steamer and stop installing the system.
9. Measure the burner's CO emissions.
Do not place the unit into operation unless the emissions fall within the specified limits.
10. Turn off the unit.
11. Notify the following parties (if required) of the fact that you have installed the gas unit and the corresponding system components:
 - Gas provider
 - The appropriate authorities as required by local regulations

'Gas Characteristic Values' on page 122

'Forced Air Burner and Gas Main Valve Locations' on page 85

'Measuring the Supply Flow Pressure' on page 88

'Measuring the Exhaust Gas Values' on page 89

6.2.5 Measuring the Supply Flow Pressure

Prerequisites

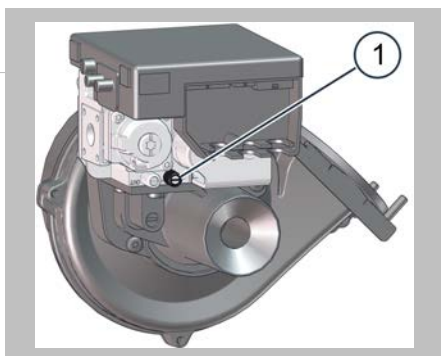
- A gas shut-off device has been installed on-site.
- The gas system must have been installed as indicated in the 'Performing the Gas Installation' on page 87 all the way to the 'Measure the supply flow pressure' step.

Required tools

- Pressure measuring instrument

Measuring the Supply Flow Pressure

1.



2.

Measure the supply flow pressure at the gas valve (1) on the forced air burner.

Compare the measured value with the specified limits – refer to 'Gas Characteristic Values' on page 122.

Result:

- If the measured supply flow pressure is lower than the required values:
 - Notify your gas utility. Do not place the unit into operation. Shut off the gas to it.
- If the measured supply flow pressure is higher than the required values:
 - Restrict the supply flow pressure.

6.2.6 Measuring the Exhaust Gas Values

Required tools

- Exhaust gas analyzer

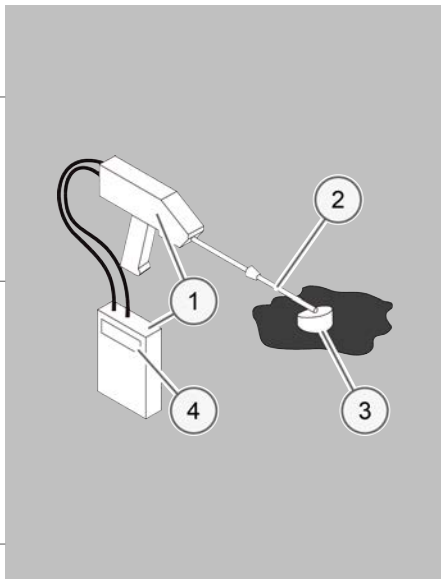
Measuring the Exhaust Gas Values

1.

2.

3.

4.



Thread the flue gas analyzer's (1) probe (2) into the exhaust outlet (3) for the burner for which you will be performing the measurement.

Measure the exhaust gas values.

Make sure to follow the operating instructions in the analyzer's manual.

Additional information:

If the analyzer shows approx. 21% O₂ or nothing, the probe is in the wrong exhaust outlet.

After one minute, check the analyzer's readings (4) and compare them with the specified limit – please refer to 'Exhaust gas values' in 'Gas Characteristic Values.' on page 122

- If the limit is being exceeded, the unit needs to be checked as indicated in the adjustment instructions in the servicing documentation.

Otherwise:

- Continue to step 4.

Document the analyzer's readings.

6.3 Water connections

6.3.1 Working Safely When Setting Up the Water Connection and Drain Connection

For Your Safety

Before starting your work, read and understand the hazards described in 'Hazards and Safety Measures During Installation.' on page 33

Personnel qualifications required for setting up the water connection and drain connection

The combi steamer should be connected to the water supply and the wastewater system exclusively by trained technicians from an authorized service company who specialize in water and wastewater system installations.

Personal Protective Equipment

Wear the personal protective equipment specified for your work in the 'Personal Protective Equipment' on page 47 section of 'For Your Safety.'

Water connection standards and regulations

Make sure to comply with all national and state laws and regulations that apply to the water connection, as well as with all applicable local requirements and regulations set forth by the relevant local water utilities and authorities. These include, but are not limited to:

- Latest edition of the International Plumbing Code published by the International Code Council (ICC) or the Uniform Plumbing Code published by the International Association of Plumbing and Mechanical Officials (IAPMO)
- The Food Service Sanitation Manual published by the Food and Drug Administration (FDA)
- The standards published by the National Sanitation Foundation (NSF)

The unit must be installed with an appropriate backflow preventer in order to comply with all applicable federal, state, and local laws and regulations.

Drain connection standards and regulations

Make sure to comply with all national and state laws and regulations, as well as with all applicable local requirements and regulations set forth by the relevant local utilities and authorities, that apply to the drain connection and to the wastewater's properties. These include, but are not limited to:

- Latest edition of the International Plumbing Code published by the International Code Council (ICC) or the Uniform Plumbing Code published by the International Association of Plumbing and Mechanical Officials (IAPMO)
- The Food Service Sanitation Manual published by the Food and Drug Administration (FDA)
- The standards published by the National Sanitation Foundation (NSF)

6.3.2 Water supply

Rules for safely installing the water connection

In order to prevent hazards related to an improperly installed water connection, make sure to observe the following rules:

- In the case of table-top models placed on a base with casters, the water connection must use a flexible hose.
- The length of the hose used for table-top models placed on a base with casters must take into account how much the retaining element on the base allows the unit to move. Do not roll over, pull, or otherwise subject the water connection hose to any tension when moving the whole setup (base and unit).
- The unit must be connected to a cold water pipe.

Water connection configuration

The unit is designed for a permanent water connection installed on-site.

Connecting the water connection with a flexible connection hose

- The unit can be connected to the water supply using a flexible GHT-M water connection hose that has a 3/4" fitting.

Water quality and water hardness

- Ask your local water company for information regarding the quality and hardness of the water you get or check the water quality as explained in 'Checking the Water Quality on page 95.'
- For information on the required properties for the drinking water used with the unit, please refer to 'Water Quality' in the 'Technical Data' on page 124 section.
- If required, use suitable water treatment solutions. These can include, for instance, installing a water filter and/or a full water treatment system.
- Follow the steps in the 'Checking the Water Quality' on page 95 section in order to ensure that the required water quality values are met once the water goes through your water treatment system.

Connection diagram without water treatment system

Connection diagram

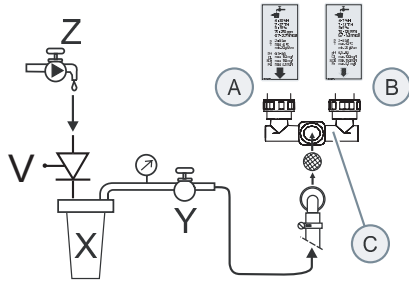
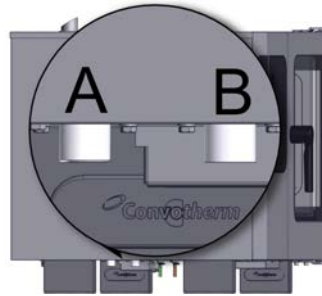
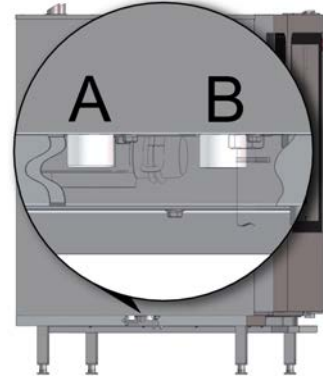


Table-top model connections



Floor-standing model connections



No.	Designation	Explanation
A	Water connection for boiler or water injection	For water quality specifications, please refer to 'Water quality' on page 124
B	Water connection for cleaning and recoil hand shower	For water quality specifications, please refer to 'Water quality' on page 124
C	Water distributor	-
Z	Water line provided by the customer	Water quality: Drinking water
X	0.003" sediment filter	A 0.003" sediment filter needs to be installed if the water has a lot of impurities.
Y	Shut-off device	Water valve
V	Appropriate backflow preventer (required for systems with sprayer; otherwise optional)	The unit must be installed with an appropriate backflow preventer in order to comply with all applicable federal, state, and local laws and regulations.

Connection diagram with water treatment system

Connection diagram

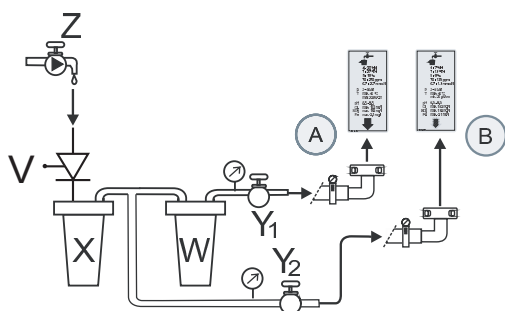
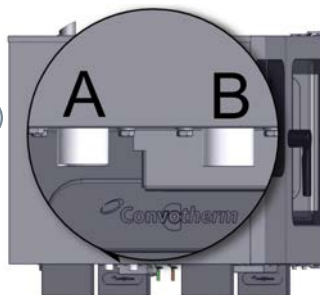
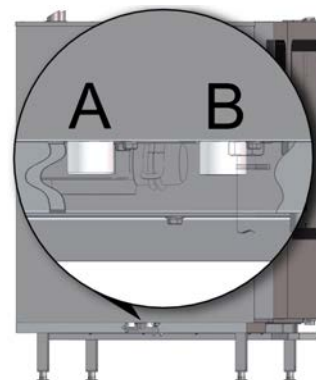


Table-top model connections

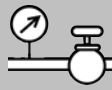
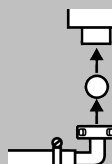


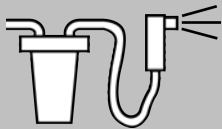
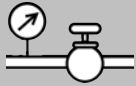
Floor-standing model connections



No.	Designation	Explanation
A	Water connection for boiler or water injection	For water quality specifications, please refer to 'Water quality' on page 124
B	Water connection for cleaning and recoil hand shower	For water quality specifications, please refer to 'Water quality' on page 124
Z	Water line provided by the customer	Water quality: Drinking water
X	0.003" sediment filter	A 0.003" sediment filter needs to be installed if the water has a lot of impurities.
W	Water treatment system for softening the water until it reaches the required soft water quality	Recommendation: Partial demineralization cartridge
Y	Shut-off device	Water valve
V	Appropriate backflow preventer (required for systems with sprayer; otherwise optional)	The unit must be installed with an appropriate backflow preventer in order to comply with all applicable federal, state, and local laws and regulations.

Installing the water supply connection

- 
 Flush the water connection on the on-site water line (Z).
- 
 Install the sediment filter (X) and, if necessary, a water treatment system (W).
- 
 Install a separate shut-off device for each unit (Y).
- 
 If a backflow preventer (V) or check valve (DCV) is required (see connection diagram), install it in the water supply line.
- 
 Connect the unit as shown in the connection drawing.

6.		Flush the sediment filter by using the recoil hand shower.
7.		Once you are done installing the water connection, close the shut-off device.
8.		Inform the user of the maintenance intervals for the filters and for the water treatment system (if any).

6.3.3 Checking the water quality

Required tools

You will need the following tools:

- 1 sample jar for getting a sample
- 1 conductivity meter (part No. 3019007)
- A general hardness and carbonate hardness analysis kit, including two beakers (part No. 3019010)
- Protective gloves

Checking the water quality

Measure the water's conductivity and total hardness. To do so, follow the instructions for the meter and the analysis kit.

Compare the measured values with the required values in the 'Water Quality' sub-section of the 'Technical Data' section. on page 124

6.3.4 Drain Connection

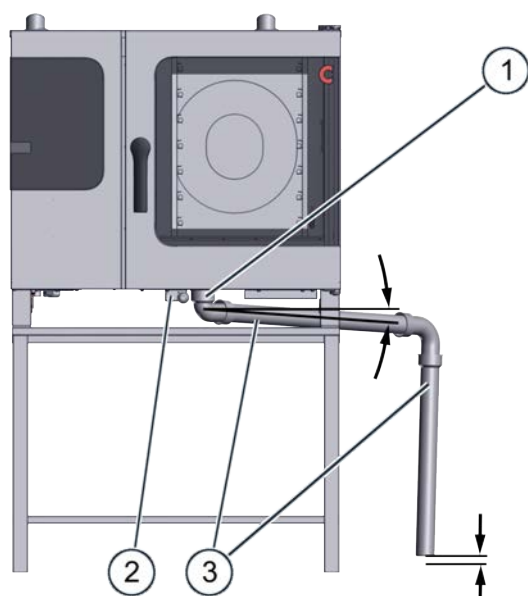
⚠ Rules for safely installing the drain connection

In order to prevent hazards related to an improperly installed drain connection, make sure to observe the following rules:

- The drain pipes' material must be able to withstand a temperature of 140 °F.
- The drain pipe must not taper or have any other diameter-reducing deformations at any point.
- The drain pipe's minimum diameter will depend on the pipe's total length and the number of elbows used. For a pipe length of up to 6 feet and a maximum of two elbows, the minimum inner diameter will be 2". For a pipe length of 6 to 12 feet or a maximum of three elbows, the minimum inner diameter will be 2½".
- The drain pipe must have a downward slope of min. 3.5% (2°).
- Do not directly connect the unit drain to the sewer system vertically.
- The connection between the drain pipe and the sewer system must be located outside the perimeter of the unit's base area. Due to potential wastewater vapors, there must not be a drain connection or open sewer line below the unit's base area.
- The drain connection must be implemented using a rigid, naturally ventilated pipe.
- A ventilation clearance of at least 1" must be maintained between the end of the drain pipe and the upper edge of the drain or pan.
- Do not connect any other units to the combi steamer's drain pipe.
- Do not connect the combi steamer to any other units' drain pipe.

Connection diagram (table-top models)

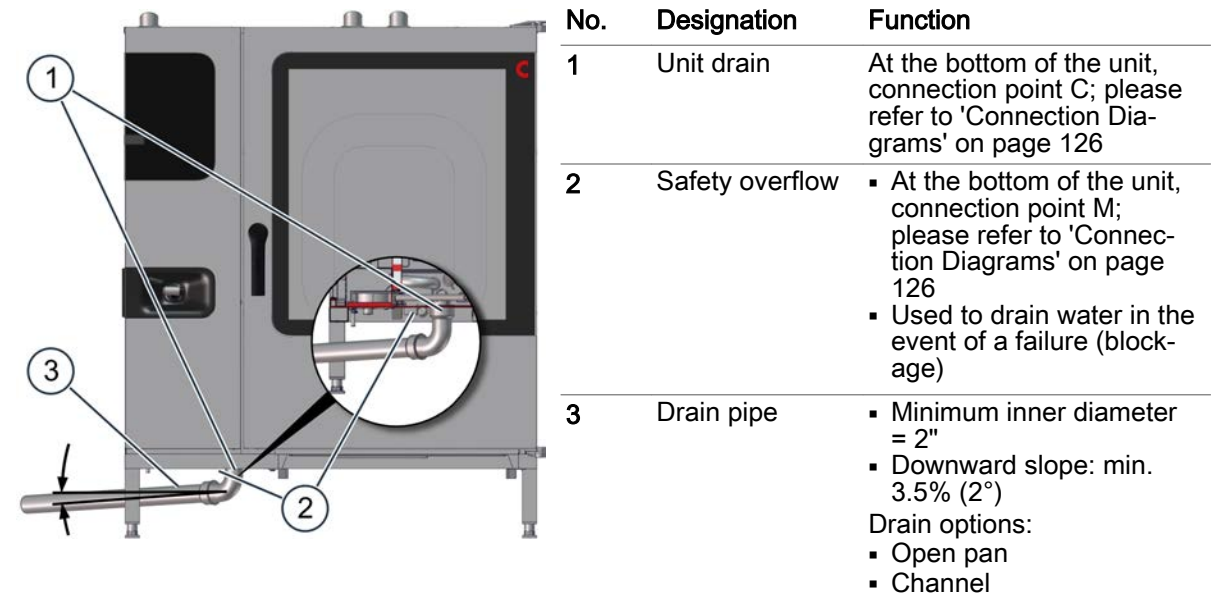
The figure below shows the wastewater installation connection diagram for a size 6.10 combi steamer as an example representing all table-top models:



No.	Designation	Function
1	Unit drain	At the bottom of the unit, connection point C; please refer to 'Connection Diagrams' on page 126
2	Safety overflow	▪ At the bottom of the unit, connection point M; please refer to 'Connection Diagrams' on page 126 ▪ Used to drain water in the event of a failure (blockage)
3	Drain pipe	▪ Minimum inner diameter = 2" ▪ Downward slope: min. 3.5% (2°) ▪ Min. ventilation clearance: 1"

Connection diagram (floor-standing models)

The figure below shows the wastewater installation connection diagram for a size 12.20 combi steamer as an example representing all floor-standing models:



Installing the drain connection

Connect the unit as shown in the connection diagram. Use the included flat elbow for table-top models.

6.4 Installing the fully automatic oven cleaning system

6.4.1 Working Safely During Installation

For Your Safety

Before starting your work, read and understand the hazards described in 'Hazards and Safety Measures During Installation.' on page 33

Personnel qualifications required for installing the fully automatic oven cleaning system

The unit's fully automatic oven cleaning system should be installed and connected exclusively by qualified staff from an authorized service company.

Personal Protective Equipment

Wear the personal protective equipment specified for your work in the 'Personal Protective Equipment' on page 47 section of 'For Your Safety.'

Contact with cleaning agents

WARNING

Chemical burn hazard and skin, eye, and respiratory tract irritation hazard

The ConvoClean new (S) cleaning agent and the ConvoCare (S) rinse aid will cause skin, eye, and respiratory tract irritation upon direct contact. The ConvoClean forte (S) cleaning agent will result in chemical burns to the skin, eyes, and respiratory tract upon direct contact.

- ▷ Do not inhale the cleaning agents' and rinse aid's vapors or mist.
- ▷ Do not let the cleaning agents or rinse aid come into contact with your eyes, skin, or mucous membranes.
- ▷ Observe all the instructions and warnings on the cleaning agent labels and in the corresponding safety data sheets when handling cleaning agents.
- ▷ Wear the required personal protective equipment.

6.4.2 Components of Fully Automatic Oven Cleaning System

Cleaning agents and rinse aid

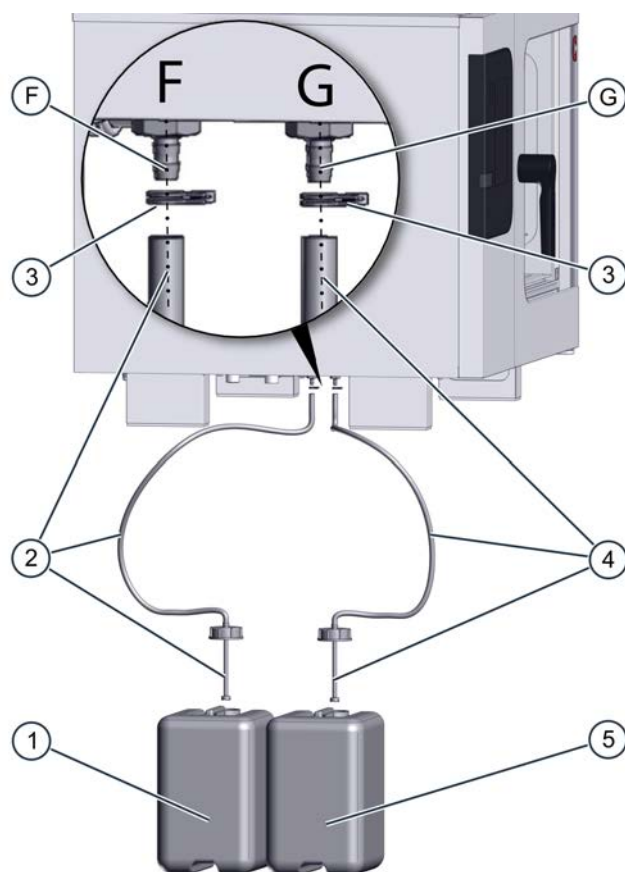
Only use the products specified here in order to clean the combi steamer.

NOTICE! The warranty will be void if there is any damage that can be traced back to the use of incorrect cleaning agents.

The following table lists the cleaning agents and rinse aids that can be used:

Designation	Product	Label color
Cleaning agents	ConvoClean forte / new	Red
Rinse aid	ConvoCare	Green

Components and Configuration of Fully Automatic Oven Cleaning System with Connected Canisters



No.	Designation	Color coding
1	Canister with ConvoCare rinse aid (ready-to-use solution with a defined mix ratio)	Green (label)
2	Suction tube with suction nozzle for rinse aid	Green (tube)
3	D10 wire hose clamp	-
4	Suction tube with suction nozzle for cleaning agent	Red (tube)
5	Canister with ConvoClean new or ConvoClean forte cleaning agent	Red (label)
F	Unit connection for rinse aid	Green (inscription)
G	Unit connection for cleaning agent	Red (inscription)

Box for cleaning agent canister (optional accessory)

The box for the cleaning agent canister is an optional combi steamer accessory that is available from the manufacturer.

In the case of table-top models on equipment stands:

- This box can be mounted on the equipment stand using the hangers screwed on the back of the box and the mounting bracket. To do this, the mounting bracket needs to be mounted on the equipment stand using the studs. The weight of the combi steamer placed on top will keep the mounting bracket and the attached box (with the cleaning agent canisters) in place.

In the case of floor-standing models or table-top models on work tables:

- The box can be screwed onto a wall using the holes in the back panel. To do this, the hangers need to be unscrewed from the box first. In order to make it easier to clean the kitchen floor, you can fasten the box at a certain distance from the floor. When doing so, make sure to observe the requirements described in 'Installation location for cleaning agent and rinse aid canisters.'

Installation location for cleaning agent and rinse aid canisters

Set up the canisters as follows:

- The canisters should be easily accessible on a flat, level surface next to the device.
- The canister's supporting surface must not be higher than the edge where the feet and the unit case meet.
- The canister's supporting surface must not be more than 40 inches below this edge.

6.4.3 Connecting the Fully Automatic Cleaning System

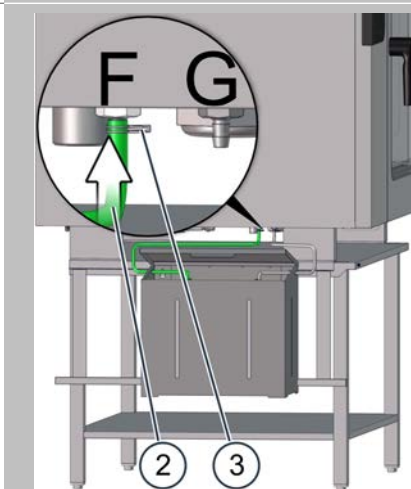
Connecting the fully automatic oven cleaning system with canisters

1.



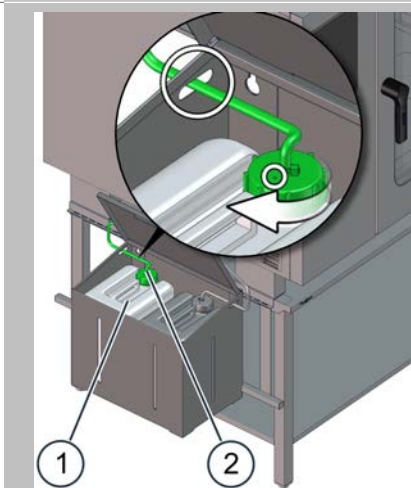
Mix the included ConvoCare K concentrate with soft water in the empty canister for ConvoCare rinse aid. Make sure to follow the operating manual instructions on mixing ConvoCare rinse aid in canisters.

2.



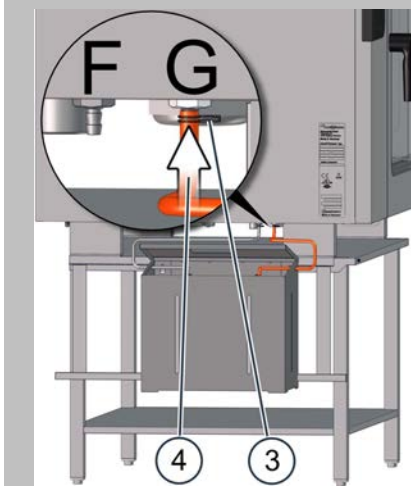
Slip the green suction tube (2) for ConvoCare rinse aid onto the barbed nipple on the rear bulkhead fitting (F) and secure the tube using the wire hose clamp (3) (see 'Rinse-aid connection' adhesive label on the left unit side).

3.



