

# iCombi® Pro

# iCombi® Classic

Original installation instructions



## Unit hand-over

Dealer:	Installer:

Include the following information with inquiries:

Unit no.:	
Unit type:	
Set to gas type:	
Your unit was tested:	

### WARNING

#### 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 or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

### NOTE

#### Hazard due to leaking gas

There is a risk of explosion if there is a gas leak.

Watch out for the smell of gas.

Avoid damage to the gas supply line.

Conduct in the event of a gas odor:

- Shut off the gas supply.
- Do not touch any electrical switching elements or contacts.
- Ventilate the room well.
- Avoid open flames and sparks.
- Immediately inform the responsible gas supplier by means of an external telephone. If the gas supplier cannot be reached, call the responsible fire department.



## Table of contents

<b>1 Introduction</b>	<b>6</b>
1.1 Information about this manual	6
1.2 Target audience	6
1.3 Copyright	7
1.4 Conformity	7
1.5 Liability and warranty conditions	7
1.6 Identification of the unit	8
<b>2 Safety</b>	<b>10</b>
2.1 Display of warning notices	10
2.2 General safety information	10
2.3 Safety notes on gas units	11
2.4 Intended use	12
<b>3 Product description</b>	<b>13</b>
3.1 Unit description	13
3.2 Technical data	14
3.2.1 Unit dimensions	15
3.2.2 Unit weight	17
3.2.3 Thermal load	17
<b>4 Transport</b>	<b>19</b>
4.1 Center of gravity (mass) on the unit	19
4.2 Transport with pallet	20
4.3 Transport without transport pallet with lift truck	22
4.3.1 Transport tabletop units without pallet with pallet truck	22
4.3.2 Transport floor units without pallet with lift truck	23
4.4 Transport with lifting aid	24
<b>5 Setup</b>	<b>28</b>
5.1 Minimum distance to the unit	29
5.1.1 Distance from walls	29
5.1.2 Distance from heat sources	31
5.1.3 Distance to ceiling	32

5.2	Installation of tabletop units .....	34
5.2.1	Install unit size 6-2/3 GN on stand .....	35
5.2.2	Install unit sizes 6 half size to 10 full size GN on stand.....	36
5.2.3	Align and fasten the stand horizontally .....	36
5.2.4	Installation on non-original substructures of the unit manufacturer.....	38
5.3	Installation of floor units .....	39
5.3.1	Install and align floor units .....	39
5.3.2	Secure floor unit .....	42
5.3.3	Align mobile oven rack.....	43
5.4	Fixing the unit in place .....	45
5.5	Notes on the extractor hood.....	46
<b>6</b>	<b>Electrical connection .....</b>	<b>48</b>
6.1	Regulations for the electrical connection.....	48
6.2	Opening the electrical compartment.....	50
6.3	Connecting the electrical units to the power grid .....	54
6.4	Switching the power supply (USA and Canada only).....	55
6.5	Conduit connection (USA and Canada only).....	57
6.5.1	Making conduit connection.....	57
6.6	Connecting the gas units to the power grid.....	59
6.7	Closing the electrical compartment.....	60
6.8	Connecting the equipotential bonding (Physical Earth Ground).....	60
6.9	Connected loads of different voltage types .....	62
<b>7</b>	<b>Network connection.....</b>	<b>66</b>
7.1	Notes on the network connection .....	66
7.2	Connecting the unit to the network .....	66
<b>8</b>	<b>Water connection.....</b>	<b>67</b>
8.1	Regulations for water connection .....	67
8.2	Connecting the water inlet.....	68
8.3	Notes on water treatment.....	69
8.4	Selection of the water filter .....	69
<b>9</b>	<b>Wastewater connection .....</b>	<b>71</b>

9.1	Regulations for the wastewater connection .....	71
9.2	Connecting the wastewater drain .....	73
9.3	Additional ventilation of the drain section (optional) .....	75
<b>10</b>	<b>Gas connection for gas units .....</b>	<b>77</b>
10.1	Gas connection regulations .....	78
10.2	Connecting the unit to the gas supply .....	79
10.3	Gas consumption by gas type .....	80
<b>11</b>	<b>Flue gas connection for gas units .....</b>	<b>83</b>
11.1	Regulations for flue gas connection .....	83
11.2	Flue gas connection type A3 and B23 .....	84
<b>12</b>	<b>Initial start-up .....</b>	<b>87</b>
12.1	Before commissioning .....	87
12.2	Performing a self-test .....	88
12.3	Sodium hydroxide-free cleaner .....	89
12.4	iCareSystem AutoDose .....	90
<b>13</b>	<b>Maintenance .....</b>	<b>93</b>
13.1	Maintenance notes .....	93
13.2	Replacing air filters .....	93
<b>14</b>	<b>Decommissioning .....</b>	<b>94</b>
14.1	Notes on decommissioning .....	94
14.2	Disposal .....	94

## 1 Introduction

### 1.1 Information about this manual

This document is an up-to-date version of the installation manual at the time of publication. Please note the respective version and date.