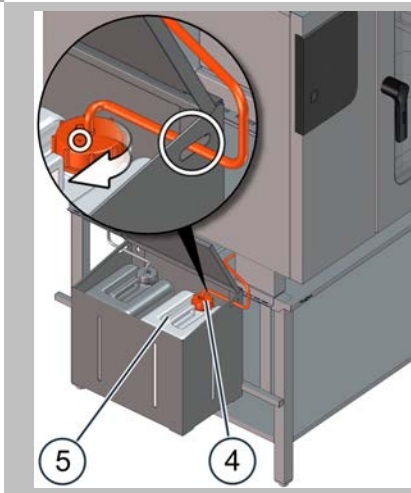
Insert the suction nozzle on the green suction tube into the rinse aid canister (1). The tube must be routed without any kinks and the canister's vent opening must be open and clear.

4.



Slip the red suction tube (4) for ConvoClean forte or ConvoClean new cleaning agent onto the barbed nipple on the front bulkhead fitting (G) and secure the tube using the wire hose clamp (3) (see 'Cleaning-agent connection' adhesive label on the left unit side).

5.



Insert the suction nozzle on the red suction tube into the cleaning agent canister (5). The tube must be routed without any kinks and the canister's vent opening must be open and clear.

6.5 Installing the Grease Collection Canister (ConvoGrill Only)

6.5.1 Working Safely During Installation

For Your Safety

Before starting your work, read and understand the hazards described in 'Hazards and Safety Measures During Installation.' on page 33

Personnel qualifications required for installing the grease collection canister

The grease collection canister used for automatic grease management purposes with ConvoGrill should be connected to the unit exclusively by qualified staff from an authorized service company or appropriately trained personnel.

Personal Protective Equipment

Wear the personal protective equipment specified for your work in the 'Personal Protective Equipment' on page 47 section of 'For Your Safety.'

6.5.2 Connecting the Grease Collection Canister

Required accessories

ConvoGrill includes the following original accessories, which you will need in order to connect the automatic grease management system. Make sure to use these original accessories exclusively!

- Connection tube with attached rotating canister screw closure
- Grease collection canister (empty canister for pumped-out grease)
- Hose clamp for securing the tube connection on the combi steamer
- Forked holder for holding the canister screw closure with the connection tube while emptying and cleaning the grease collection canister

Connecting the grease collection canister (ConvoGrill)

- | | | |
|----|--|--|
| 1. | | Check the accessories for damage. Continue with the installation only if the parts are undamaged and have no leaks. |
| 2. | | Slip the open end of the automatic grease management system's connection tube (2) onto the drain (1) at the back of the combi steamer's bottom. Then secure the tube (2) using the hose clamp (3). |
| 3. | | Screw the canister screw closure (4) on the connection tube (2) onto the grease collection canister (5). |
| 4. | | Place the grease collection canister (5) in an adequate spot and make sure that the connection tube (2) has no kinks at any point. |
| 5. | | Secure the forked holder (6), which is meant for holding the canister screw closure (4) with the connection tube, at an accessible point close the drain (1). To do this, use the double-sided adhesive tape on the back of the holder or the pre-drilled holes on the holder. |
- On units with a disappearing door:**
Do NOT place the holder (6) on the combi steamer case side along which the unit door is slid back.

Grease collection canister installation location

Set up the grease collection canister as follows:

- The canister must be in an upright position and easily accessibly on a flat, level surface next to the unit.
- The canister's supporting surface must not be more than 6" above the contact point between the unit and its base.
- The operator's working area must be kept clear.

7 Placing into operation

Purpose of this section

This section goes over how to place your combi steamer into operation. This section is intended for qualified staff from an authorized service company.

7.1 Working Safely When Putting the Unit Into Operation

For your safety when placing the combi steamer into operation

Before starting your work, read and understand the hazards described in 'Hazards and Safety Measures When Placing the Combi Steamer into Operation' on page 35 and in the 'For Your Safety' section of the operating manual.

Personnel qualifications required for placing the unit into operation and removing it from service

Placing the unit into operation requires work to be performed under unusual operating conditions (e.g., with the safety covers removed) and includes tasks requiring qualifications and unit-specific skills that go beyond the requirements that must be met by the staff operating the unit.

The staff placing the unit into operation must meet the following requirements:

- Must be qualified staff from an authorized service company.
- Must have relevant training as service technicians.
- Must have unit-specific training.
- The staff placing the unit into operation must especially be able to assess whether the unit's power, gas, water, and drain hookups and connections have been correctly installed.

Personal Protective Equipment

Wear the personal protective equipment specified for your work in the 'Personal Protective Equipment' on page 47 section of 'For Your Safety.'

What to do if you smell gas

If you smell gas, follow the steps below without exception:

- Immediately shut off the gas.
- Thoroughly ventilate the room.
- Do not operate any electrical devices or equipment. Make sure not to cause any sparks.
- Evacuate the building.
- Call the gas utility and, if necessary, the fire department on a telephone found outside the hazardous area.

Basic rules for safe operation

If the combi steamer is moved in an impermissible manner after installation (on purpose or by accident), do not continue to operate the unit unless all the following requirements are met:

- The unit and the accessories being used do not have any obvious damage.
- The supply lines installed for electrical power, water, wastewater, and cleaning agents do not have any obvious damage, have a secure fit, are not dripping anywhere, and appear to be safe and fully functional after a visual inspection.
- The 'Requirements concerning the combi steamer's functional capability' on page 23 are being met.
- The 'Requirements concerning the combi steamer's surroundings' on page 23 are being met.
- All warning labels are at their intended location.

Gas units only:

- A service technician has checked all the components in the combi steamer that convey gas in order to make sure that there are no leaks at any of their connection points. Moreover, the technician has checked to make sure that none of the specified points outside and inside the unit have any leaks.

Rules for safely running table-top models

In order to avoid hazards, follow the rules below when running the unit:

- Make sure to only use your hands when using the unit's controls (buttons, switches, touchscreens).
- Do not cover, obstruct, or block the exhaust vents, exhaust outlets, or ventilation ports at the top of the unit or the ventilation openings at the bottom.
- The racks need to be locked in place.
- The bakeware must be slid in properly as indicated in the rules in the operating manual's 'Placing bakeware in size X.10 and size X.20 units' section.
- The suction panel needs to be properly locked in place.

Additional rules for the safe use of table-top models on moving bases

In order to avoid hazards, follow the rules below when running units on a base with casters:

- The retaining element used to limit how much the base can move with the unit must be attached at all times.
Every day before using the unit, check to make sure that the retaining element is attached.
- Make sure to always lock the front casters' wheels when the units are running
- Every day before using the units, check to make sure that casters' wheels are locked

Rules for safely running floor-standing models

In order to avoid hazards, follow the rules below when running the unit:

- Make sure to only use your hands when using the unit's controls (buttons, switches, touchscreens).
- Do not cover, obstruct, or block the exhaust vents, exhaust outlets, or ventilation ports at the top of the unit or the ventilation openings at the bottom.
- The bakeware must be slid in properly as indicated in the rules in the operating manual's 'Placing bakeware in size X.10 and size X.20 units' section.
- The suction panel needs to be properly locked in place.

Live parts

⚠ WARNING

Risk of electric shock posed by live parts and loose cables

Electric shock may occur when coming into contact with live parts after opening the safety cover.

- ▷ Make sure that all electrical work is performed exclusively by a qualified electrician from an authorized service company.
- ▷ Follow the steps below before removing the safety covers:
 - De-energize all connections.
 - Lock out and tag out all switches.
 - If the device was already energized, wait 15 minutes so that the DC bus capacitors can discharge fully.
 - Make sure that the unit is de-energized.
- ▷ Before putting the unit into operation, make sure that all electrical connections are undamaged and firmly connected.
- ▷ Before putting the unit into operation, make sure that it is bonded to an electrical ground system together with all metallic accessories.

Leaking gas

⚠ DANGER

Explosion hazard posed by gas leaks

Gas leaks may result in an explosion in the presence of an ignition source.

- ▷ Do not move the unit during operation.
- ▷ If using a table-top model that is placed on a base with casters and is connected using a flexible connecting hose, check to make sure that the retaining element designed to limit how much the base can move with the unit is attached so that the unit will be mechanically secured.

Lack of oxygen

⚠ DANGER

Suffocation hazard due to lack of oxygen

Inadequate ventilation at the installation location may result in suffocation when the unit is run.

- ▷ Check the exhaust gas readings and have a certified gas installation engineer from an authorized service company adjust the burner if necessary.
- ▷ Make sure that there is a ventilation system that is fully functional and running. In addition, make sure to follow all the ventilation rules specified by the gas installation engineer.
- ▷ Do not block or otherwise obstruct the area below the unit.
- ▷ Operate the unit in windless environments only.

Hot surfaces

⚠ WARNING

Risk of burns posed by high temperatures inside the oven cavity and on the inside of the unit door

Touching any interior oven cavity parts, the inside of the unit door, or any parts that are or were found inside the oven cavity during cooking may result in burns.

- ▷ Wear the required personal protective equipment.

Contact with cleaning agents

⚠ WARNING

Chemical burn hazard and skin, eye, and respiratory tract irritation hazard

The ConvoClean new (S) cleaning agent and the ConvoCare (S) rinse aid will cause skin, eye, and respiratory tract irritation upon direct contact. The ConvoClean forte (S) cleaning agent will result in chemical burns to the skin, eyes, and respiratory tract upon direct contact.

- ▷ Do not inhale the cleaning agents' and rinse aid's vapors or mist.
- ▷ Do not let the cleaning agents or rinse aid come into contact with your eyes, skin, or mucous membranes.
- ▷ Do not spray cleaning agents or rinse aid into a oven cavity that is at a temperature higher than 140 °F, as doing so will cause more caustic and/or irritating cleaning agent fumes to be produced.
- ▷ If the canisters are connected, do not open the unit door during the fully automatic oven cleaning process.
- ▷ If using single-measure dispensing, do not open the unit door during the fully automatic oven cleaning process UNTIL asked to do so by the software.
- ▷ Wear the required personal protective equipment.

Hot steam

⚠ CAUTION

Risk of scalding posed by hot steam

Hot steam coming out from the unit may scald your face, hands, feet, and/or legs.

- ▷ Always start by opening the unit door all the way to the cracked-open position. Then wait for a second so that the hot steam inside the unit is allowed to escape. Then slowly and carefully open the unit door further.
- ▷ Do not, under any circumstance, stick your head inside the oven cavity.
- ▷ When cooling down the oven with the 'Cool down' function, step away from the unit, as hot steam will come out through the open unit door.

7.2 Procedure for Placing the Unit into Operation

Checks before placing the unit into operation

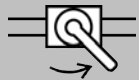
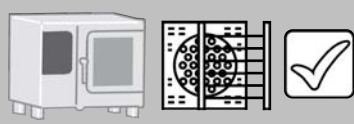
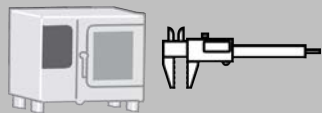
Before placing the combi steamer into operation, use the checklists to make sure that all prerequisites are met:

- 'Transportation, Setup, and Installation Checklist' on page 171
- 'Safety Guards, Safety Devices, and Warning Labels Checklist' on page 173

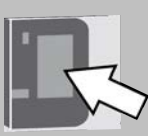
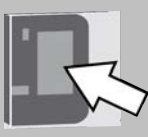
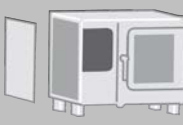
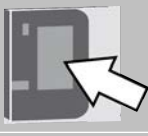
Do not place the unit into operation unless all specified prerequisites are met and:

- The unit does not have any obvious damage and neither do any of the connections
- There is nothing being stored inside the oven cavity and there is nothing inside the oven cavity other than required cooking accessories (bakeware, for example)

Preparing to place the unit into operation

1.		Bring the ambient temperature to the permissible operating temperature.
2.		Turn on the circuit breaker.
3.		Open the water supply.
4.		Open the gas flow (in the case of gas units)
5.		Check to make sure that the following are installed properly in the right position: ▪ Suction panel ▪ Rack (in table-top models) ▪ Loading trolley (for floor-standing models)
6.		Measure the door gap at the front of the unit as indicated in 'Measuring Unit Gaps' on page 110: If the measured gap falls outside the corresponding tolerance range, or if the unit door's upper edge is not aligned with the unit case's upper edge, the unit door will need to be adjusted. Adjust the door as indicated in the service documentation or contact the manufacturer.
7.		Turn the combi steamer on.
8.		Set the following: ▪ Date ▪ Time ▪ Language

Placing the unit into operation

1.		Start the cooking sequence using the following cooking data: ▪ 'Combi-steam' operating mode ▪ 300 °F ▪ 10 minutes
2.		Check the following: ▪ Is the oven light on? ▪ Is the fan wheel running? ▪ Are there any leaks in the wastewater and supply water systems? ▪ Is the temperature increasing inside the oven cavity?
3.		Start the cooking sequence using the following cooking data: ▪ 'Steam' operating mode ▪ 210 °F ▪ 10 minutes
4.		Check whether steam is being produced inside the oven cavity (carefully open the unit door).
5.		Only for Convotherm 4 water injection units: Use the pressure regulator to adjust the pressure gauge in the steam generation system's water supply: ▪ Table-top models: [bar] 1 ▪ Floor-standing models: [bar] 1.5
6.		Start the fully automatic cleaning process with the cleaning profile for light soiling.
7.		Check that the cleaning sequence is completed without any error messages.

Briefing the user

Brief the user on all safety-relevant functions, mechanisms, and devices (refer to 'Checklist: Customer Briefing' on page 174). Show the user how to operate the unit.

7.3 Measuring unit gaps

Measuring unit gaps

The figure below shows a size 12.20 combi steamer used as an example representing all unit sizes. The unit gaps' measured widths must fall within the following tolerance ranges

Figure	Designation	Measuring condition	Tolerance range	
			Table-top models	Floor-standing models
	Door gap at the front of the unit	The unit door must be closed.	$\frac{9}{20}'' \pm \frac{1}{25}''$ $0.45'' \pm 0.04''$	$\frac{2}{5}'' \pm \frac{1}{25}''$ $0.4'' \pm 0.04''$

8 Removal from Service and Disposal

Purpose of this section

This section goes over how to remove your combi steamer from service and dispose of it properly. This section is intended for qualified staff from an authorized service company.

8.1 Working Safely When Removing the Unit from Service

For your safety when removing the combi steamer from service

Before starting your work, read and understand the hazards described in 'Hazards and Safety Measures When Removing the Combi Steamer from Service.' on page 38

Personnel qualifications required for removing the unit from service

Removing the unit from service requires work to be performed under unusual operating conditions (e.g., with the safety covers removed) and includes tasks requiring qualifications and unit-specific skills that go beyond the requirements that must be met by the staff operating the unit.

The staff placing the unit into operation must meet the following requirements:

- Must be qualified staff from an authorized service company.
- Must have relevant training as service technicians.
- Must have unit-specific training.
- The staff placing the unit into operation must especially be able to assess whether the unit's power, gas, water, and drain hookups and connections have been correctly installed.

Work on the gas system should be carried out exclusively by trained gas installation engineers who have undergone unit-specific training and are authorized by the local gas provider.

Personal Protective Equipment

Wear the personal protective equipment specified for your work in the 'Personal Protective Equipment' on page 47 section of 'For Your Safety.'

What to do if you smell gas

If you smell gas, follow the steps below without exception:

- Immediately shut off the gas.
- Thoroughly ventilate the room.
- Do not operate any electrical devices or equipment. Make sure not to cause any sparks.
- Evacuate the building.
- Call the gas utility and, if necessary, the fire department on a telephone found outside the hazardous area.

Rules for working safely and responsibly when removing the unit from service

Avoid endangering yourself and others by following the rules below:

- Always keep the kitchen floor dry in order to reduce the risk of accidents occurring.
- Before disposing of the unit, close the combi steamer door and remove the door handle.
- Cleaning agents must be disposed of as instructed in the canisters in order to avoid damaging the environment.

Live parts

⚠ WARNING

Risk of electric shock posed by live parts and loose cables

Electric shock may occur when coming into contact with live parts after opening the safety cover.

- ▷ Make sure that all electrical work is performed exclusively by a qualified electrician from an authorized service company.
- ▷ Follow the steps below before removing the safety covers:
 - De-energize all connections.
 - Lock out and tag out all switches.
 - Wait 15 minutes so that the DC bus capacitors can discharge fully.
 - Make sure that the unit is de-energized.

Leaking gas

⚠ DANGER

Explosion hazard posed by gas leaks

Gas leaks may result in an explosion in the presence of an ignition source.

- ▷ Make sure that the gas is shut off before starting any work on gas units and/or gas installations.

Moving heavy loads

⚠ WARNING

Risk of injury when lifting loads incorrectly

Lifting the unit incorrectly may result in injury (especially in the area of the torso) due to the unit's weight.

- ▷ Use a forklift or pallet jack to transport the unit.
- ▷ When lifting the unit, make sure to use an appropriate number of people as required by the unit's weight (guideline: 30 lbs to a maximum of 120 lbs depending on age, sex, and build). Comply with all occupational health and safety regulations that apply at the installation location!
- ▷ Wear the required personal protective equipment.

Unsuitable supporting surfaces

⚠ WARNING

Crush hazard posed by the unit falling down or toppling over

Body parts may be crushed if the unit falls down or topples over.

- ▷ Make sure never to place the unit on an unsuitable supporting surface.

Contact with cleaning agents

⚠ WARNING

Chemical burn hazard and skin, eye, and respiratory tract irritation hazard

The ConvoClean new (S) cleaning agent and the ConvoCare (S) rinse aid will cause skin, eye, and respiratory tract irritation upon direct contact. The ConvoClean forte (S) cleaning agent will result in chemical burns to the skin, eyes, and respiratory tract upon direct contact.

- ▷ Do not inhale the cleaning agents' and rinse aid's vapors or mist.
- ▷ Do not let the cleaning agents or rinse aid come into contact with your eyes, skin, or mucous membranes.
- ▷ Observe all the instructions and warnings on the cleaning agent labels and in the corresponding safety data sheets when handling cleaning agents.
- ▷ Wear the required personal protective equipment.

8.2 Removal from Service and Disposal

Prerequisites

Check the following before removing the unit from service:

- The unit has been de-energized.
- The gas has been shut off.
- The water supply has been shut off.

Removing from service

To remove your unit from service, undo all setup and installation work step-by-step in opposite order (please refer to the 'Installation on page 71,' 'Transportation on page 48,' and 'Setup' on page 50 sections).

Do not move the unit before disconnecting all of its connections.

The following work must be done properly in order to remove the unit from service:

- Removing the unit's water connection
- Removing the unit's drain connection
- Removing or disconnecting the electrical connections
- Removing the unit's gas connection
- Removing the exhaust extraction system
- Removing the door lock
- Removing the cleaning agent and rinse aid connections
- Properly disposing of all cleaning agents as indicated in the corresponding EC safety data sheets and the cleaning agent containers
- Removing the grease collection canister
- Disposing of pumped-out used grease in compliance with the relevant country-specific laws and regulations, as well as in compliance with all applicable rules and regulations set forth by the relevant local disposal companies and authorities

Disposal

Contact the manufacturer in order to arrange for your unit to be disposed of in an environmentally responsible manner. The manufacturer has an ISO 14001:2004-certified environmental management system and will dispose of your old unit in compliance with all applicable environmental protection regulations.

9 Technical data

Purpose of this section

This section contains the technical specifications for your combi steamer.

Contents

This section covers the following subjects:

	Page
Dimensions and weights	115
Maximum permissible loading weight	117
Electrical supply	118
Gas Characteristic Values for Natural Gas (USA), Propane (USA)	122
Exhaust gas volume	122
Heat output	123
Water connections	123
Water quality	124
Boiler	124
Water consumption during cooking	125
Water consumption during cooking and cleaning	125

9.1 Dimensions and weights

Convotherm 4 EB/ES dimensions

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Unit with packaging								
Width	[in]	43.3	53	43.3	53	55.5	45.9	55.5
Height	[in]	39.8	39.8	50.4	50.4	63.6	84.7	84.7
Depth	[in]	37	44.9	37	44.9	46.1	38.2	46.1
Unit without packaging								
Width of units featuring a right-hinged door	[in]	34.45	44.09	34.45	44.09	44.69	35.04	44.69
Width of units featuring a disappearing door	[in]	36.30	45.94	36.30	45.94	46.54	36.89	46.54
Height	[in]	30.94	30.94	41.65	41.65	55.35	76.46	76.46
Depth when the unit door is closed	[in]	31.18	39.06	31.18	39.06	40.16	32.28	40.16
Safety clearances								
Rear	[in]	2	2	2	2	2	2	2
Right-hand side (units featuring a right-hinged door)	[in]	2	2	2	2	2	2	2
Right-hand side (units featuring a disappearing door)	[in]	2	2	2	2	2	2	2
Left-hand side (clearance of 18" recommended for servicing)	[in]	2	2	2	2	2	2	2
Above (for ventilation)	[in]	20	20	20	20	20	20	20

Convotherm 4 GB/GS dimensions

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Unit with packaging								
Width	[in]	43.3	53	43.3	53	55.5	45.9	55.5
Height	[in]	39.8	39.8	50.4	50.4	63.6	84.7	84.7
Depth	[in]	37	44.9	37	44.9	46.1	38.2	46.1
Unit without packaging								
Width of units featuring a right-hinged door	[in]	34.45	44.09	34.45	44.09	44.69	35.04	44.69
Width of units featuring a disappearing door	[in]	36.30	45.94	36.30	45.94	46.54	36.89	46.54
Height	[in]	30.94	30.94	41.65	41.65	55.35	76.46	76.46
Depth when the unit door is closed	[in]	31.18	39.06	31.18	39.06	40.16	32.28	40.16
Safety clearances								
Rear	[in]	2	2	2	2	2	2	2
Right-hand side (units featuring a right-hinged door)	[in]	2	2	2	2	2	2	2
Right-hand side (units featuring a disappearing door)	[in]	2	2	2	2	2	2	2
Left-hand side (clearance of 18" recommended for servicing)	[in]	2	2	2	2	2	2	2
Above (for ventilation)	[in]	39	39	39	39	39	39	39

Convotherm 4 EB weights

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Weight without packaging								
Without ConvoClean / ConvoClean+, without ConvoSmoker								
- Right-hinged door	[lbs]	256	379	302	412	558	597	783
- Disappearing door	[lbs]	273	397	324	434	591	642	827
With ConvoClean / ConvoClean+, without ConvoSmoker								
- Right-hinged door	[lbs]	269	392	315	425	571	613	798
- Disappearing door	[lbs]	287	410	337	448	604	657	842
With ConvoClean / ConvoClean+, with ConvoSmoker								
- Right-hinged door	[lbs]	280	403	326	437	-	-	-
- Disappearing door	[lbs]	298	421	348	459	-	-	-
Packaging weight								
Packaging weight	[lbs]	55	66	66	77	99	88	106

Convotherm 4 ES weights

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Weight without packaging								
Without ConvoClean / ConvoClean+, without ConvoSmoker								
- Right-hinged door	[lbs]	234	353	276	379	525	564	743
- Disappearing door	[lbs]	251	370	298	401	558	608	787
With ConvoClean / ConvoClean+, without ConvoSmoker								
- Right-hinged door	[lbs]	247	366	289	392	538	580	758
- Disappearing door	[lbs]	265	384	311	414	571	624	802
With ConvoClean / ConvoClean+, with ConvoSmoker								
- Right-hinged door	[lbs]	258	377	300	403	-	-	-
- Disappearing door	[lbs]	276	395	322	425	-	-	-
Packaging weight								
Packaging weight	[lbs]	55	66	66	77	99	88	106

Convotherm 4 GB weights

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Weight without packaging								
Without ConvoClean / ConvoClean+, without ConvoSmoker								
- Right-hinged door	[lbs]	289	423	346	478	624	664	849
- Disappearing door	[lbs]	306	441	368	500	657	708	893
With ConvoClean / ConvoClean+, without ConvoSmoker								
- Right-hinged door	[lbs]	302	437	359	492	637	679	864
- Disappearing door	[lbs]	320	454	381	514	670	723	908
With ConvoClean / ConvoClean+, with ConvoSmoker								
- Right-hinged door	[lbs]	313	448	370	503	-	-	-
- Disappearing door	[lbs]	331	465	392	525	-	-	-
Packaging weight								
Packaging weight	[lbs]	55	66	66	77	99	88	106

Convotherm 4 GS weights

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Weight without packaging								
Without ConvoClean / ConvoClean+, without ConvoSmoker								
- Right-hinged door	[lbs]	251	375	298	412	558	597	776
- Disappearing door	[lbs]	269	392	320	434	591	642	820
With ConvoClean / ConvoClean+, without ConvoSmoker								
- Right-hinged door	[lbs]	265	388	311	425	571	613	791
- Disappearing door	[lbs]	282	406	333	448	604	657	836
With ConvoClean / ConvoClean+, with ConvoSmoker								
- Right-hinged door	[lbs]	276	399	322	437	-	-	-
- Disappearing door	[lbs]	293	417	344	459	-	-	-
Packaging weight								
Packaging weight	[lbs]	55	66	66	77	99	88	106

9.2 Maximum permissible loading weight**Convotherm 4 EB/ES/GB/GS**

The total weight placed on the rack levels must not exceed the combi steamer's maximum permissible loading weight:

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Maximum load weight								
Per combi steamer	[lbs]	66	132	110	220	265	220	397
Per shelf	[lbs]	33	33	33	33	33	33	33

9.3 Electrical supply

Convotherm 4 EB (single-phase frequency converter)

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
3~ 208/240V 60Hz (3/PE)								
Rated power consumption	[kW]	9.0 / 11.8	15.9 / 21.0	15.9 / 21.0	27.4 / 36.3	27.4 / 36.3	31.3 / 41.6	54.4 / 72.3
Hot air output	[kW]	8.6 / 11.4	15.5 / 20.6	15.5 / 20.6	27.0 / 35.9	27.0 / 35.9	30.9 / 41.2	54.0 / 71.9
Steam output	[kW]	7.4 / 9.8	14.7 / 19.6	14.7 / 19.6	22.1 / 29.4	25.6 / 34.1	25.6 / 34.1	32.6 / 43.4
Motor output	[kW]	0.35	0.35	0.35	0.35	0.35	0.7	0.7
Rated current	[A]	25.0 / 28.5	44.1 / 50.6	44.1 / 50.6	76.1 / 87.5	76.1 / 87.5	87.1 / 100.1	151.1 / 174.1
Recommended supply connection								
Field wire gauge	AWG	8	6	6	3/2	3/2	2	2/0 3/0
Ground wire gauge	AWG	10	8	8	6	6	6	4
Conductor insulation rating		194°F	194°F	194°F	194°F	194°F	194°F	194°F
Ground fault circuit interrupter (GFCI)	Class	C	C	C	C	C	C	C
3~ 208 V 60 Hz (3/EGC) with ConvoSmoker* only								
Rated power consumption	[kW]	9.0	15.9	15.9	27.4	-	-	-
Hot air output	[kW]	8.6	15.5	15.5	27.0	-	-	-
Steam output	[kW]	7.4	14.7	14.7	22.1	-	-	-
Motor output	[kW]	0.35	0.35	0.35	0.35	-	-	-
Rated current	[A]	25.0	44.1	44.1	76.1	-	-	-
Recommended supply connection								
Field wire gauge	AWG	8	6	6	3	-	-	-
Ground wire gauge	AWG	10	8	8	6	-	-	-
Conductor insulation rating		194°F	194°F	194°F	194°F	-	-	-
Ground fault circuit interrupter (GFCI)	Class	C	C	C	C	-	-	-
3~ 240 V 60 Hz (3/EGC) with ConvoSmoker* only								
Rated power consumption	[kW]	11.8	21.0	21.0	36.3	-	-	-
Hot air output	[kW]	11.4	20.6	20.6	35.9	-	-	-
Steam output	[kW]	9.8	19.6	19.6	29.4	-	-	-
Motor output	[kW]	0.35	0.35	0.35	0.35	-	-	-
Rated current	[A]	28.5	50.6	50.6	87.5	-	-	-
Recommended supply connection								
Field wire gauge	AWG	8	6	6	2	-	-	-
Ground wire gauge	AWG	10	8	8	6	-	-	-
Conductor insulation rating		194°F	194°F	194°F	194°F	-	-	-
Ground fault circuit interrupter (GFCI)	Class	C	C	C	C	-	-	-

* ConvoSmoker is supplied exclusively for voltages of 208 V or 240 V. Please refer to the nameplate.

Convotherm 4 EB VFD (three-phase)

Electrical ratings

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
3~ 440/480V 60Hz (3/PE)								
Rated power consumption	[kW]	9.2 / 10.9	16.3 / 19.3	16.3 / 19.3	28.2 / 33.4	28.2 / 33.4	32.6 / 38.6	56.3 / 66.8
Hot air output	[kW]	8.8 / 10.5	15.9 / 18.9	15.9 / 18.9	27.8 / 33.0	27.8 / 33.0	31.8 / 37.8	55.5 / 66.1
Steam output	[kW]	7.6 / 9.0	15.1 / 18.0	15.1 / 18.0	22.7 / 27.0	26.3 / 31.3	26.3 / 31.3	33.6 / 39.9
Motor output	[kW]	0.35	0.35	0.35	0.35	0.35	0.7	0.7
Rated current	[A]	12.1 / 13.1	21.4 / 23.3	21.4 / 23.3	37.0 / 40.3	37.0 / 40.3	42.8 / 46.5	73.9 / 80.5
Recommended supply connection								
Field wire gauge	AWG	12	8	8	8/6	8/6	6	4/3
Ground wire gauge	AWG	12	10	10	10/8	10/8	8	6
Conductor insulation rating		194°F	194°F	194°F	194°F	194°F	194°F	194°F
Ground fault circuit interrupter (GFCI)	Class	C	C	C	C	C	C	C

Convotherm 4 ES (single-phase frequency converter)

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
3~ 208/240V 60Hz (3/PE)								
Rated power consumption	[kW]	9.0 / 11.8	15.9 / 21.0	15.9 / 21.0	27.4 / 36.3	27.4 / 36.3	31.3 / 41.6	54.4 / 72.3
Hot air output	[kW]	8.6 / 11.4	15.5 / 20.6	15.5 / 20.6	27.0 / 35.9	27.0 / 35.9	30.9 / 41.2	54.0 / 71.9
Motor output	[kW]	0.35	0.35	0.35	0.35	0.35	0.7	0.7
Rated current	[A]	25.0 / 28.5	44.1 / 50.6	44.1 / 50.6	76.1 / 87.5	76.1 / 87.5	87.1 / 100.1	151.1 / 174.1
Recommended supply connection								
Field wire gauge	AWG	8	6	6	3/2	3/2	2	2/0 3/0
Ground wire gauge	AWG	10	8	8	6	6	6	4
Conductor insulation rating		194°F	194°F	194°F	194°F	194°F	194°F	194°F
Ground fault circuit interrupter (GFCI)	Class	C	C	C	C	C	C	C
3~ 208 V 60 Hz (3/EGC) with ConvoSmoker* only								
Rated power consumption	[kW]	9.0	15.9	15.9	27.4	-	-	-
Hot air output	[kW]	8.6	15.5	15.5	27.0	-	-	-
Motor output	[kW]	0.35	0.35	0.35	0.35	-	-	-
Rated current	[A]	25.0	44.1	44.1	76.1	-	-	-
Recommended supply connection								
Field wire gauge	AWG	8	6	6	3	-	-	-
Ground wire gauge	AWG	10	8	8	6	-	-	-
Conductor insulation rating		194°F	194°F	194°F	194°F	-	-	-
Ground fault circuit interrupter (GFCI)	Class	C	C	C	C	-	-	-
3~ 240 V 60 Hz (3/EGC) with ConvoSmoker* only								
Rated power consumption	[kW]	11.8	21.0	21.0	36.3	-	-	-
Hot air output	[kW]	11.4	20.6	20.6	35.9	-	-	-
Motor output	[kW]	0.35	0.35	0.35	0.35	-	-	-
Rated current	[A]	28.5	50.6	50.6	87.5	-	-	-
Recommended supply connection								
Field wire gauge	AWG	8	6	6	2	-	-	-
Ground wire gauge	AWG	10	8	8	6	-	-	-
Conductor insulation rating		194°F	194°F	194°F	194°F	-	-	-
Ground fault circuit interrupter (GFCI)	Class	C	C	C	C	-	-	-

* ConvoSmoker is supplied exclusively for voltages of 208 V or 240 V. Please refer to the nameplate.

Convotherm 4 ES VFD (three-phase)

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
3~ 440/480V 60Hz								
Rated power consumption	[kW]	9.2 / 10.9	16.3 / 19.3	16.3 / 19.3	28.2 / 33.4	28.2 / 33.4	32.6 / 38.6	56.3 / 66.8
Hot air output	[kW]	8.8 / 10.5	15.9 / 18.9	15.9 / 18.9	27.8 / 33.0	27.8 / 33.0	31.8 / 37.8	55.5 / 66.1
Motor output	[kW]	0.35	0.35	0.35	0.35	0.35	0.7	0.7
Rated current	[A]	12.1 / 13.1	21.4 / 23.3	21.4 / 23.3	37.0 / 40.3	37.0 / 40.3	42.8 / 46.5	73.9 / 80.5
Recommended supply connection								
Field wire gauge	AWG	12	8	8	8/6	8/6	6	4/3
Ground wire gauge	AWG	12	10	10	10/8	10/8	8	6
Conductor insulation rating		194°F	194°F	194°F	194°F	194°F	194°F	194°F
Ground fault circuit interrupter (GFCI)	Class	C	C	C	C	C	C	C

Convotherm 4 GB VFD (single-phase)

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
1N~ 120V 60Hz								
Rated power consumption	[kW]	0.6	0.6	0.6	0.6	0.6	1.1	1.1
Hot air output	[kW]	0.1	0.1	0.1	0.1	0.1	0.2	0.2
Steam output	[kW]	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Motor output	[kW]	0.35	0.35	0.35	0.35	0.35	0.7	0.7
Rated current	[A]	7.5	7.5	7.5	7.5	7.5	8.3	10.6
Recommended wire gauge: min. field wire size	AWG	14	14	14	14	14	14	14
Recommended wire gauge: min. ground wire size	AWG	14	14	14	14	14	14	14
Cable temperature rating		194°F	194°F	194°F	194°F	194°F	194°F	194°F

Convotherm 4 GB VFD (single-phase)

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
1N~ 120V 60Hz								
Rated power consumption	[kW]	0.6	0.6	0.6	0.6	0.6	1.1	1.1
Hot air output	[kW]	0.1	0.1	0.1	0.1	0.1	0.2	0.2
Motor output	[kW]	0.35	0.35	0.35	0.35	0.35	0.7	0.7
Rated current	[A]	7.5	7.5	7.5	7.5	7.5	8.3	10.6
Recommended wire gauge: min. field wire size	AWG	14	14	14	14	14	14	14
Recommended wire gauge: min. ground wire size	AWG	14	14	14	14	14	14	14
Cable temperature rating		194°F	194°F	194°F	194°F	194°F	194°F	194°F

9.4 Gas Characteristic Values for Natural Gas (USA), Propane (USA)

Convotherm 4 GB/GS

Gas type		Natural Gas (USA)	Propane (USA)
Operating materials			
Natural gas, propane		x	x
Gas supply parameters			
Gas line connection for unit sizes 6.10, 6.20, and 10.10		1/2" NPT	1/2" NPT
Gas line connection for unit sizes 10.20, 12.20, 20.10, and 20.20		3/4" NPT	3/4" NPT
Supply flow pressure	[inch WC]	7 (5.5 to 14)	11 (11 to 14)
Exhaust extraction system			
Air ventilation system with safety shutdown function		Mandatory	Mandatory
Exhaust gas values			
Exhaust gas reading CO ₂	[%]	9.4 - 11.1	10.5 - 12.5
Exhaust gas reading CO	[ppm]	< 500	< 500

9.5 Exhaust gas volume

Convotherm 4 GB/GS

		6.10	6.20	10.10	10.20	20.10	12.20	20.20
Combustible air supply	[ft ³ /min]	30	54	54	84	84	110	170
Exhaust gas volume	[ft ³ /min]	14	26	26	40	40	52	80

9.6 Heat output

Convotherm 4 GB/GS

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Convection burner	BTU/h	37500	68200	68200	109200	109200	143000	218400
Boiler burner (in GB)	BTU/h	37500	61400	61400	102000	102000	102000	109200

9.7 Water connections

Convotherm 4 EB/ES/GB/GS

Water supply (cold only)

Water supply

Two 3/4" inner diameter GHT-M (garden hose adapter).
The unit is designed for a permanent hookup to the water supply that uses a connecting hose with a minimum diameter of 1/2"

Flow pressure	[psi]	22 - 87 psi / 1.5 - 6 bar
---------------	-------	---------------------------

Pressure gauge in water supply

6.10, 6.20, 10.10, 10.20	[bar]	1
--------------------------	-------	---

12.20, 20.10, 20.20	[bar]	1.5
---------------------	-------	-----

Unit drain

6.10, 6.20, 10.10, 10.20 models	Naturally ventilated pipe to open pan or drain/channel
---------------------------------	--

12.20, 20.10, 20.20 models	Naturally ventilated pipe to open pan or drain/channel
----------------------------	--

Type	2" inside diameter (comes elbow-shaped as standard)
------	---

9.8 Water quality

Convotherm 4 EB/GB

Water connection (A) for boiler; water connection (B) for cleaning, recoil hand shower		
General water quality		Drinking water
Hardness	[ppm]	70 - 360 ppm (4 - 21 gpg)
TDS (total dissolved solids)	[ppm]	70 - 360
Total alkalinity	[ppm]	50 - 100
Water connections (A) and (B)		
Temperature	[°F]	max. 104
pH value		6.5 - 8.5
Cl ⁻ (chloride)	[ppm]	max. 60
Cl ₂ (free chlorine)	[ppm]	max. 0.2
SO ₄ ²⁻ (sulfate)	[ppm]	max. 150
Fe (iron)	[ppm]	max. 0.1
SiO ₂ (silicate)	[ppm]	max. 13

Convotherm 4 ES/GS

Water connection (A) for water injection		
General water quality		Drinking water
Hardness	[ppm]	70 - 125 ppm (4 - 7 gpg)
TDS (total dissolved solids)	[ppm]	70 - 125
Total alkalinity	[ppm]	50 - 100
Water connection (B) for cleaning, recoil hand shower		
General water quality		Drinking water
Hardness	[ppm]	70 - 360 ppm (4 - 21 gpg)
TDS (total dissolved solids)	[ppm]	70 - 360
Total alkalinity	[ppm]	50 - 100
Water connections (A) and (B)		
Temperature	[°F]	max. 104
pH value		6.5 - 8.5
Cl ⁻ (chloride)	[ppm]	max. 60
Cl ₂ (free chlorine)	[ppm]	max. 0.2
SO ₄ ²⁻ (sulfate)	[ppm]	max. 150
Fe (iron)	[ppm]	max. 0.1
SiO ₂ (silicate)	[ppm]	max. 13

9.9 Boiler

Convotherm 4 EB/GB

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Steam output	[gph]	3.80	7.58	7.58	11.12	13.18	11.36	16.80
Contents	[g]	1.00	1.59	1.59	2.11	2.88	2.17	2.88

9.10 Water consumption during cooking

Convotherm 4 EB/GB

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Hard and soft water								
Average consumption without cleaning	[gph]	0.79	1.90	1.59	2.32	2.77	2.62	3.54
Maximum possible water flow rate	[gpm]	3.96	3.96	3.96	3.96	3.96	3.96	3.96

Convotherm 4 ES/GS

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Hard and soft water								
Average consumption without cleaning	[gph]	0.92	2.01	1.66	2.93	3.51	3.22	4.68
Maximum possible water flow rate	[gpm]	3.96	3.96	3.96	3.96	3.96	3.96	3.96
Soft water (water treatment system sizing)								
Average consumption without cleaning	[gph]	0.61	1.35	1.11	1.95	2.32	2.14	3.12
Maximum possible water flow rate	[gpm]	0.16	0.16	0.16	0.16	0.16	0.16	0.16

9.11 Water consumption during cooking and cleaning

Convotherm 4 EB/GB

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Hard and soft water								
Average water consumption with cleaning process	[gph]	1.80	2.91	2.59	3.33	3.75	3.62	4.52

Convotherm 4 ES/GS

		6.10	6.20	10.10	10.20	12.20	20.10	20.20
Hard and soft water								
Average water consumption with cleaning process	[gph]	1.93	2.99	2.67	3.91	4.49	4.20	5.65

10 Connection drawings

Purpose of this section

This section contains the scale drawings and connection points for your combi steamer.

Contents

This section covers the following subjects:

	Page
Dimensions and Connection Points for Electrical Units	127
Dimensions and Connection Points for Gas Units	142

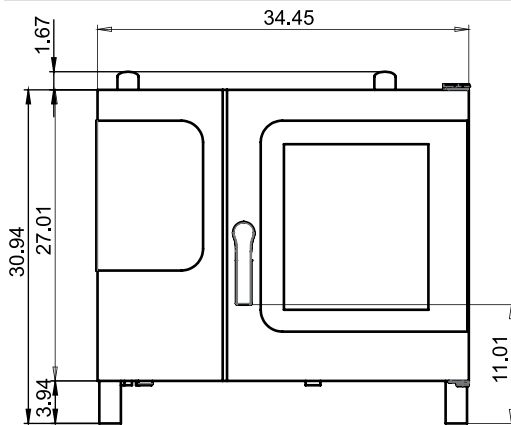
10.1 Dimensions and Connection Points for Electrical Units

	Seite
Convothem 4 6.10 Electrical units	128
Convothem 4 6.20 Electrical units	130
Convothem 4 10.10 Electrical units	132
Convothem 4 10.20 Electrical units	134
Convothem 4 12.20 Electrical units	136
Convothem 4 20.10 Electrical units	138
Convothem 4 20.20 Electrical units	140

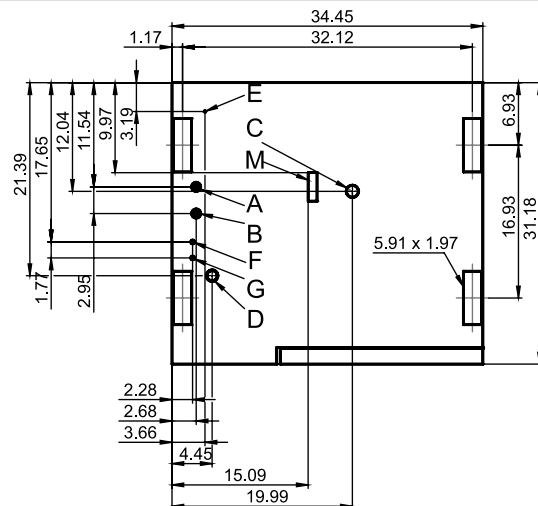
10.1.1 Convotherm 4 6.10 Electrical units

C4 6.10 dimensions and connection points (right-hinged unit door)

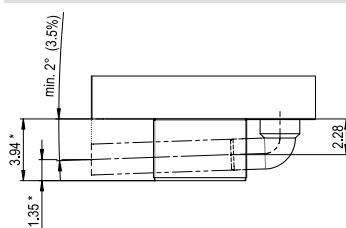
Front view



Connection points, unit floor

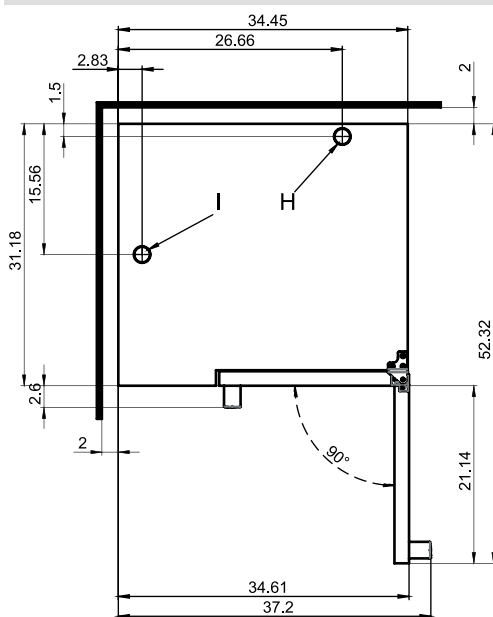


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

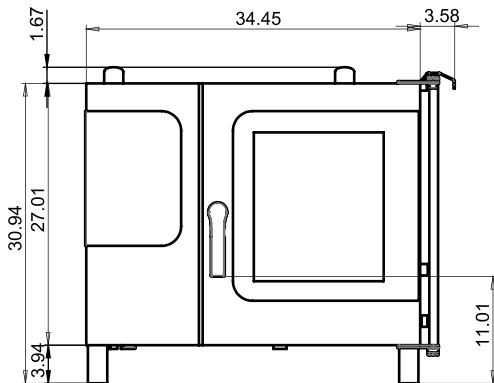


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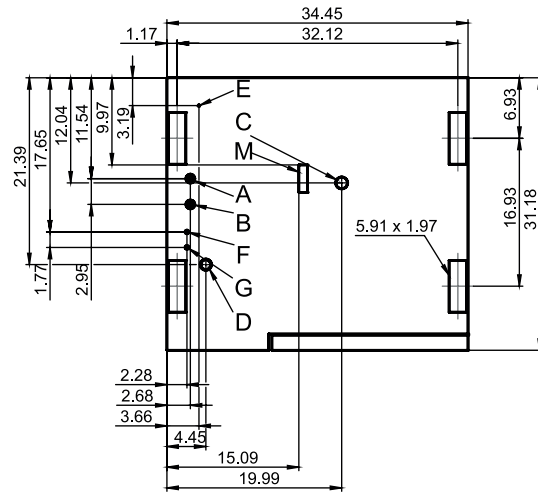
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

C4 6.10 dimensions and connection points (disappearing door)

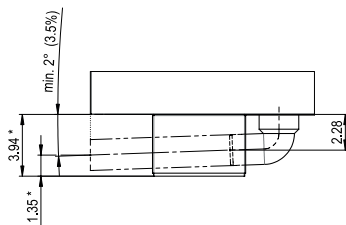
Front view



Connection points, unit floor

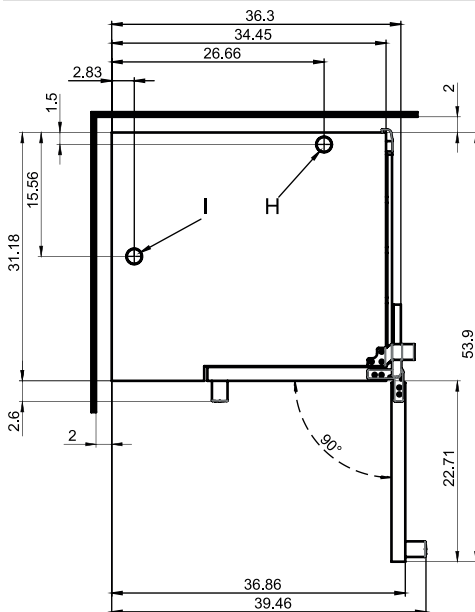


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



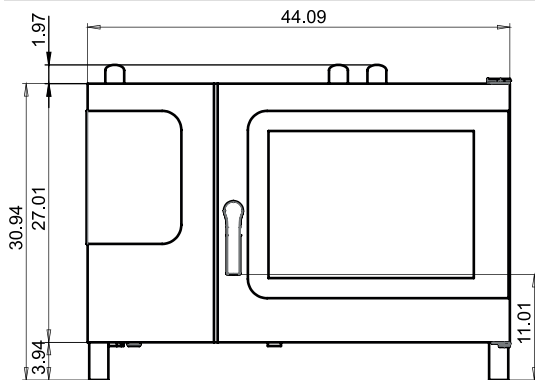
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

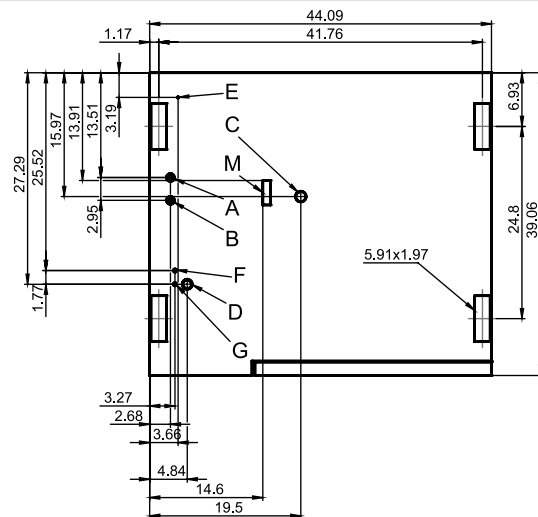
10.1.2 Convotherm 4 6.20 Electrical units

C4 6.20 dimensions and connection points (right-hinged unit door)