This document is part of the unit. Read this manual before carrying out the installation. The manual enables safe handling of the unit and correct installation.

The figures in this manual are examples only and may differ from the unit.

This manual is valid for the following units:

- LM1: iCombi Pro
- LM2: iCombi Classic

#### Storage

Store the installation manual and operating manual with the unit. For service work, the installation manual must be accessible to specialist personnel authorized by the manufacturer at all times.

#### Pass on

Pass this installation manual on to the owner of the unit.

#### Circuit diagram

The starter kit includes a circuit diagram of the unit. If the circuit diagram is lost, it can be accessed by an Authorized RATIONAL technician, found in the service parts catalog and the TechAssistant app. The TechAssistant app is available in the App Store and on Google Play.

#### Explanation of symbols

- ✓ A prerequisite lists all conditions that must be met before an action can be taken.
1. An action step describes an action to be carried out by the reader.
    - > Shows a successful interim result.
  2. Further action step.
    - >> The results shows the result of the action.

### 1.2 Target audience

- This document is intended for trained technicians who have been certified by the manufacturer after attending training courses and receiving safety instructions.
- The installation, as well as inspection, maintenance and repair work, may only be carried out by trained technicians.
- It is advisable to only have inspection, maintenance and repair work carried out by technicians authorized by the manufacturer.
- The unit must not be used, cleaned or maintained by children. The unit must not be used as a toy. This is prohibited even under supervision.

- The unit must not be used, cleaned or maintained by persons with limited physical, sensory or mental aptitude, or lack of experience or knowledge. The only exception is if they are supervised by a person responsible for their safety and have received instruction from this person about the risks associated with the unit.
- In order to avoid the risk of accidents or damage to property, the manufacturer advises that technicians attend regular training and safety training sessions.

### 1.3 Copyright

It is not permitted to pass on product-specific information to third parties. We reserve the right to implement technical developments and changes in the interest of progress. All rights are reserved, including those of translation and reproduction.

### 1.4 Conformity

The conformity of the units refers to the complete unit at the time of delivery. In the event of upgrades, modifications and connection of additional functions, the operator is responsible for obtaining an extension of the approvals.

Observe the relevant country-specific and local standards and regulations concerning the installation and operation of commercial cooking units.

#### Conformity Europe

- The power connection is established and connected in accordance with IEC 60335, taking into account EN 60335, UL, cUL and VDE 0700.
- The water connection is established and connected in accordance with IEC 61770, taking into account EN 1717 and EN 13077.
- The wastewater connection corresponds to the current valid WRAS, SVGW and KIWA regulations and is tested and certified accordingly.
- The unit is approved for use up to 4000 m above sea level according to IEC 60335.

#### Conformity USA and Canada

- The power connection is built and tested according to UL 197 and CSA C22.2 no. 109.

### 1.5 Liability and warranty conditions

#### Liability

Installations and repairs that are not carried out by specialist personnel authorized by the manufacturer or not using original service parts, as well as any technical changes to the unit that are not approved by the manufacturer, can render the manufacturer's product liability null and void.

#### Warranty

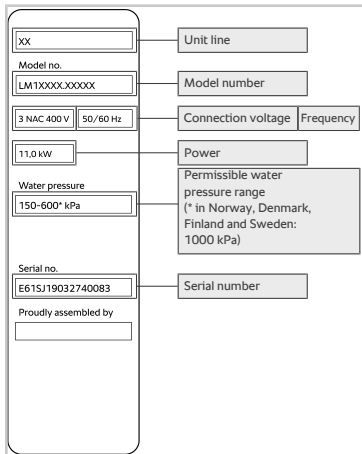
The warranty does not cover damage caused by failure to comply to this installation manual.