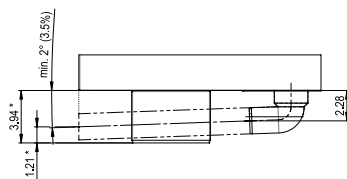
Front view



Connection points, unit floor

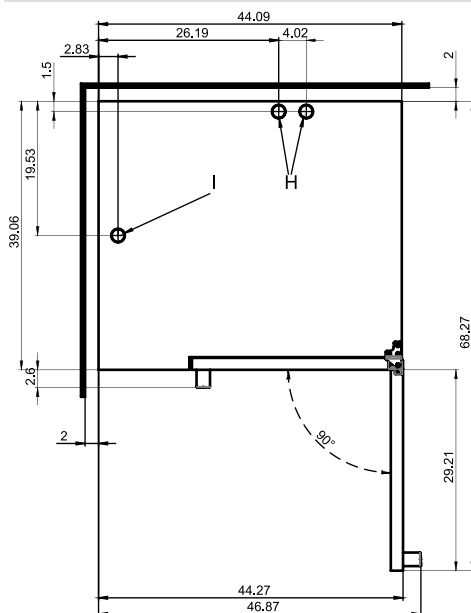


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

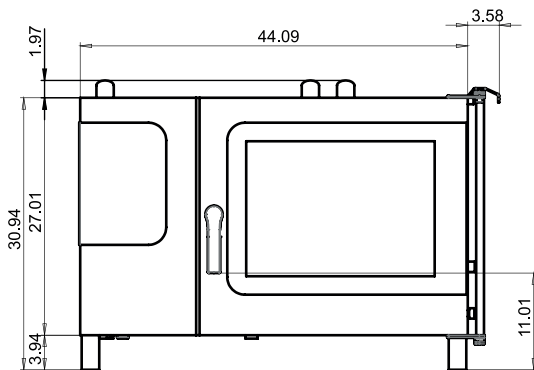


Key

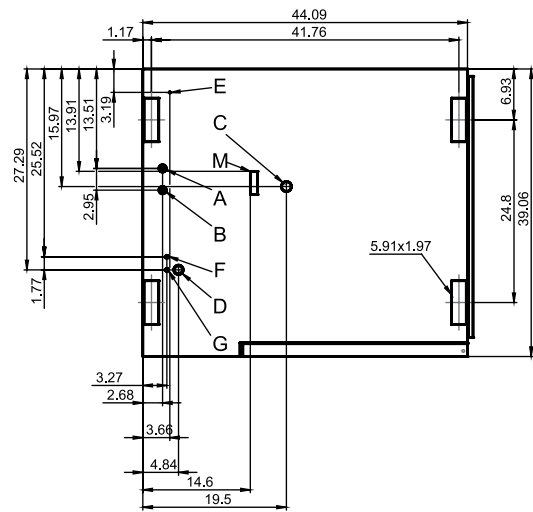
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

C4 6.20 dimensions and connection points (disappearing door)

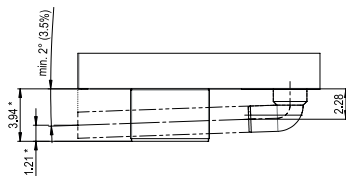
Front view



Connection points, unit floor

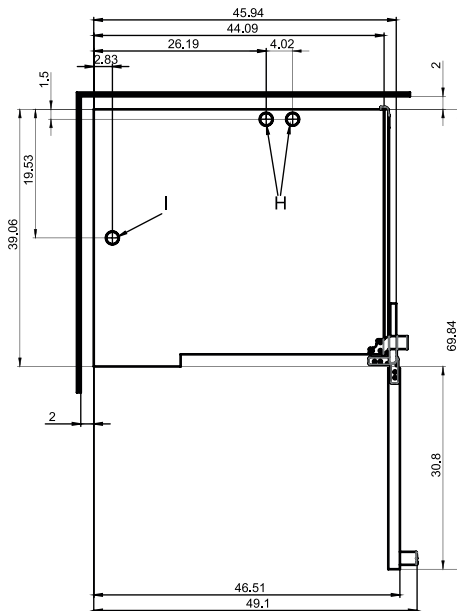


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



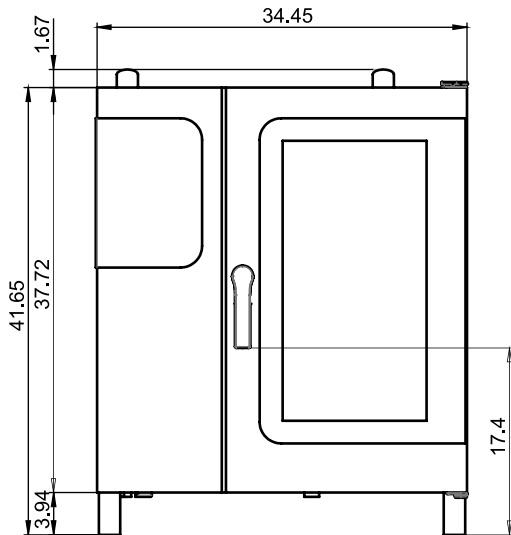
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

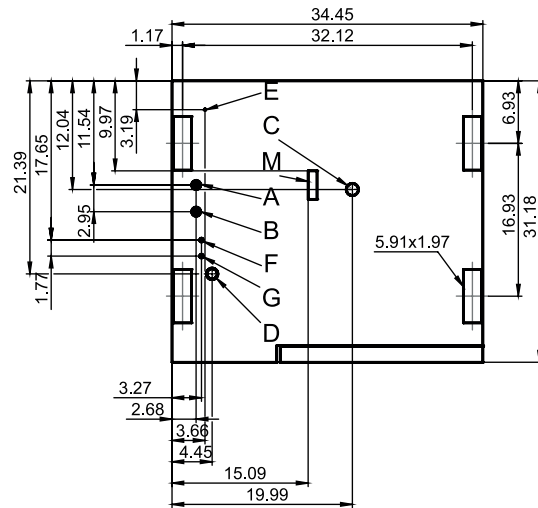
10.1.3 Convotherm 4 10.10 Electrical units

C4 10.10 dimensions and connection points (right-hinged unit door)

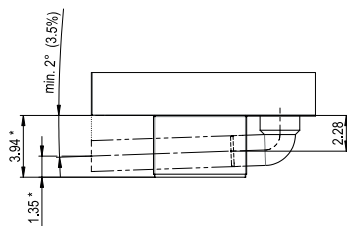
Front view



Connection points, unit floor

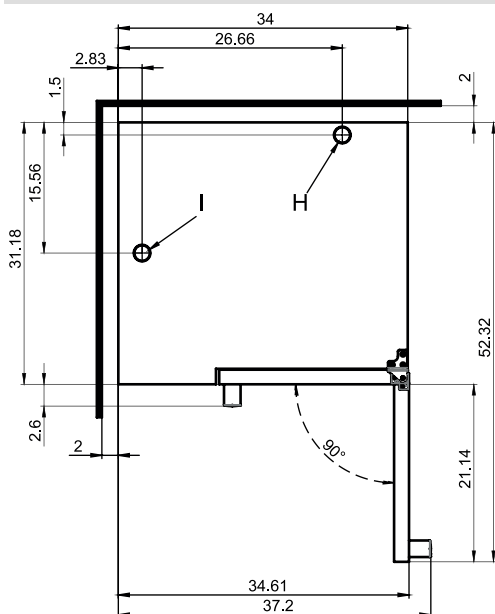


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

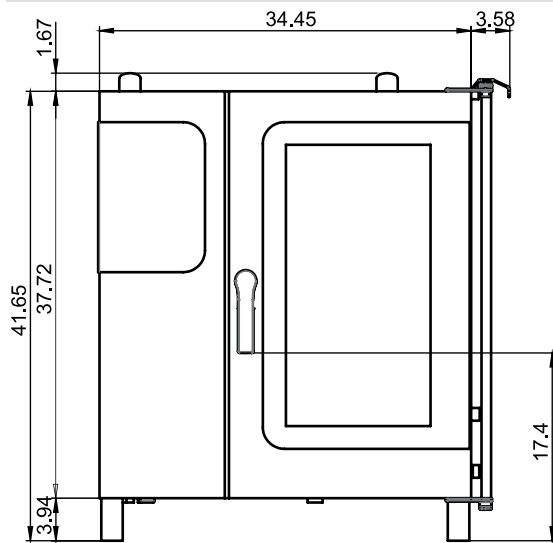


Key

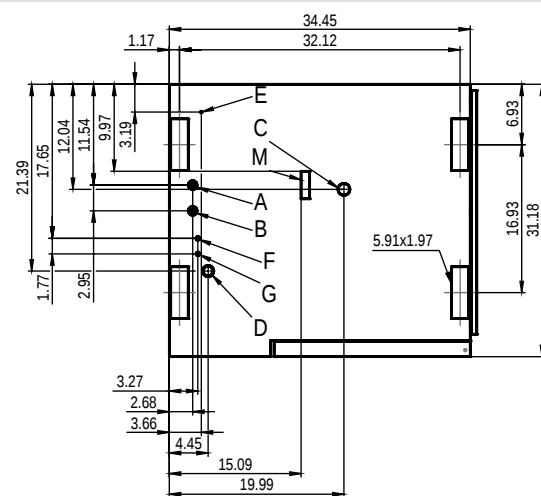
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

C4 10.10 dimensions and connection points (disappearing door)

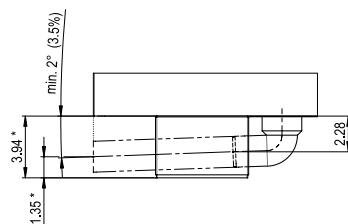
Front view



Connection points, unit floor

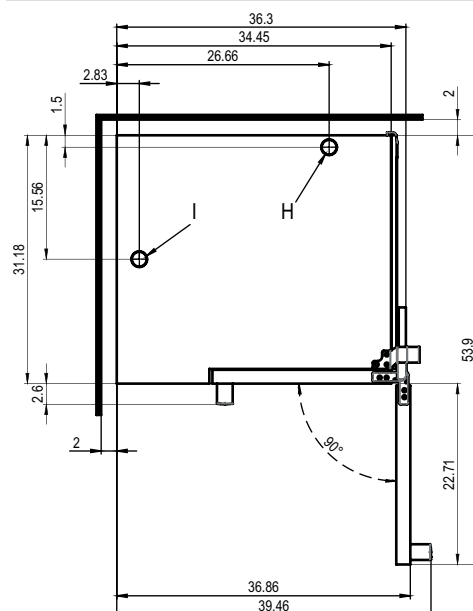


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



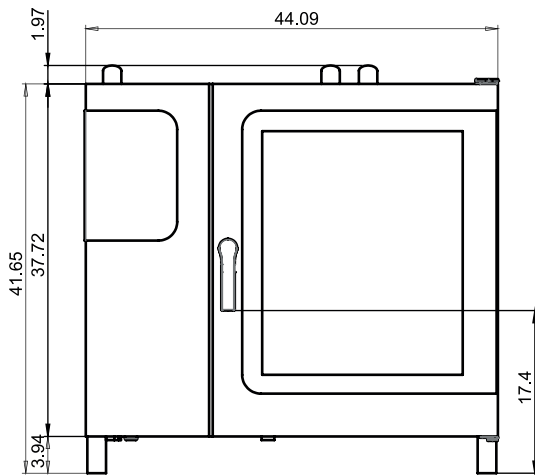
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

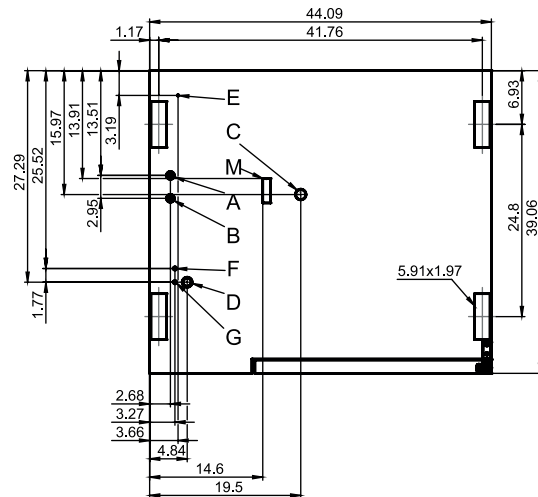
10.1.4 Convotherm 4 10.20 Electrical units

C4 10.20 dimensions and connection points (right-hinged unit door)

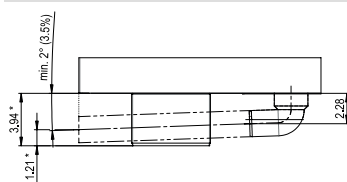
Front view



Connection points, unit floor

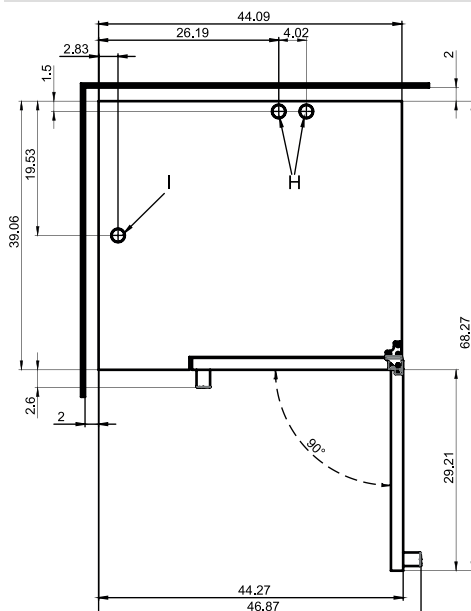


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

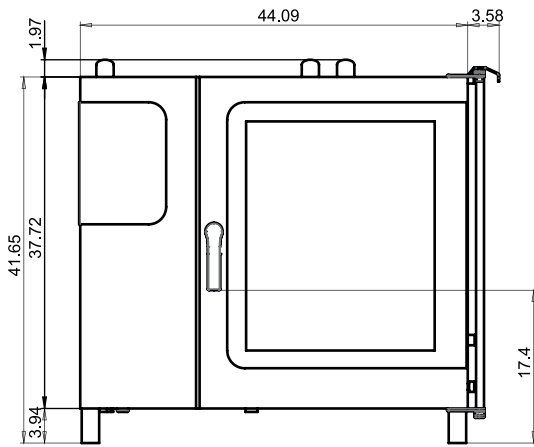


Key

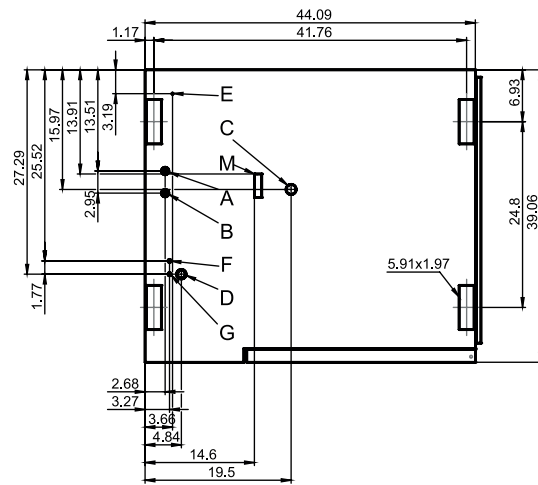
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

C4 10.20 dimensions and connection points (disappearing door)

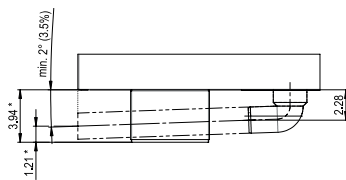
Front view



Connection points, unit floor

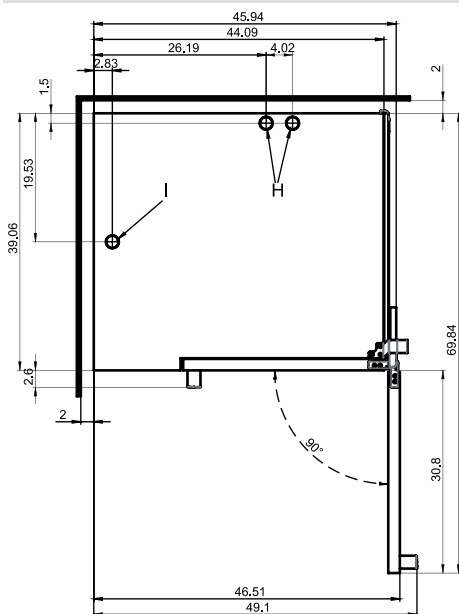


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



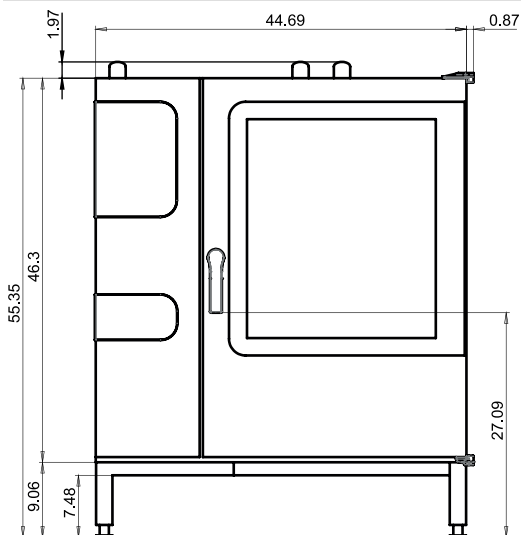
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

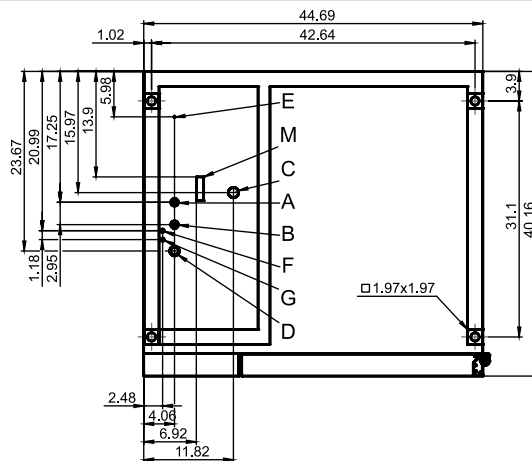
10.1.5 Convotherm 4 12.20 Electrical units

C4 12.20 dimensions and connection points (right-hinged unit door)

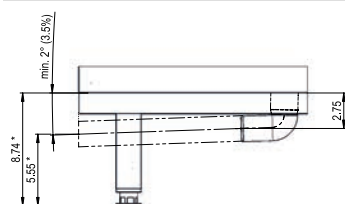
Front view



Connection points, unit floor

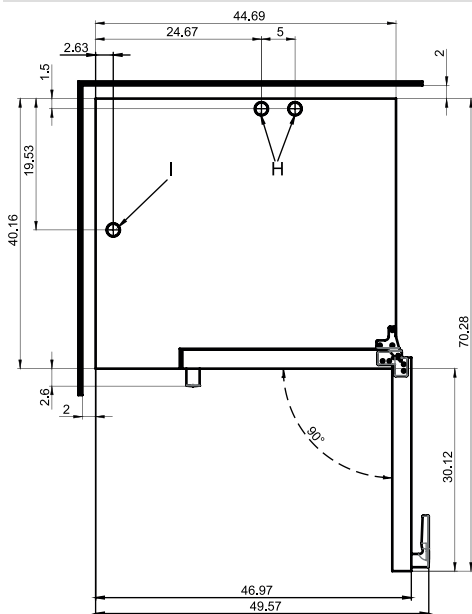


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

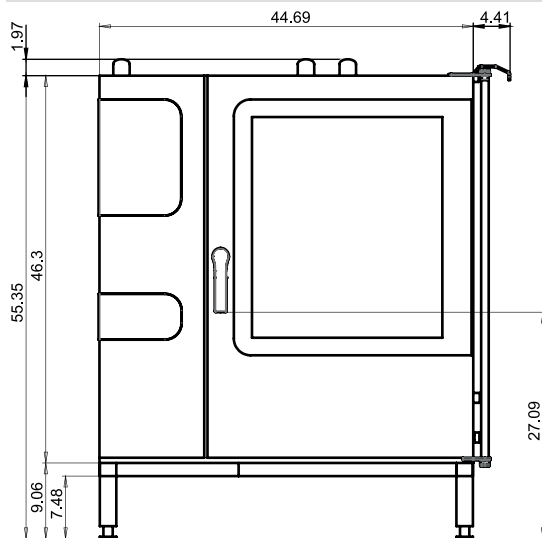


Key

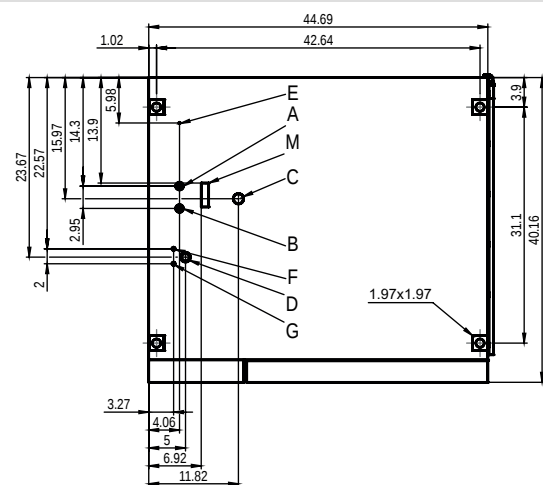
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

C4 12.20 dimensions and connection points (disappearing door)

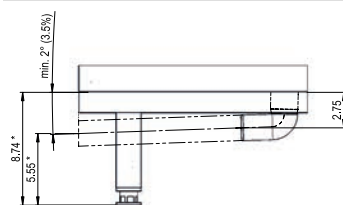
Front view



Connection points, unit floor

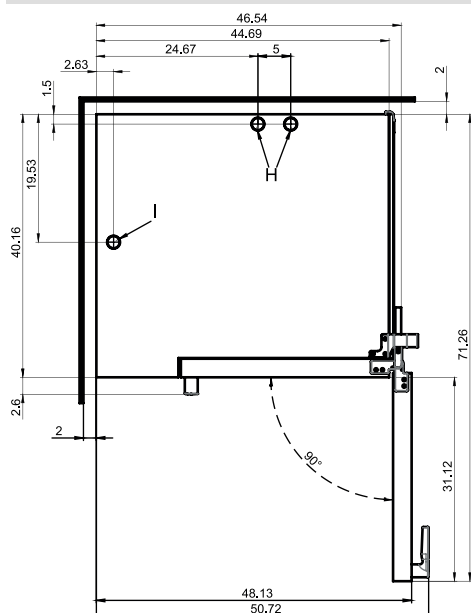


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



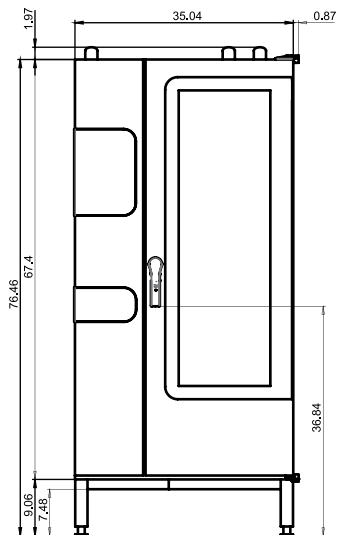
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

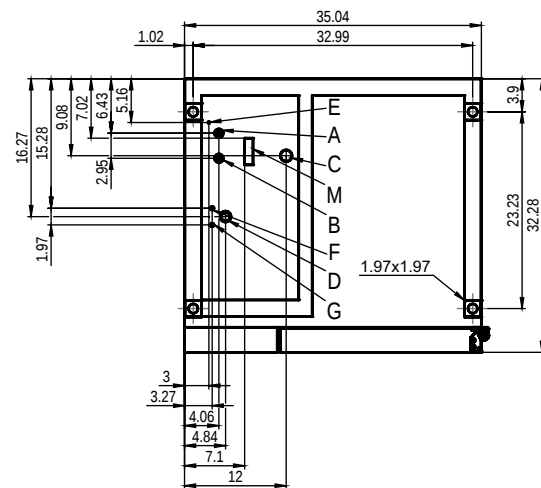
10.1.6 Convotherm 4 20.10 Electrical units

C4 20.10 dimensions and connection points (right-hinged unit door)

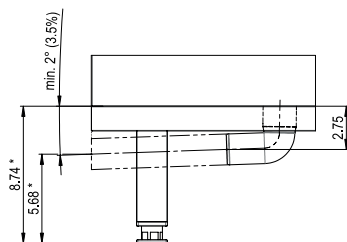
Front view



Connection points, unit floor

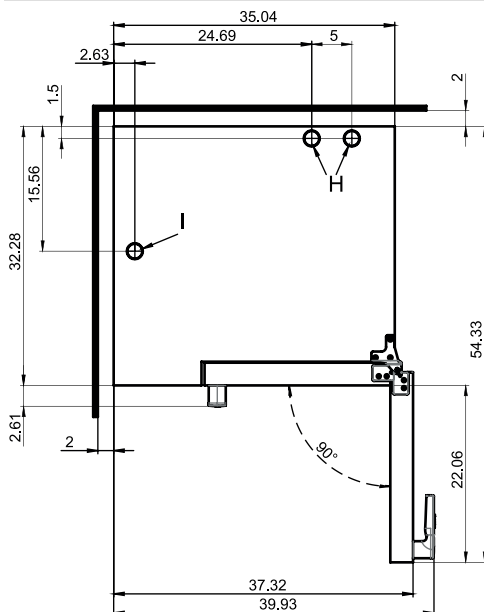


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

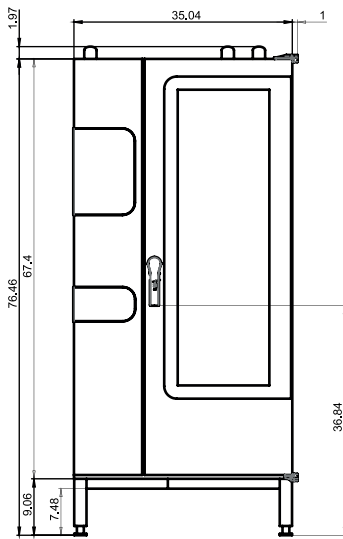


Key

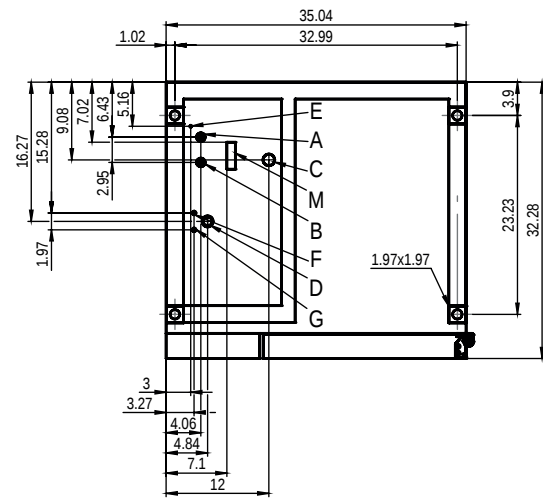
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

C4 20.10 dimensions and connection points (disappearing door)

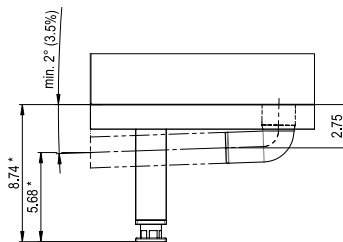
Front view



Connection points, unit floor

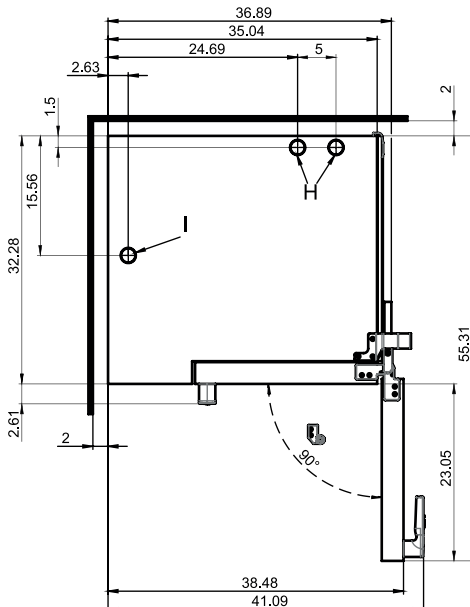


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



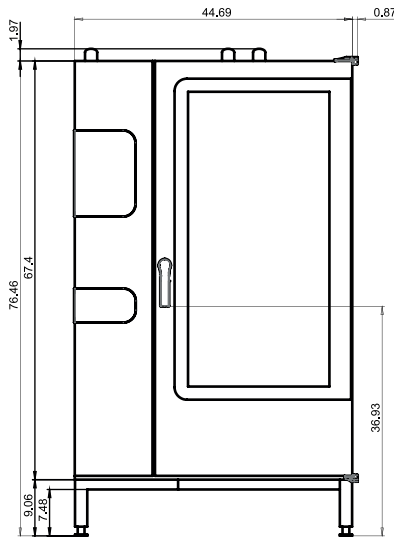
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

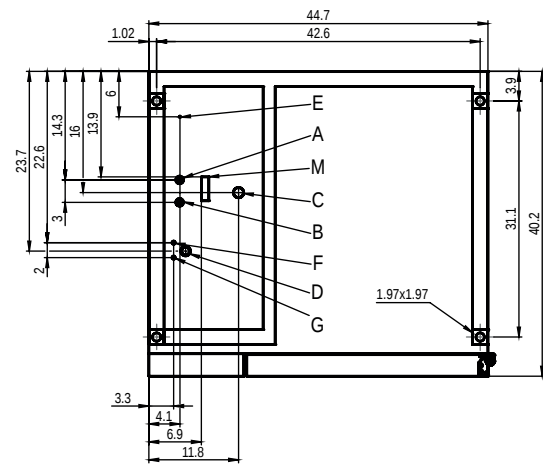
10.1.7 Convotherm 4 20.20 Electrical units

C4 20.20 dimensions and connection points (right-hinged unit door)

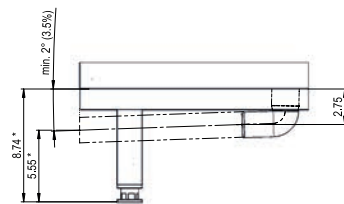
Front view



Connection points, unit floor

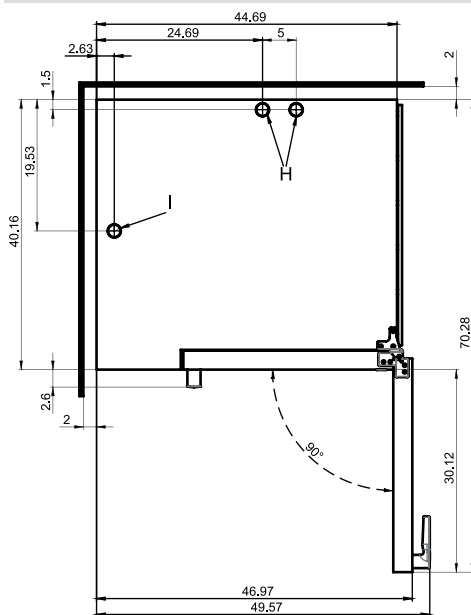


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

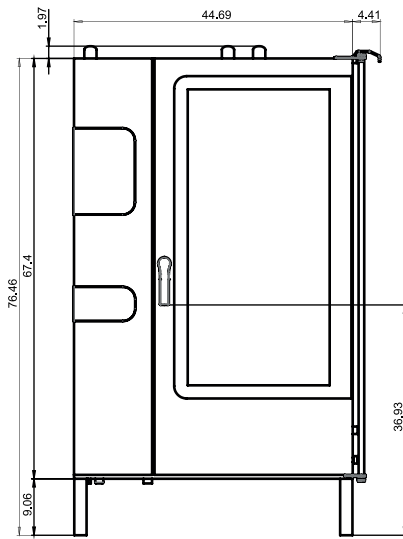


Key

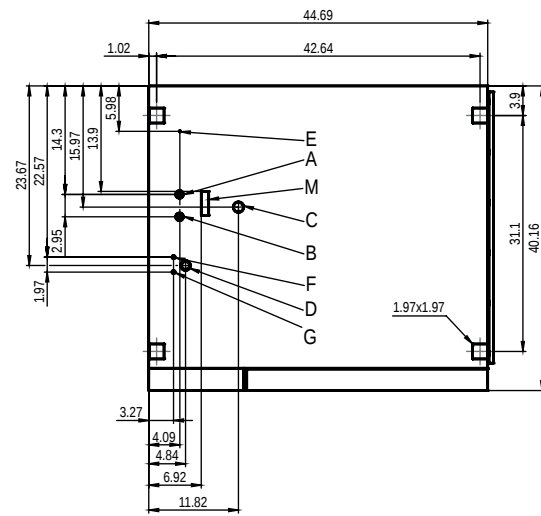
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

C4 20.20 dimensions and connection points (disappearing door)

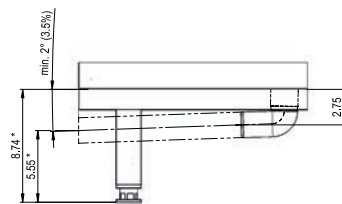
Front view



Connection points, unit floor

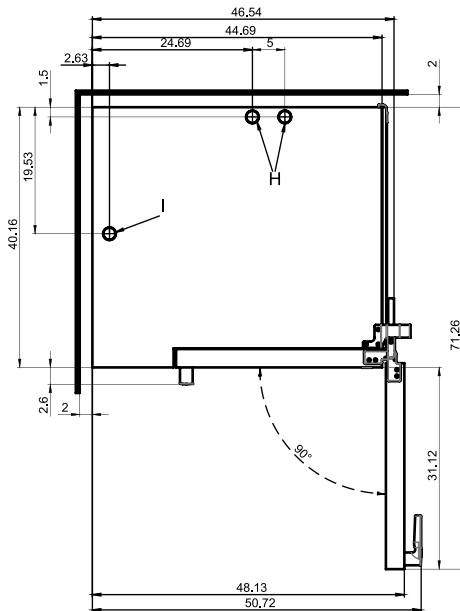


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- M Safety overflow 3.2" x 1"

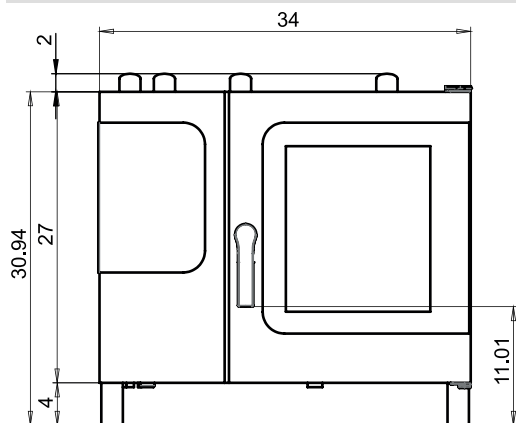
10.2 Dimensions and Connection Points for Gas Units

	Seite
Convotherm 4 6.10 Gas Unit with Boiler	143
Convotherm 4 6.10 Gas Unit with Sprayer	145
Convotherm 4 6.20 Gas Unit with Boiler	147
Convotherm 4 6.20 Gas Unit with Sprayer	149
Convotherm 4 10.10 Gas Unit with Boiler	151
Convotherm 4 10.10 Gas Unit with Sprayer	153
Convotherm 4 10.20 Gas Unit with Boiler	155
Convotherm 4 10.20 Gas Unit with Sprayer	157
Convotherm 4 12.20 Gas Unit with Boiler	159
Convotherm 4 12.20 Gas Unit with Sprayer	161
Convotherm 4 20.10 Gas Unit with Boiler	163
Convotherm 4 20.10 Gas Unit with Sprayer	165
Convotherm 4 20.20 Gas Unit with Boiler	167
Convotherm 4 20.20 Gas Unit with Sprayer	169

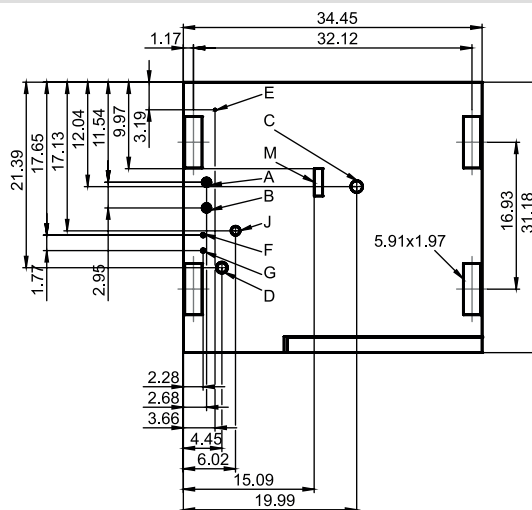
10.2.1 Convotherm 4 6.10 Gas Unit with Boiler

C4 6.10 dimensions and connection points (right-hinged unit door)

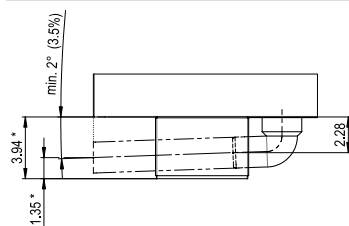
Front view



Connection points, unit floor

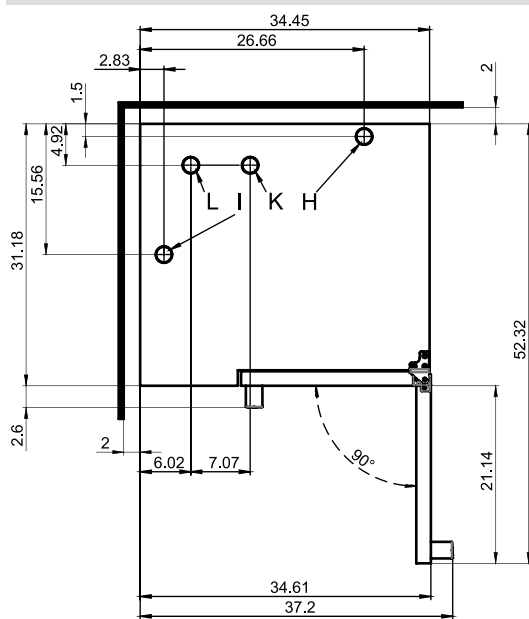


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

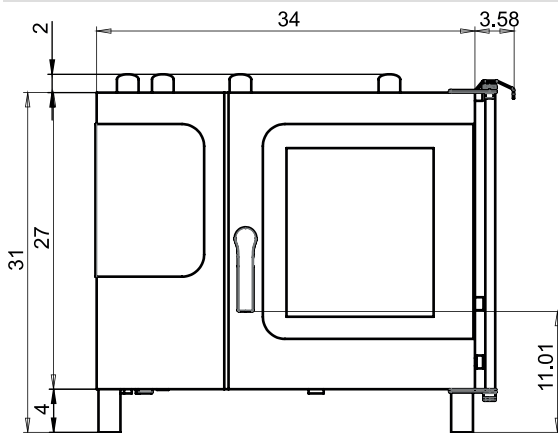


Key

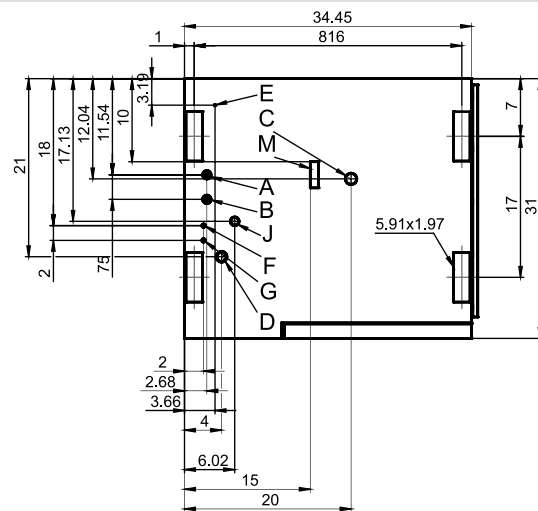
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

C4 6.10 dimensions and connection points (disappearing door)

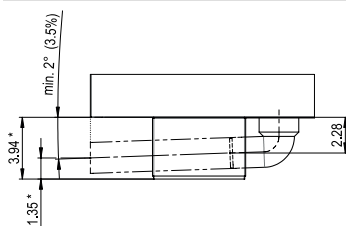
Front view



Connection points, unit floor

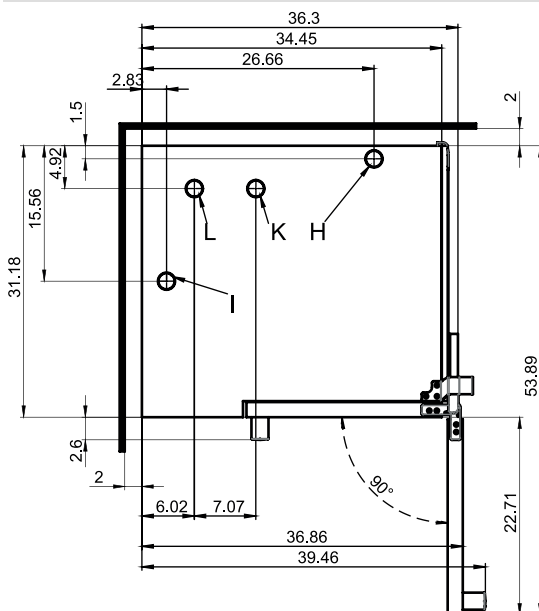


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



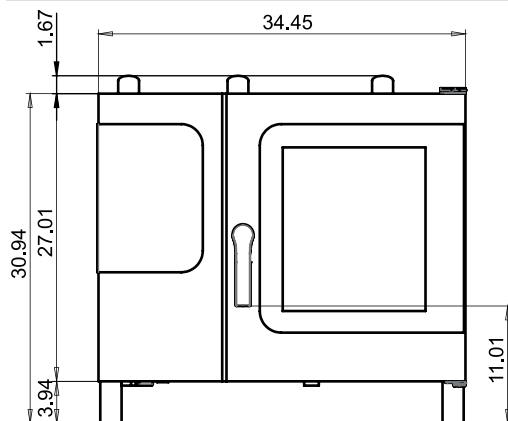
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

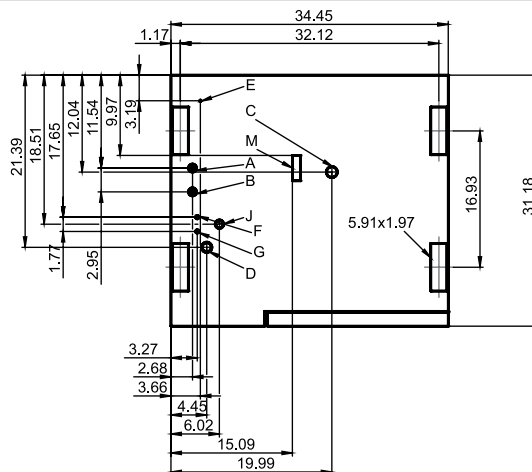
10.2.2 Convotherm 4 6.10 Gas Unit with Sprayer

C4 6.10 dimensions and connection points (right-hinged unit door)

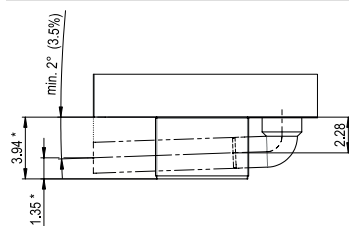
Front view



Connection points, unit floor

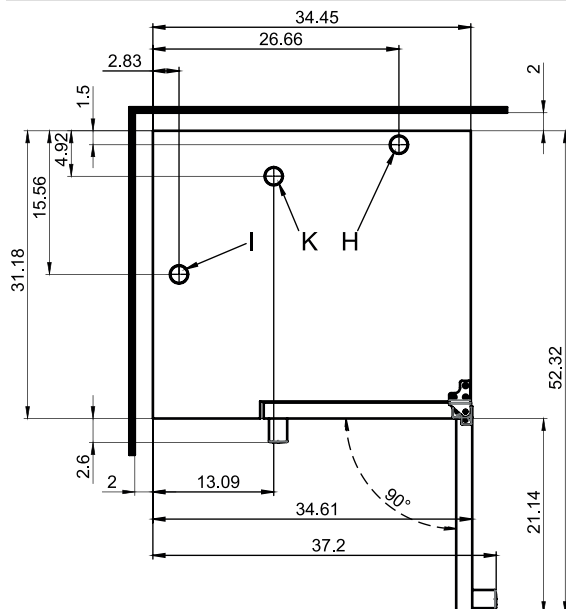


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

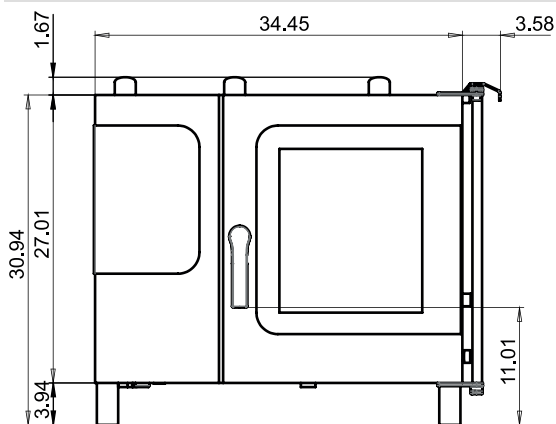


Key

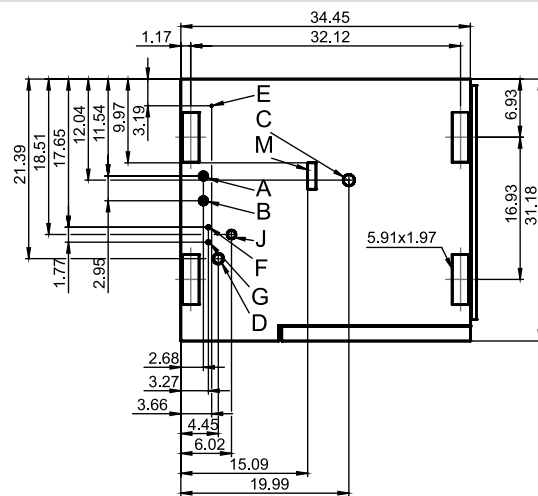
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

C4 6.10 dimensions and connection points (disappearing door)

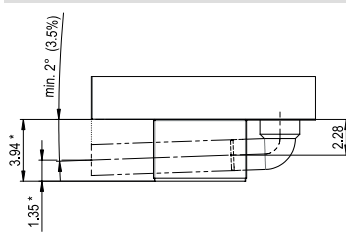
Front view



Connection points, unit floor

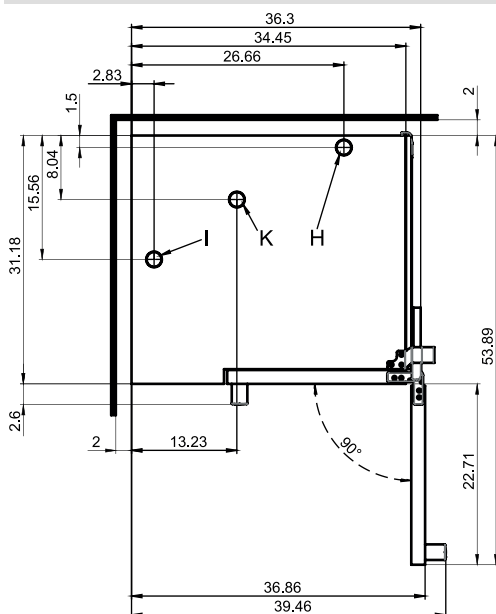


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



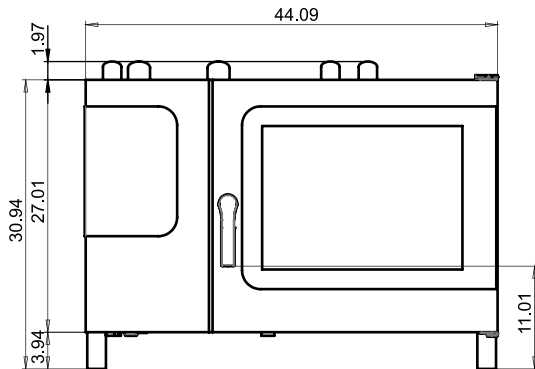
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

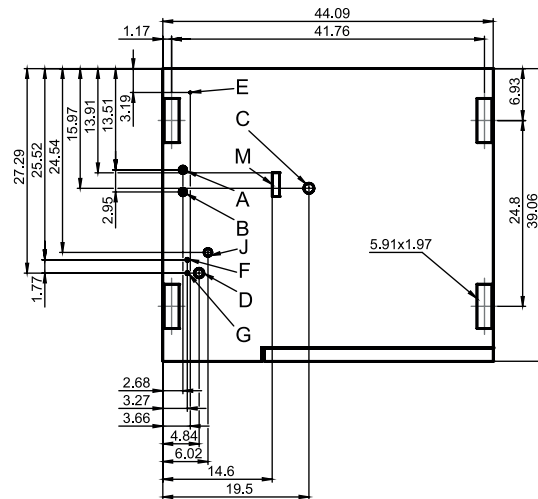
10.2.3 Convotherm 4 6.20 Gas Unit with Boiler

C4 6.20 dimensions and connection points (right-hinged unit door)

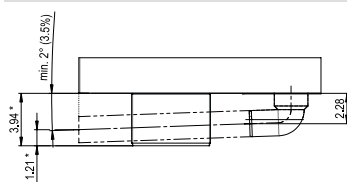
Front view



Connection points, unit floor

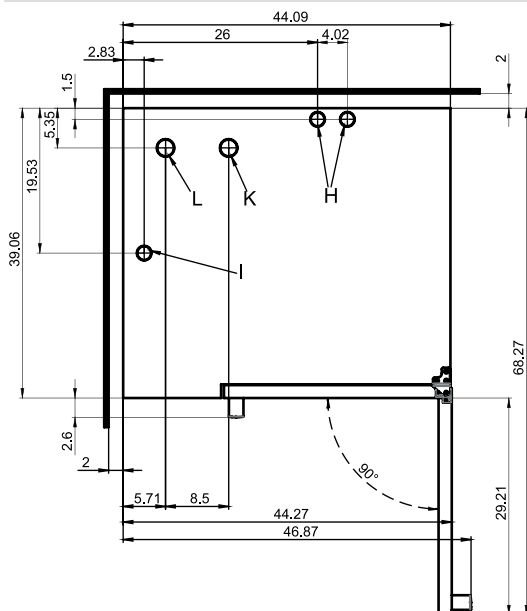


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

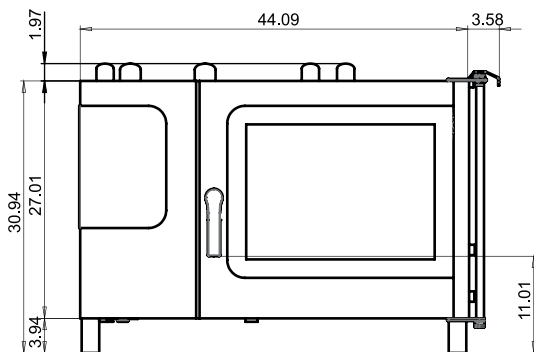


Key

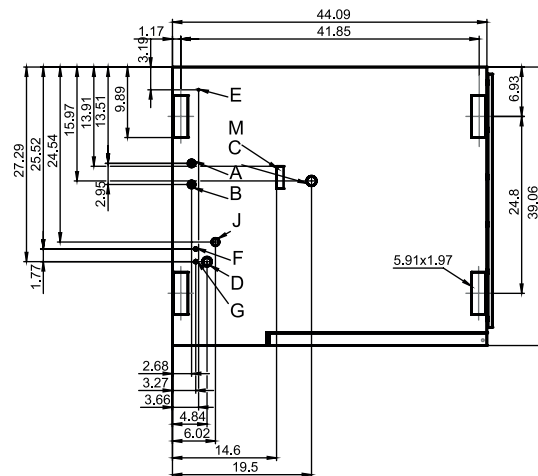
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