The following are also excluded from the warranty:

- Damage caused by incorrect use, installation, maintenance, repair
- Damage due to incorrect decalcification
- Using the unit other than intended
- Modifications or technical changes to the unit that are not authorized by the manufacturer
- Failure to use genuine service parts from the manufacturer
- Glass damage, bulbs, gaskets and sealing material

## 1.6 Identification of the unit

### Type plate



### Unit sizes

Unit size type plate	Unit size
LMxxxA...	XS
LMxxxB...	6 half size
LMxxxC...	6 full size
LMxxxD...	10 half size
LMxxxE...	10 full size
LMxxxF...	20 half size
LMxxxG...	20 full size

## Cooking systems overview

	Tabletop units					Floor units	
	XS	6 half size	6 full size	10 half size	10 full size	20 half size	20 full size
iCombi Pro Electric units	✓	✓	✓	✓	✓	✓	✓
iCombi Pro Gas units		✓	✓	✓	✓	✓	✓
iCombi Classic Electric units		✓	✓	✓	✓	✓	✓
iCombi Classic Gas units		✓	✓	✓	✓	✓	✓

## 2 Safety

### 2.1 Display of warning notices

 <b>DANGER</b>
<b>Type and source of danger</b> Failure to observe these warnings will result in severe injuries or death. Measures to avoid the danger
 <b>WARNING</b>
<b>Type and source of danger</b> Failure to observe these warnings could result in severe injuries or death. Measures to avoid the danger
 <b>CAUTION</b>
<b>Type and source of danger</b> Failure to observe these warnings could result in minor or moderate injuries. Measures to avoid the danger
<b>NOTE</b>
Failure to observe these warnings could result in damage to property.

### 2.2 General safety information

The unit is designed so that it does not pose a danger when installed correctly. This manual describes proper installation of the unit.

- Observe the relevant country-specific and local regulations and standards in your country.
- Use the lifting aid to lift tabletop units.
- Secure the unit against tipping when transporting and after setup.
- Wear suitable protective clothing, such as protective gloves and safety shoes, during transport and installation.
- The unit should only be set up in a protected environment safe from frost and wind.



- Do not set up the unit in adverse weather conditions, such as rain.
- The unit should only be connected in accordance with the installation manual and the information on the type plate.
- Switch off the unit when disconnecting it from or connecting it to the power supply.
- After use, only transport the unit in ambient temperatures of over 0°C [32 F].
- Only store the unit in ambient temperatures of over 0°C [32°F].
- Do not operate the unit without an air filter.
- Do not spray aerosols in the area around the unit while the unit is in operation.
- Check the unit for damage during transport. Inform your specialist dealer/shipping company immediately if you suspect transport damage.

## 2.3 Safety notes on gas units

### Harmful flue gases

There is a danger of suffocation if the concentration of harmful flue gases is not vented.

- Make sure that the installation area provides sufficient ventilation.
- Always carry out a flue gas analysis when commissioning gas units.
- If an extractor hood is used, make sure that the extractor hood is turned on for gas operation.
- Do not place any objects on the flue gas pipes.
- Do not block the area around the extraction of combustion air with objects.

### Fire hazard due to dirty flue

There is a risk of fire if the flue is not cleaned regularly.

- Have the flue cleaned regularly in accordance with national regulations.

### **Explosion hazard due to escaping gas**

There is a risk of explosion if gas escapes.

- Watch out for the smell of gas.
  - Avoid damage to the gas supply line.
  - Conduct in the event of a gas odor:
1. Shut off the gas supply.
  2. Do not touch any electrical switching elements or contacts.
  3. Ventilate the room well.
  4. Avoid open flames and sparks.
  5. Immediately inform the responsible gas supplier by means of an external telephone. If the gas supplier cannot be reached, call the responsible fire department.

#### **NOTE**

Keep the area around the unit free from flammable materials.

## **2.4 Intended use**

The unit is designed for thermal food preparation. This unit is only intended for commercial use, such as in restaurant kitchens or catering operations for schools, hospitals or delis. Do not use this unit outdoors. This unit must not be used for continuous mass industrial food production.

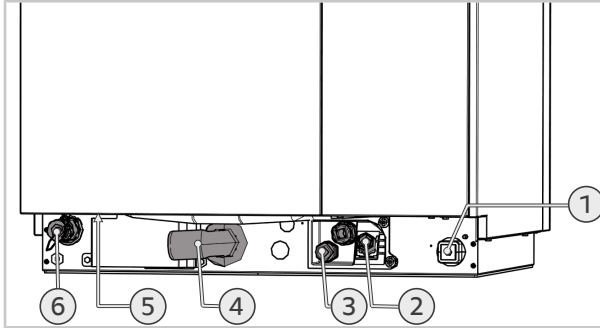
All other usages of this unit are considered improper and dangerous. The manufacturer accepts no liability for consequences arising from use other than intended.