C4 6.20 dimensions and connection points (disappearing door)

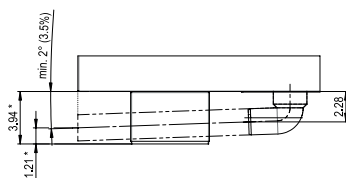
Front view



Connection points, unit floor

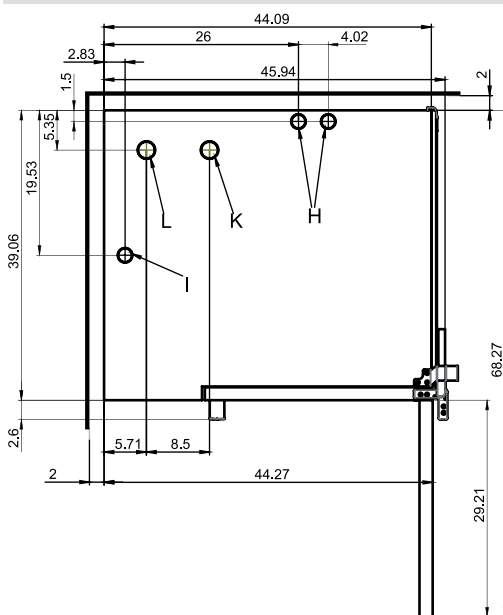


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



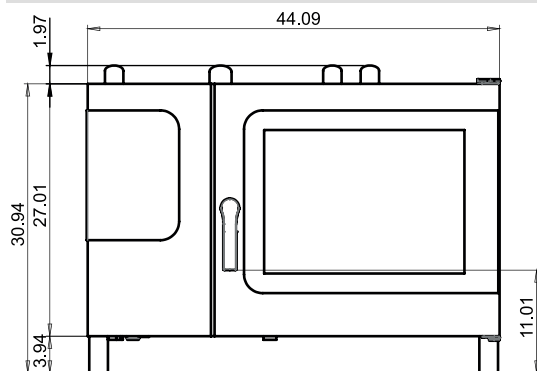
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

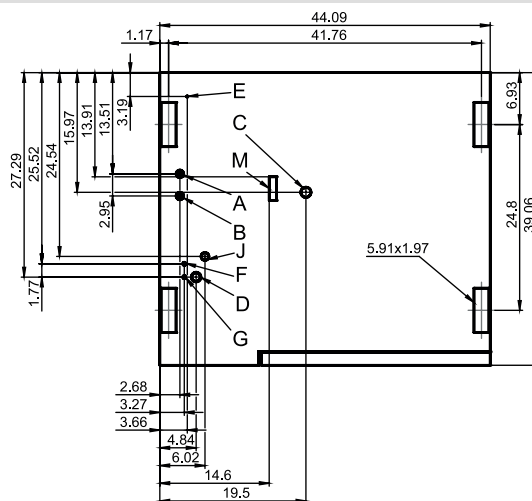
10.2.4 Convotherm 4 6.20 Gas Unit with Sprayer

C4 6.20 dimensions and connection points (right-hinged unit door)

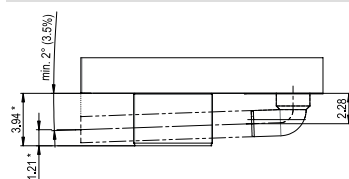
Front view



Connection points, unit floor

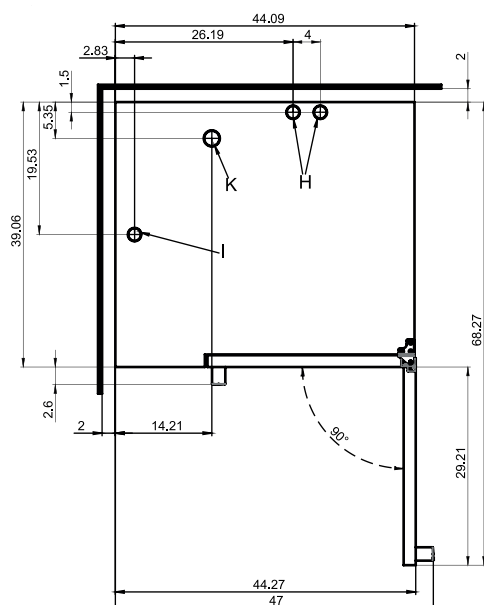


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

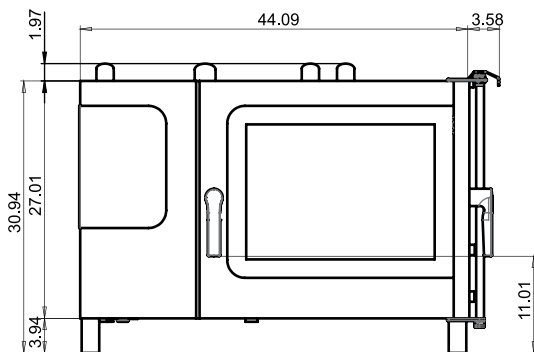


Key

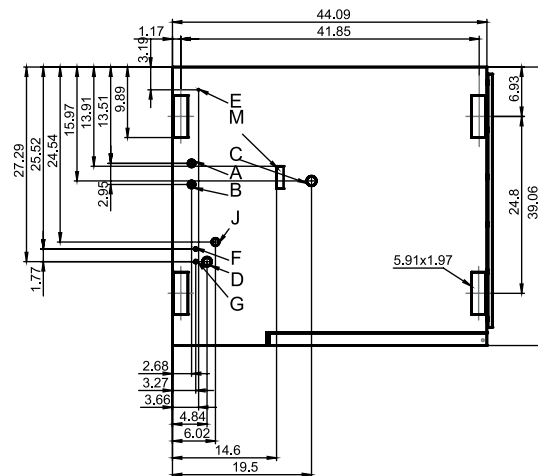
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

C4 6.20 dimensions and connection points (disappearing door)

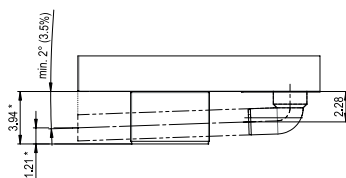
Front view



Connection points, unit floor

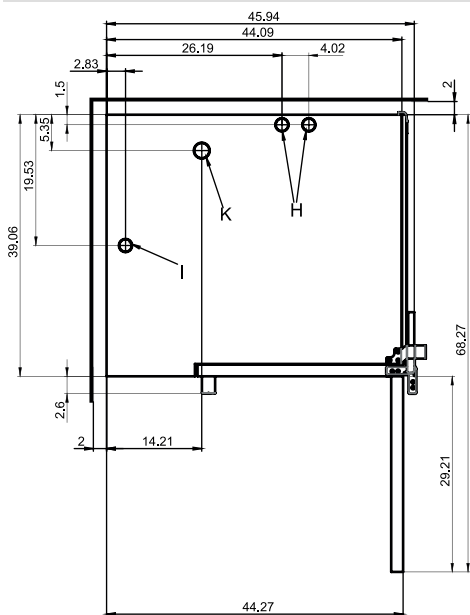


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



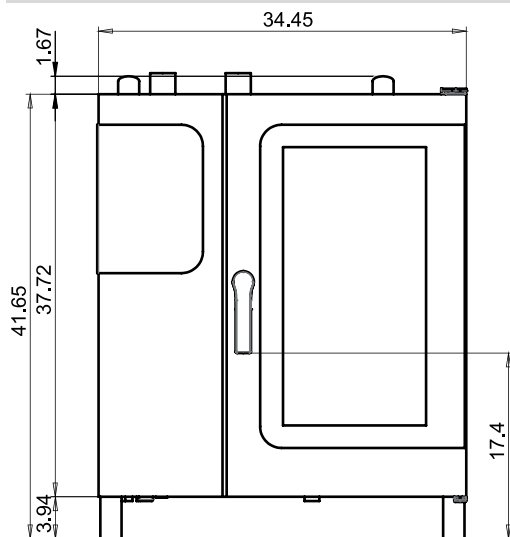
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

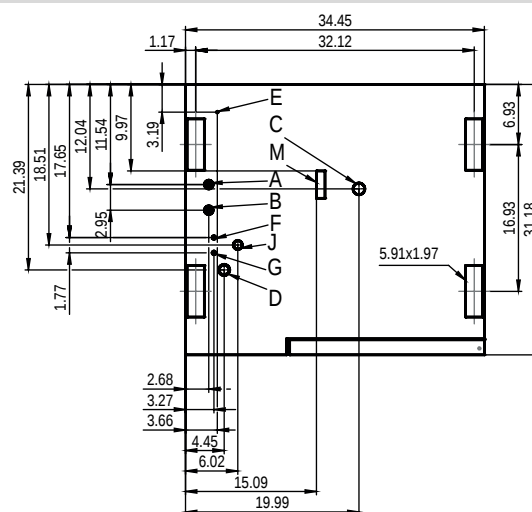
10.2.5 Convotherm 4 10.10 Gas Unit with Boiler

C4 10.10 dimensions and connection points (right-hinged unit door)

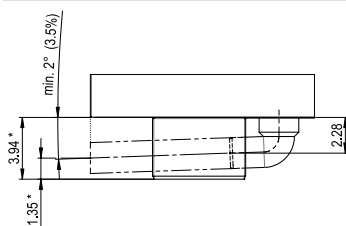
Front view



Connection points, unit floor

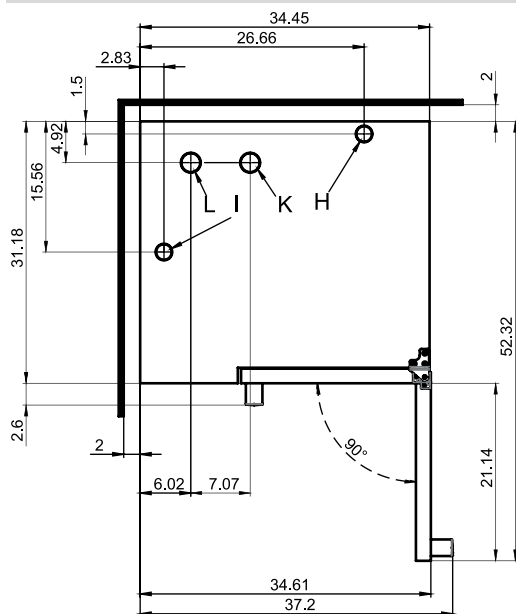


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

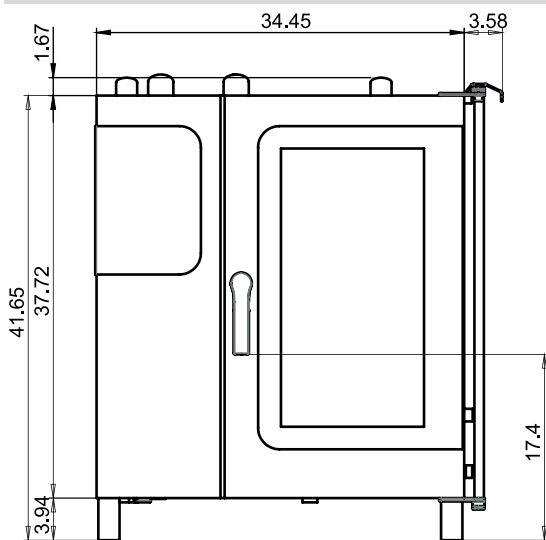


Key

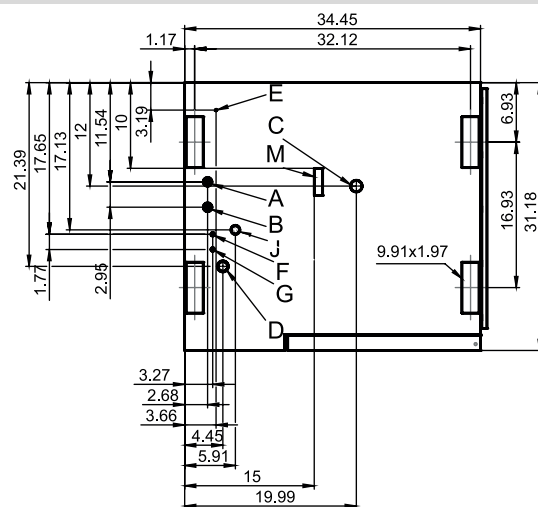
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

C4 10.10 dimensions and connection points (disappearing door)

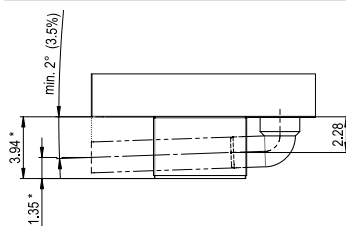
Front view



Connection points, unit floor

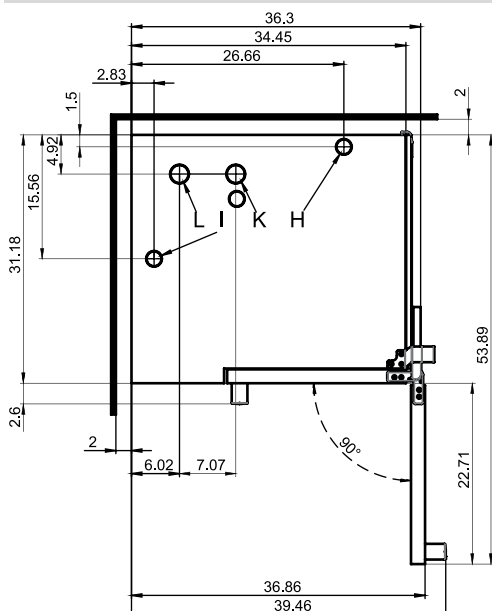


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



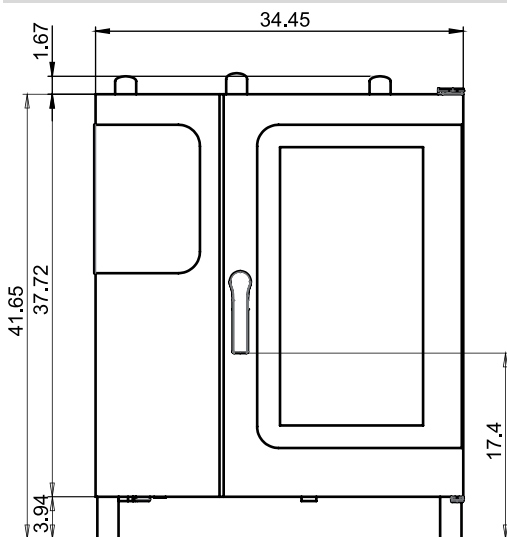
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

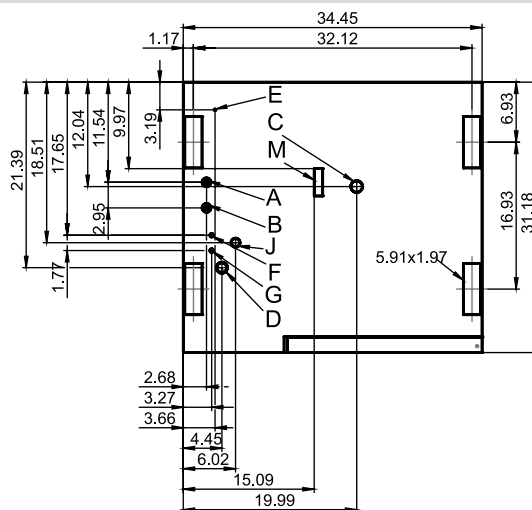
10.2.6 Convotherm 4 10.10 Gas Unit with Sprayer

C4 10.10 dimensions and connection points (right-hinged unit door)

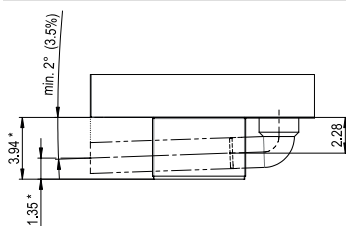
Front view



Connection points, unit floor

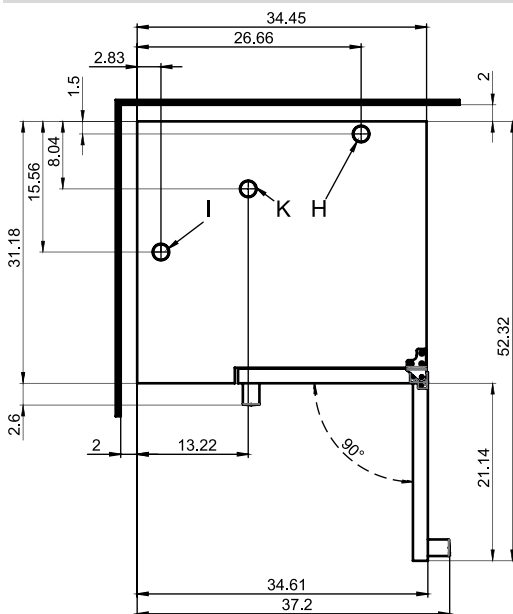


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

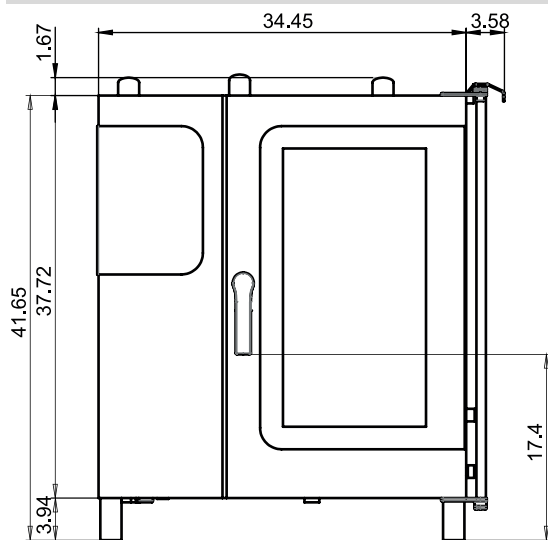


Key

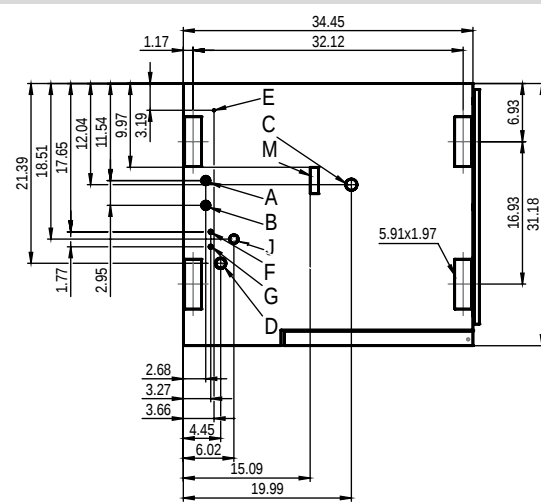
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

C4 10.10 dimensions and connection points (disappearing door)

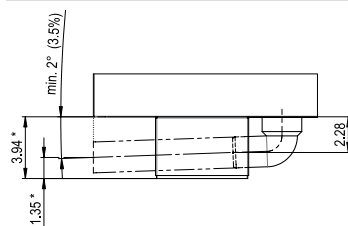
Front view



Connection points, unit floor

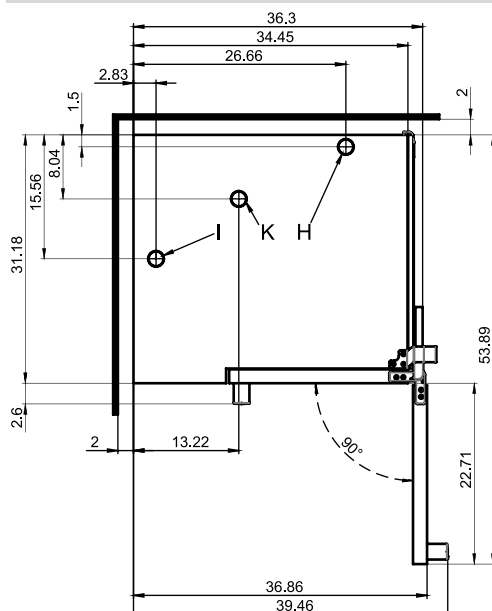


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



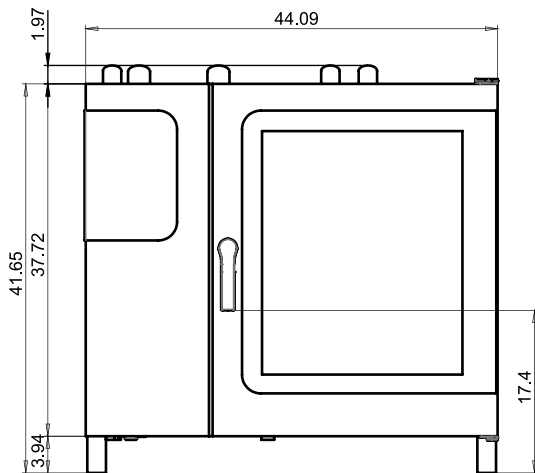
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

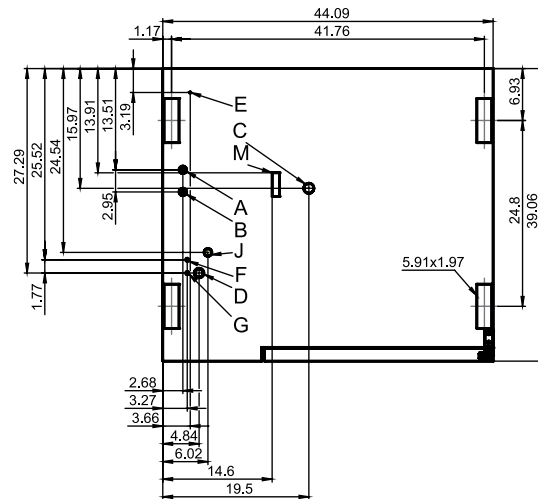
10.2.7 Convotherm 4 10.20 Gas Unit with Boiler

C4 10.20 dimensions and connection points (right-hinged unit door)

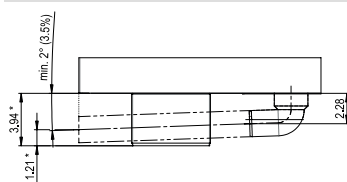
Front view



Connection points, unit floor

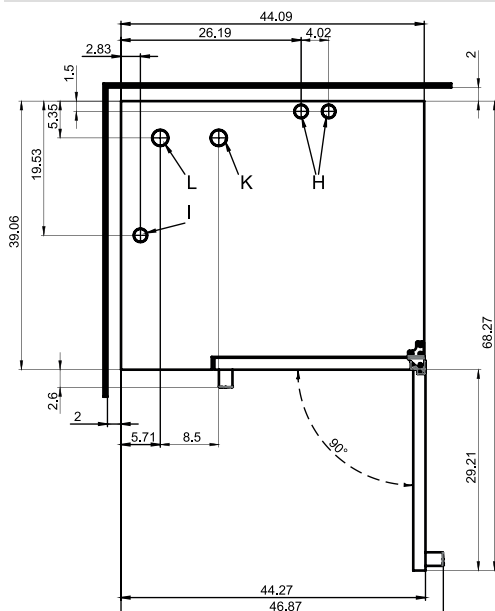


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

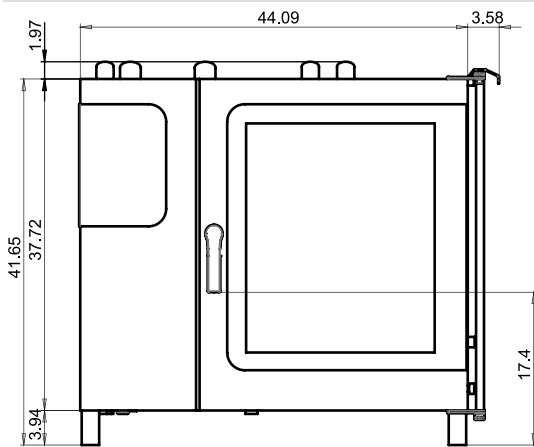


Key

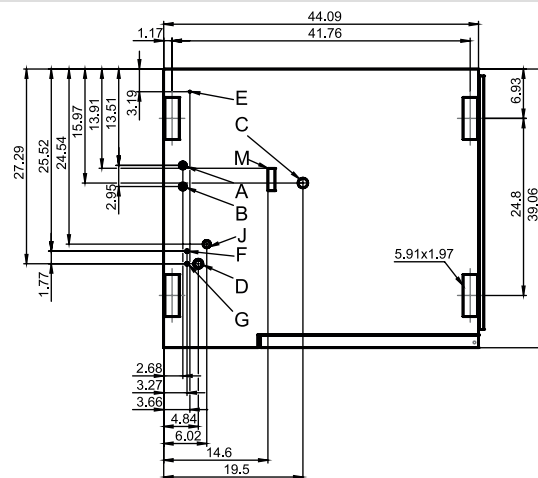
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

C4 10.20 dimensions and connection points (disappearing door)

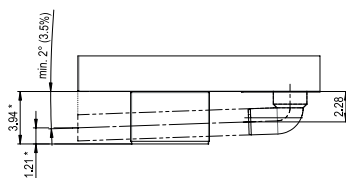
Front view



Connection points, unit floor

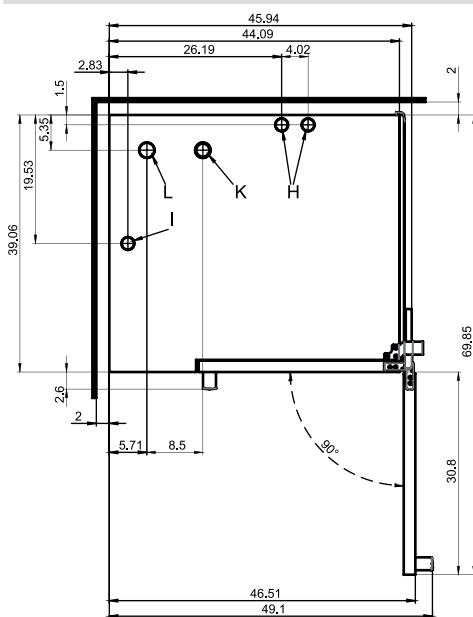


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



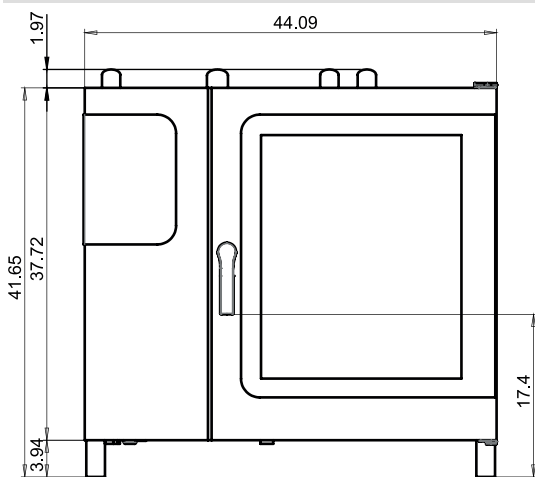
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

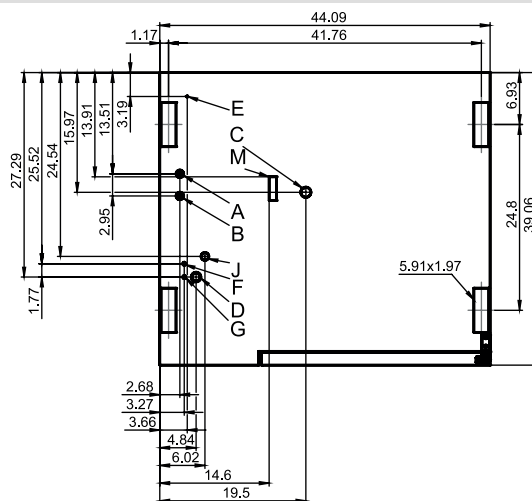
10.2.8 Convotherm 4 10.20 Gas Unit with Sprayer

C4 10.20 dimensions and connection points (right-hinged unit door)

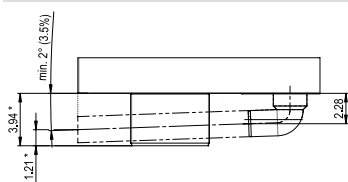
Front view



Connection points, unit floor

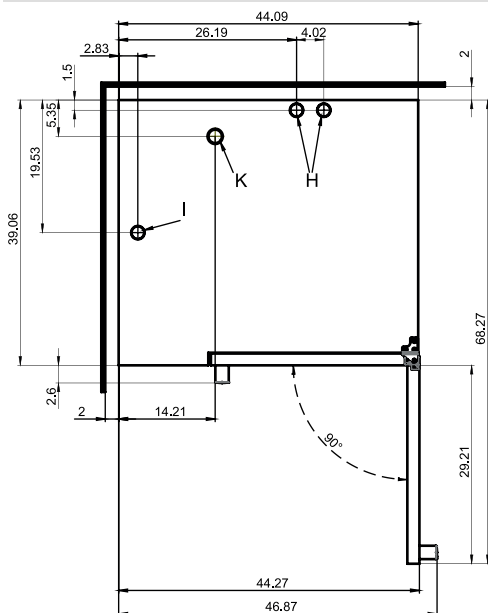


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

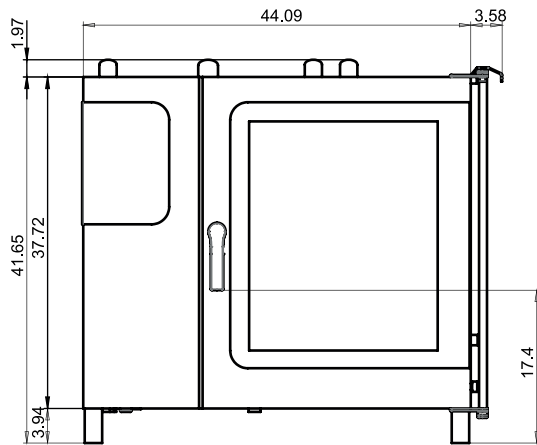


Key

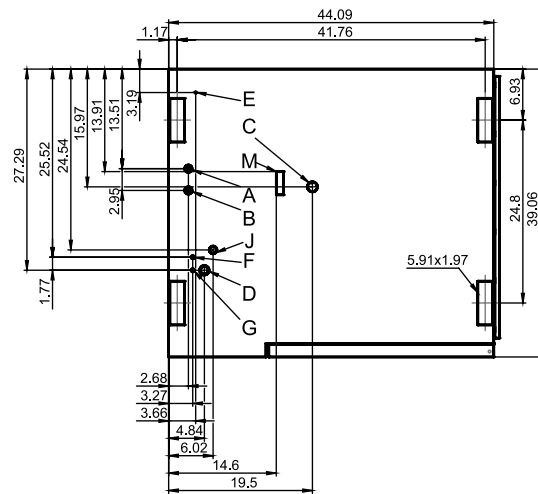
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

C4 10.20 dimensions and connection points (disappearing door)

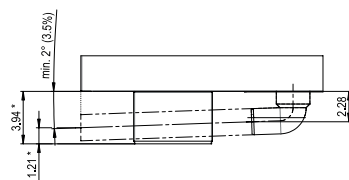
Front view



Connection points, unit floor

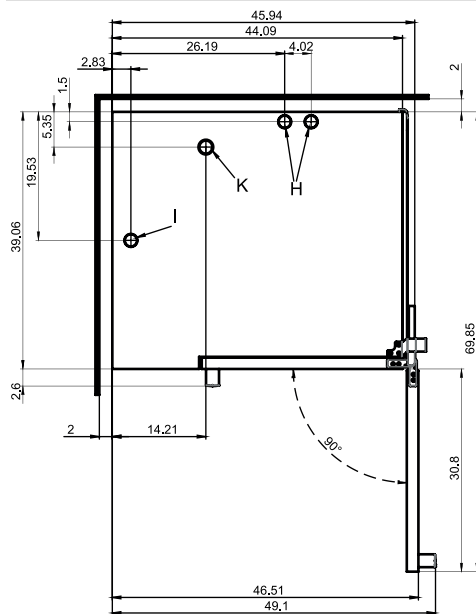


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



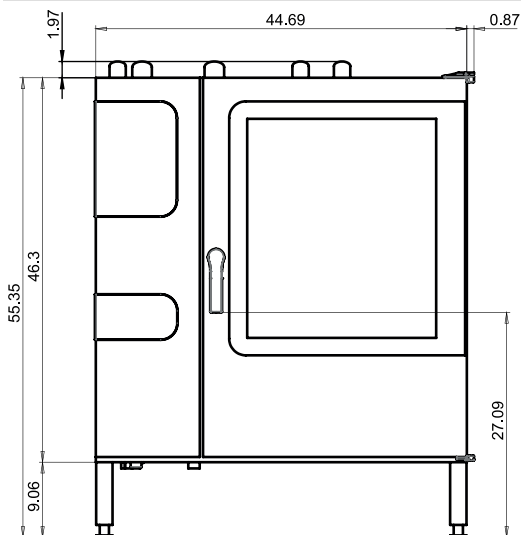
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

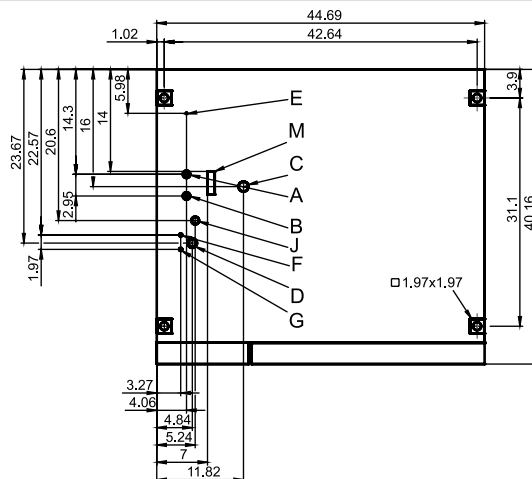
10.2.9 Convotherm 4 12.20 Gas Unit with Boiler

C4 12.20 dimensions and connection points (right-hinged unit door)

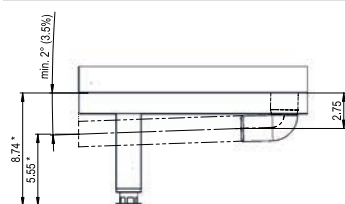
Front view



Connection points, unit floor

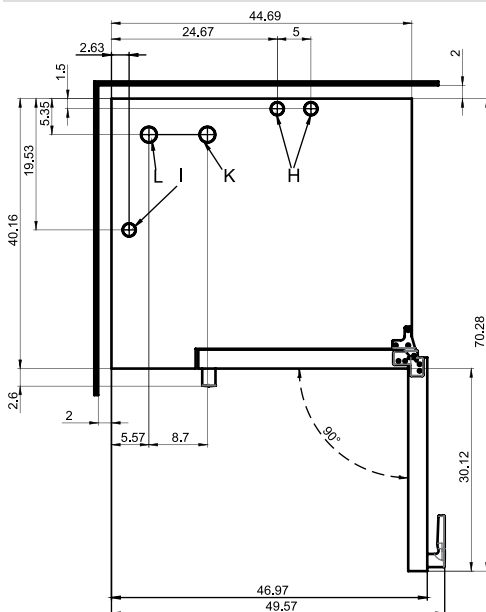


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

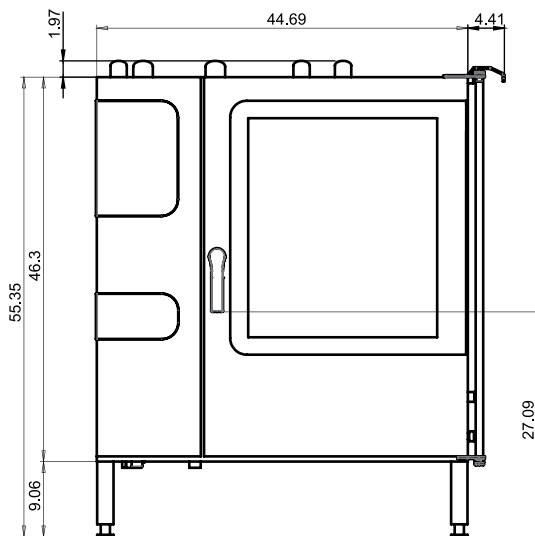


Key

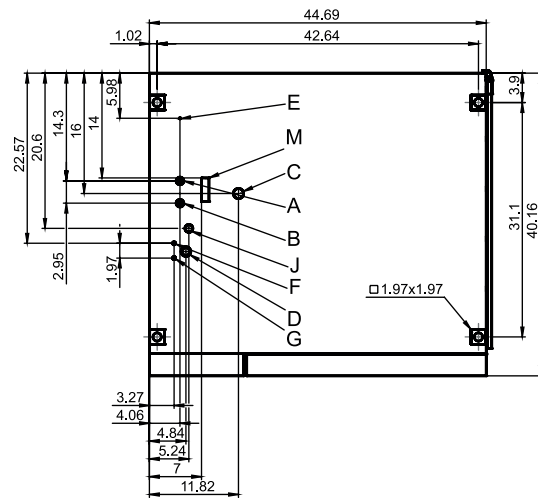
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

C4 12.20 dimensions and connection points (disappearing door)

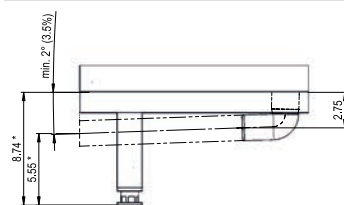
Front view



Connection points, unit floor

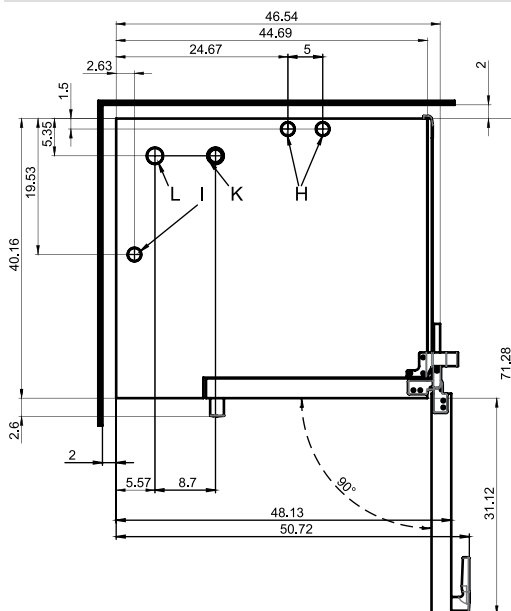


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



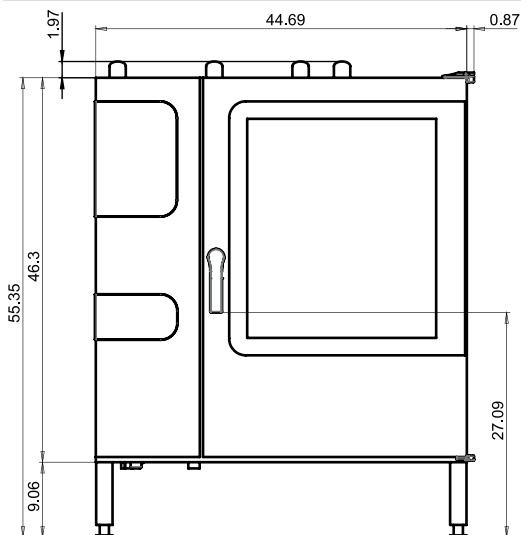
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

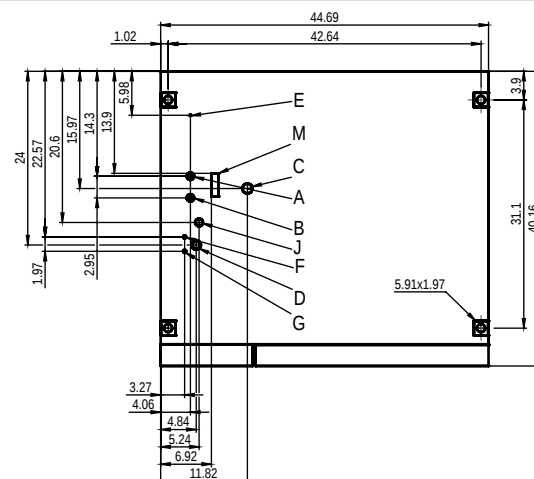
10.2.10 Convotherm 4 12.20 Gas Unit with Sprayer

C4 12.20 dimensions and connection points (right-hinged unit door)

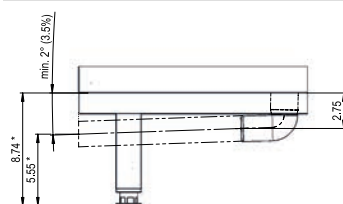
Front view



Connection points, unit floor

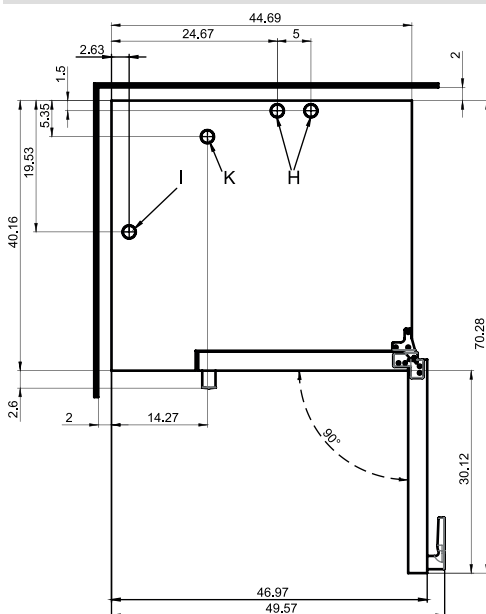


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

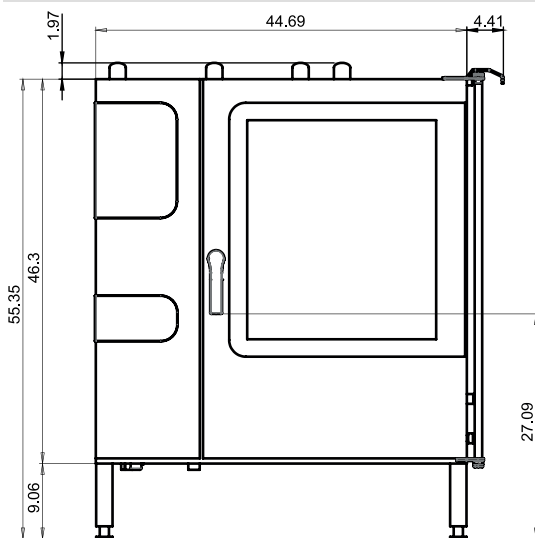


Key

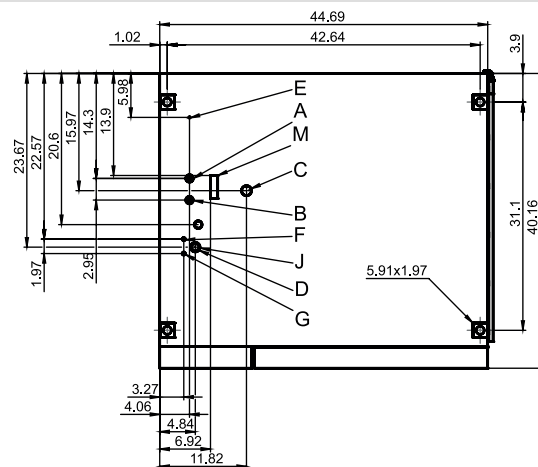
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

C4 12.20 dimensions and connection points (disappearing door)

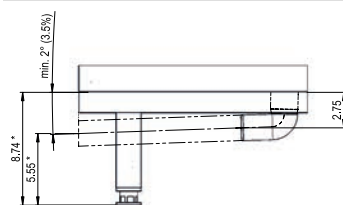
Front view



Connection points, unit floor

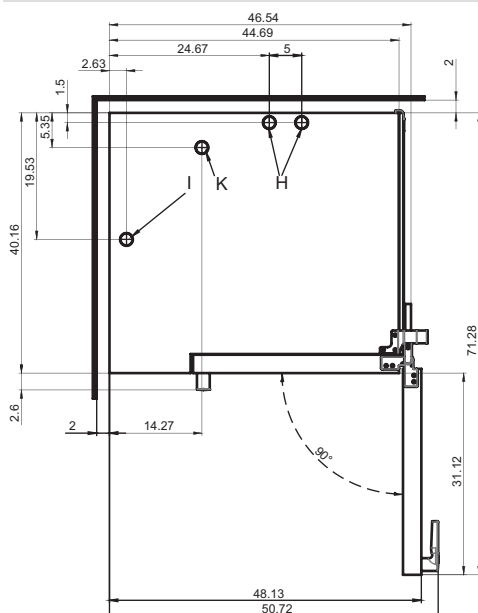


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



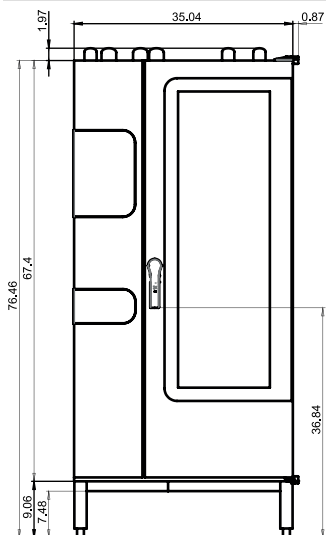
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

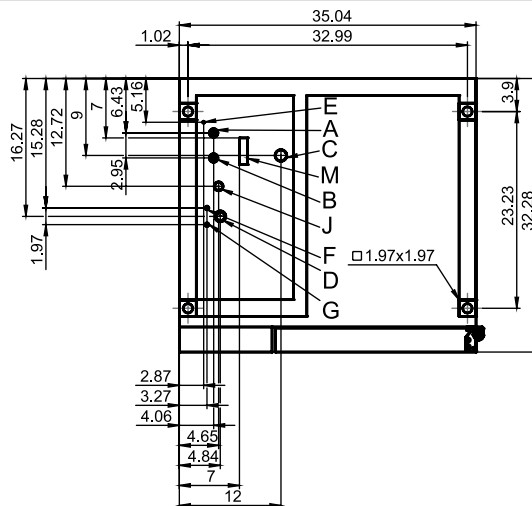
10.2.11 Convotherm 4 20.10 Gas Unit with Boiler

C4 20.10 dimensions and connection points (right-hinged unit door)

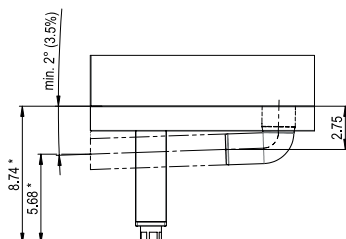
Front view



Connection points, unit floor

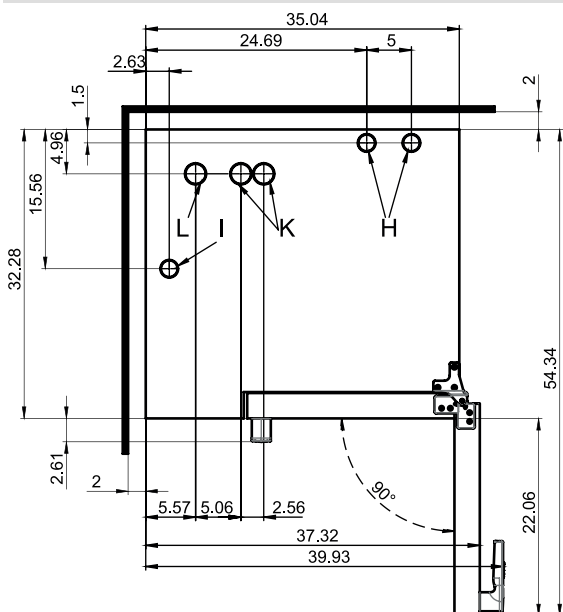


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

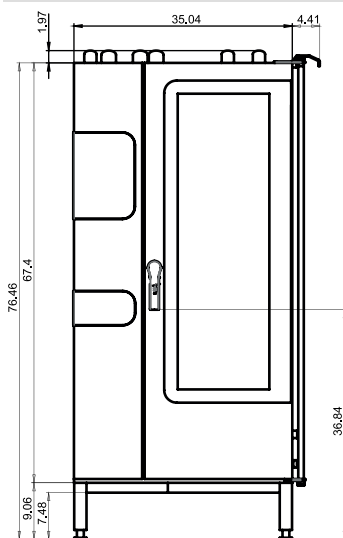


Key

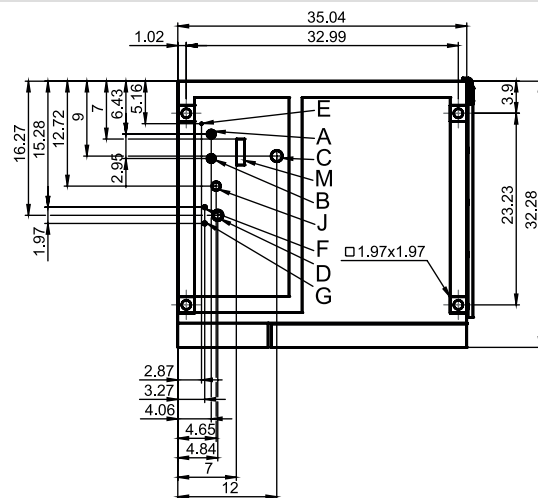
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

C4 20.10 dimensions and connection points (disappearing door)

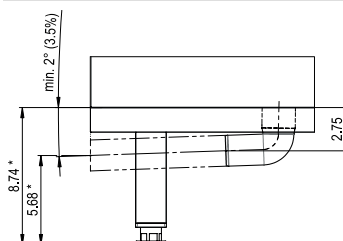
Front view



Connection points, unit floor

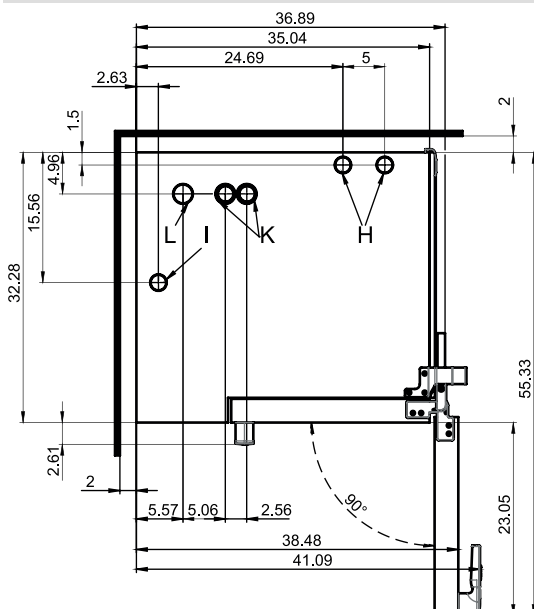


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



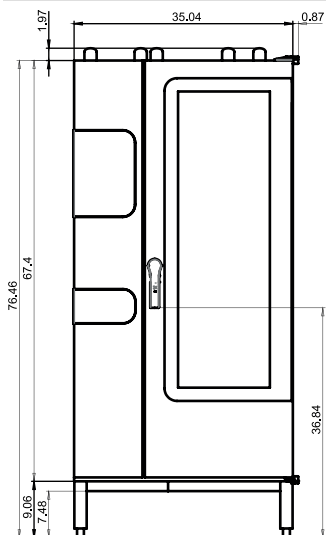
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

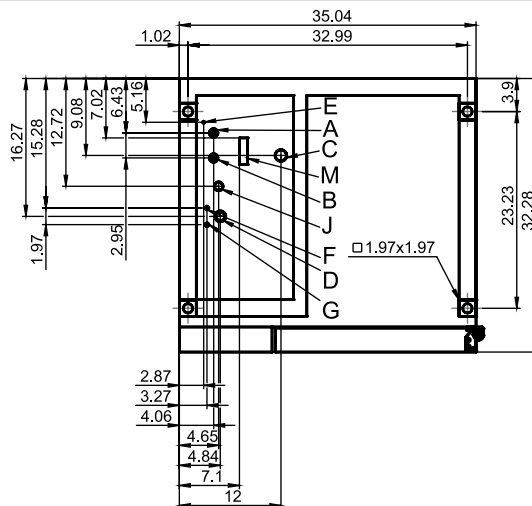
10.2.12 Convotherm 4 20.10 Gas Unit with Sprayer

C4 20.10 dimensions and connection points (right-hinged unit door)

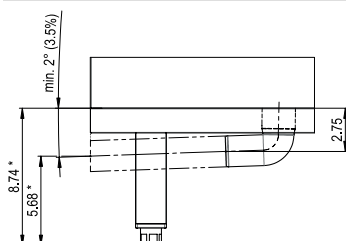
Front view



Connection points, unit floor

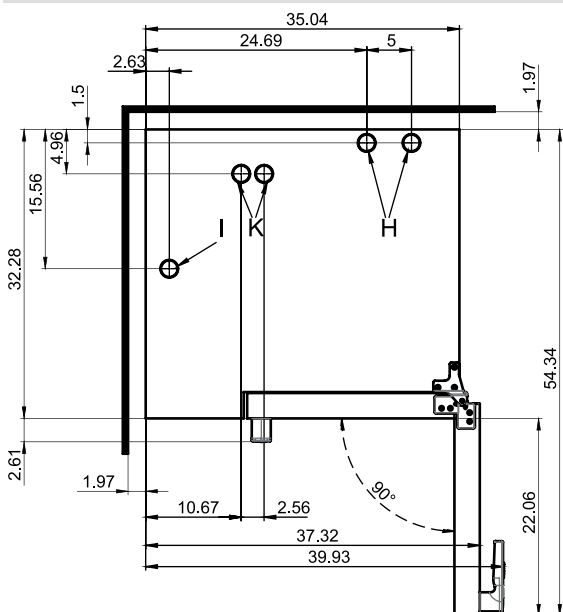


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

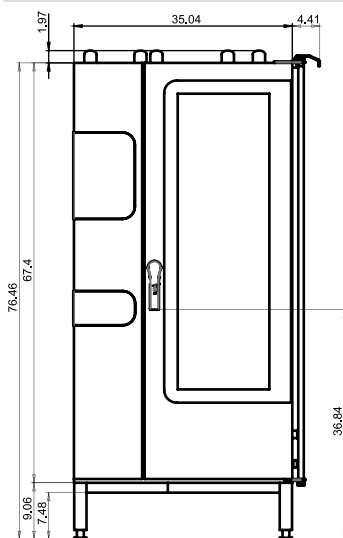


Key

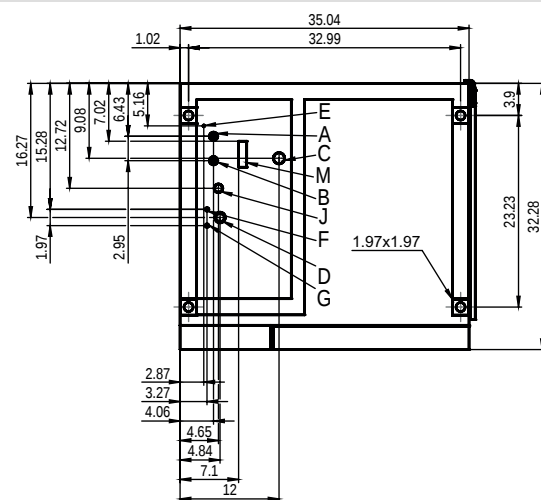
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

C4 20.10 dimensions and connection points (disappearing door)

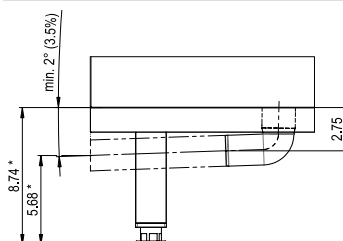
Front view



Connection points, unit floor

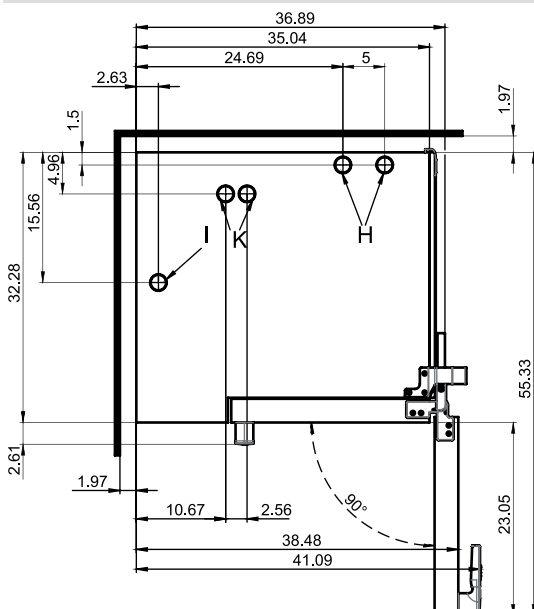


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



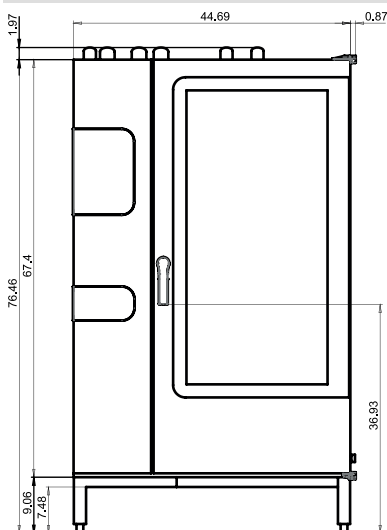
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

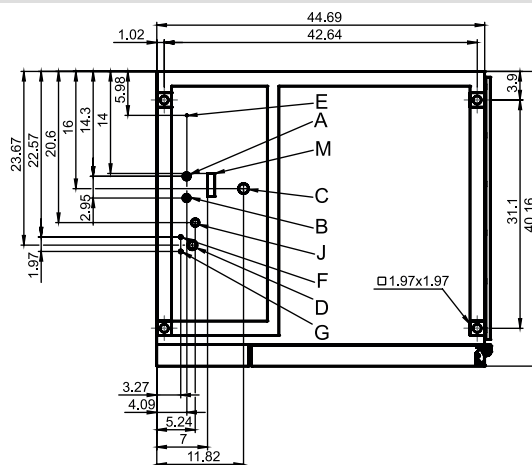
10.2.13 Convotherm 4 20.20 Gas Unit with Boiler

C4 20.20 dimensions and connection points (right-hinged unit door)

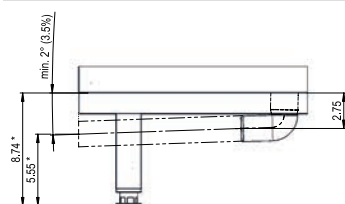
Front view



Connection points, unit floor

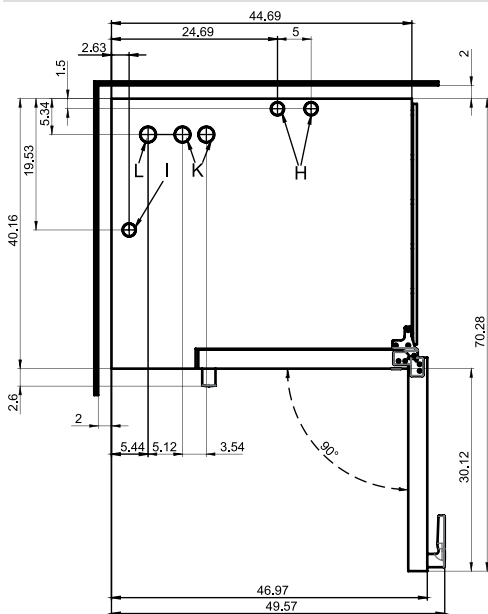


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

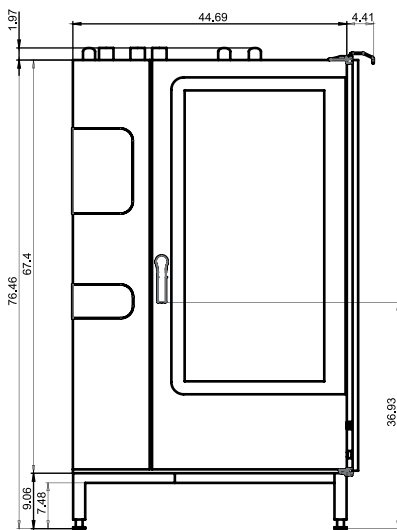


Key

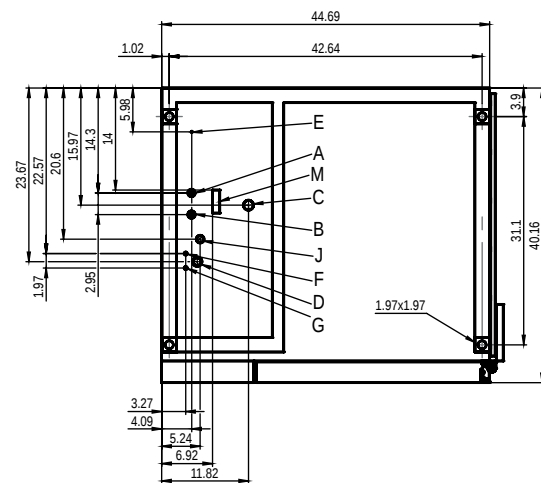
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
- G Cleaning-agent connection (optional)
- H Air vent (2" internal diameter)
- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

C4 20.20 dimensions and connection points (disappearing door)

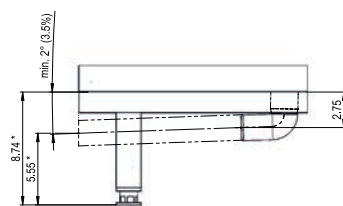
Front view



Connection points, unit floor

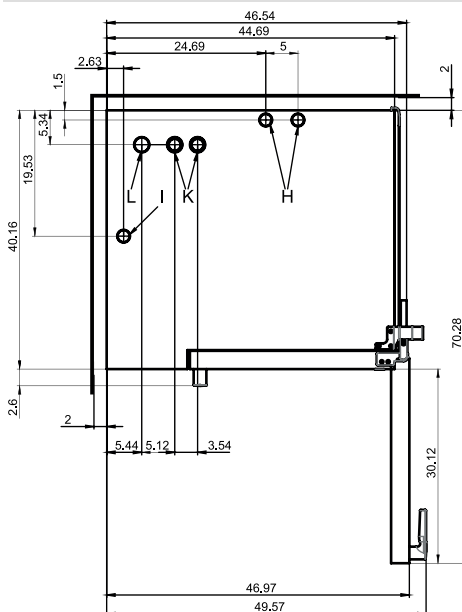


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



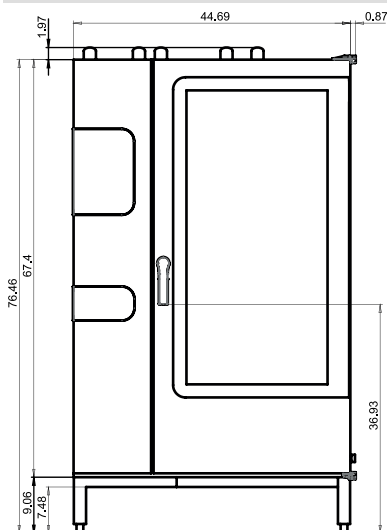
Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
- D Electrical connection
- E Bonding
- F Rinse-aid connection (optional)
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- H Air vent (2" internal diameter)
- I Ventilation port
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- K Exhaust outlet (convection heating)
- L Exhaust outlet (boiler)
- M Safety overflow 3.2" x 1"

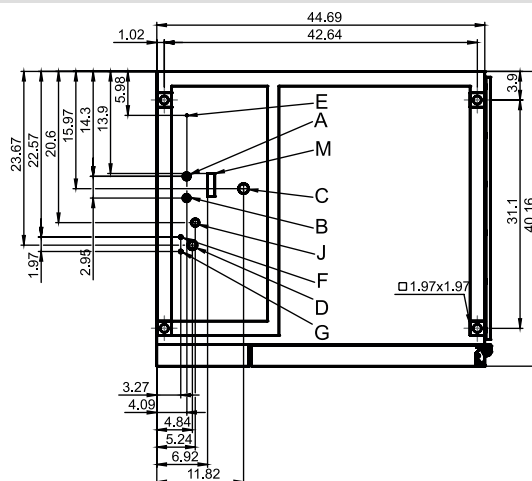
10.2.14 Convotherm 4 20.20 Gas Unit with Sprayer

C4 20.20 dimensions and connection points (right-hinged unit door)

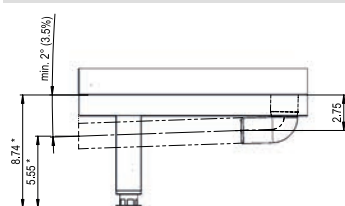
Front view



Connection points, unit floor

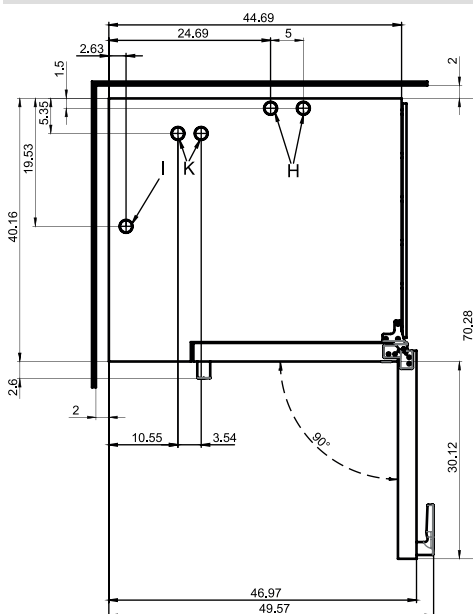


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances

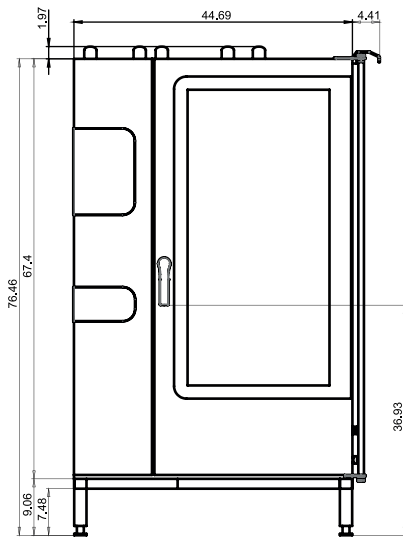


Key

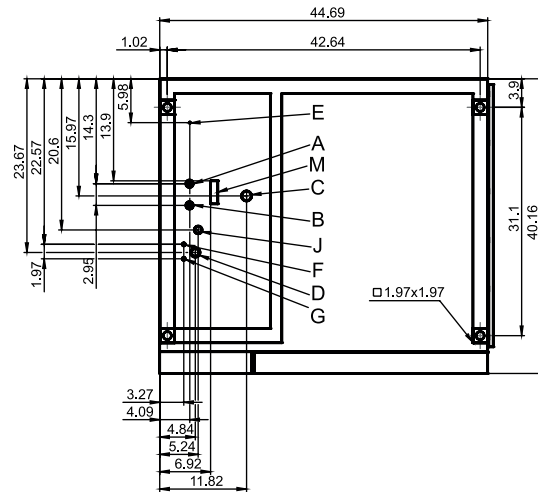
- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
- C Drain connection (2" internal diameter)
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- I Ventilation port
- J Gas connection
- K Exhaust outlet (convection heating)
- M Safety overflow 3.2" x 1"

C4 20.20 dimensions and connection points (disappearing door)

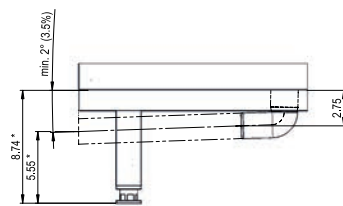
Front view



Connection points, unit floor

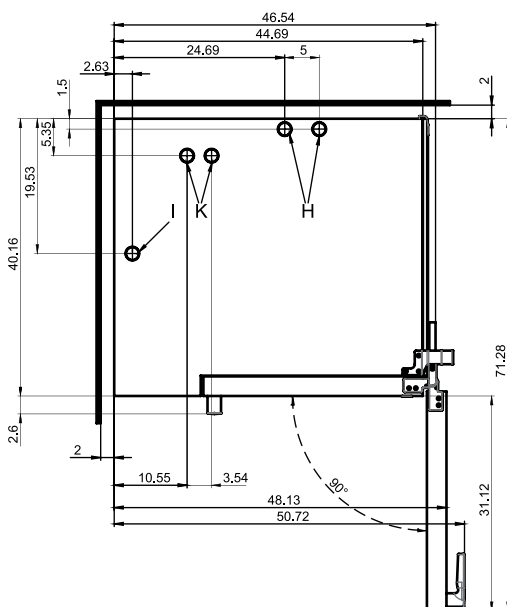


Drain connection detail



* The distance depends on how much the feet are extended (max. +0.984")

View from above with wall clearances



Key

- A Water connections (for boiler or water injection)
- B Water connections (for cleaning, recoil hand shower)
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- I Ventilation port
- J Gas connection
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- M Safety overflow 3.2" x 1"

11 Checklists and Completing the Installation

Purpose of this section

This section contains checklists for the installation and for briefing the owner's employee who is responsible for the unit. The purpose of these checklists is to ensure and document that the combi steamer has been installed correctly. This section is intended for the qualified employee from an authorized service company who is responsible for placing the unit into operation overall.

11.1 Checklist: Transportation, Setup, and Installation

Target person

The following checklists are intended for the authorized service company's qualified employee responsible for placing the unit into operation.

Procedure

Fill out all the basic information as the person responsible for placing the unit into operation and check the installation using the following checklists.

Check off each box when the corresponding conditions are met.

Basic information

Enter the following basic information:

Location of installed unit (address)

Serial number (on the nameplate)

Item number (on the nameplate)

Checklist

Check to make sure that the following installation steps were carried out as required and check off the conditions that are met!

Transportation	Met
-----------------------	------------

'Transporting the unit to the installation location' on page 49	☐
---	--------------------------

Setup	Met
--------------	------------

'Installation location requirements' on page 52	☐
---	--------------------------

'Unpacking' on page 57	☐
------------------------	--------------------------

'Removing the unit from the pallet' on page 61	☐
--	--------------------------

'Setting up table-top models on a work table' on page 63	☐
--	--------------------------

'Setting up table-top models on a stand' on page 65	☐
---	--------------------------

'Setting up the table-top model on a stand with casters' on page 67	☐
---	--------------------------

'Setting up floor-standing models on the floor' on page 70	☐
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Installation	Met
---------------------	------------

'Electrical installation' on page 71	☐
--------------------------------------	--------------------------

'Gas installation' on page 81	☐
-------------------------------	--------------------------

11 Checklists and Completing the Installation

'Water connections' on page 90	☐
'Installing the fully automatic oven cleaning system' on page 98 (optional)	☐
'Installing the grease collection canister (grill version only)' on page 103	☐

11.2 Checklist: Safety guards, safety devices, and warning labels

Safety Devices

Check the safety guards and devices listed below: Check off the boxes in order to indicate that the safety guards and devices are in place and working properly!

Safety device	In place / Working properly
Cover in place	☐
Operating panel in place	☐
No scratches, cracks, or nicks on the unit door	☐
Unit door cracked-open position working correctly (on table-top models)	☐
Suction panel in place and properly locked in place there	☐
Door solenoid switch: electrical unit door sensor working properly	☐
Power disconnect working properly	☐
Gas shut-off device working properly	☐
Retaining element for stand on casters, designed to limit how much the stand can move with the unit	☐

Warning labels

Check the warning labels. Check off the boxes in order to indicate that the warning labels are in place!

Warning Labels on the Combi Steamer	In place
'Location and description of warning labels on table-top models' on page 25	☐
'Location and description of warning labels on floor-standing models' on page 28	☐

11.3 Checklist: Customer briefing

Parts of the customer documentation that must be read without exception

Before working with the combi steamer, the user must familiarize themselves with the unit and read and understand the following parts of the operating manual before starting any work:

- The 'Configuration and Functions' section
- The 'For Your Safety' section
- The sections describing the work that will be carried out

Moreover, the user must familiarize themselves with how to use the software as described in the operating instructions and, if applicable, in the on-screen help.

Check off the following boxes to indicate that you have referred the customer to the important sections in the operating manual, operating instructions, and on-screen help (for easyTouch only)!

	Informed
Operating manual	☐
Operating instructions	☐
On-screen help (with easyTouch only)	☐

11.4 Completing the Installation

Warranty

Warranty claims involving your combi steamer will only be honored if the unit has been installed by a qualified service technician from an authorized service company as per the instructions in this installation manual. Please note that warranty claims will only be honored if the manufacturer has a copy of the fully completed checklist.

The warranty will be void if there is any damage that can be traced back to improper setup, installation, use, cleaning, use of cleaning agents, maintenance, repair, or descaling.

In order to get a two-year extended warranty for spare parts, the unit needs to be registered on the manufacturer's website (www.convotherm.de) after installation.

Confirmation of the unit having been placed into operation

The unit has been installed by a qualified employee of an authorized service company in accordance with the information and specifications in this installation manual and in compliance with all applicable local regulations and standards.

Date

Name of person placing the unit into operation (please print)

Signature of person placing the unit into operation

Confirmation of briefing

The customer documentation was handed over to the customer / user. The customer / user was referred to important sections as outlined in 'Checklist: Customer Briefing' on page 174.

Date

Name of customer (please print)

Customer's signature

Sending the documents back

After filling out the checklist, send it back to:

Convotherm Elektrogeräte GmbH
Ovens & Advanced Cooking EMEA
Manitowoc Foodservice
After Sales Service
Talstraße 35
82436 Eglfing
Germany

Combi Steamer Convotherm 4

Serial No.

Item no.

Order No.

Manitowoc Foodservice is a global company dedicated to bringing value to foodservice operators by equipping them with highly individualized real-world answers that enhance menus, service, profits, and efficiency.

To learn how Manitowoc Foodservice and its leading brands can equip you, visit our global web site at www.manitowocfoodservice.com then find the regional or local resources available to you.