### 3 Product description

#### 3.1 Unit description

##### Unit size XS GN

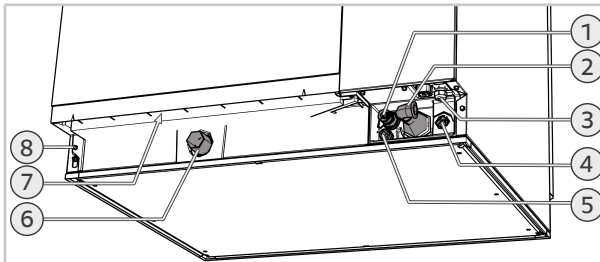
The connections for the installation are located on the rear side of the unit:



1	Equipotential bonding (Earth ground)	2	Water connection
3	Electrical connection	4	Drain connection
5	Safety overflow for wastewater connection	6	Network connection

##### Unit sizes 6 half size to 10 full size GN

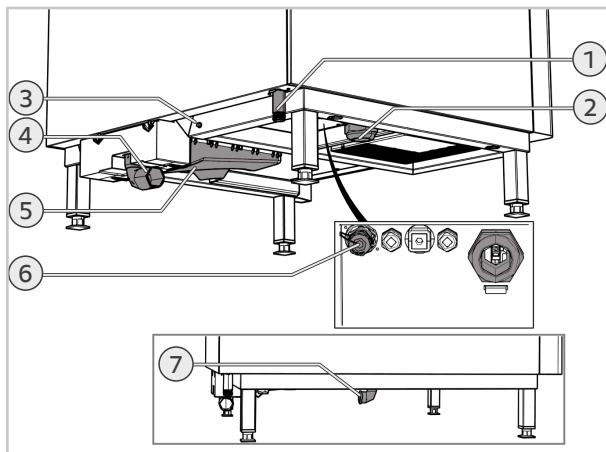
The connections for the installation are located on the rear side of the unit:



1	Network connection	2	Only for gas units: Gas connection Only for electric units: Electrical connection
3	Power supply	4	Water connection
5	Optional connection	6	Wastewater connection
7	Safety overflow for wastewater connection	8	Equipotential bonding (earth ground)

### Unit size 20 half size and 20 full size GN

The connections for the installation are located on the underside of the unit and run to the rear:



1	Water connection	2	Cable bushing for electrical connection
3	Equipotential bonding (Earth ground)	4	Drain connection
5	Safety overflow for wastewater connection	6	Network connection
7	Only for gas units: Gas connection		

## 3.2 Technical data

### Protection class

The unit corresponds to water jet connection class IPX5.

### Ambient conditions

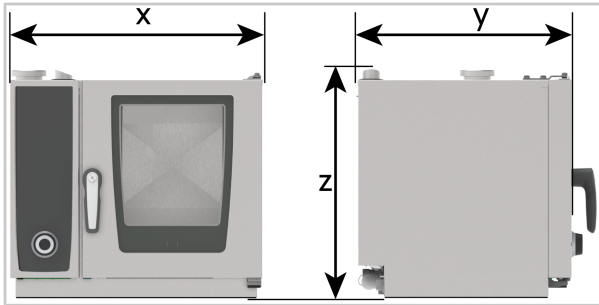
- Do not set up the unit in ambient temperatures below 5 °C [41 °F].
- Do not commission the unit in ambient temperatures below 5 °C [41 °F].
- Set up the unit in rooms with adequate ventilation via windows or an extractor hood.

### Sound emission value

The sound emission value is <65 dB.

### 3.2.1 Unit dimensions

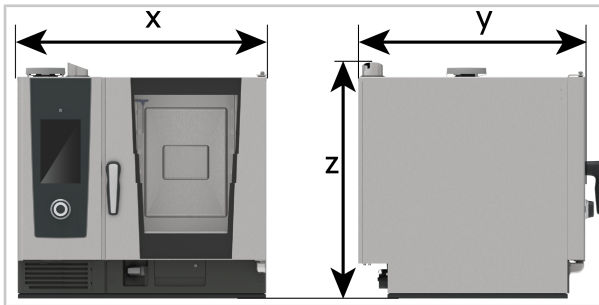
#### Unit size XS GN



	Width (mm) x	Width (inch)	Depth (mm) y	Depth (inch)	Height (mm) z	Height (inch)
XS	655	25 3/4	555	21 7/8	567	22 3/8

	Depth overall dimension (mm)	Depth overall dimension (inch)	Overall height (mm)	Overall height (inch)
XS	621	24 1/2	594	23 1/2

#### Unit sizes 6 half size to 10 full size GN

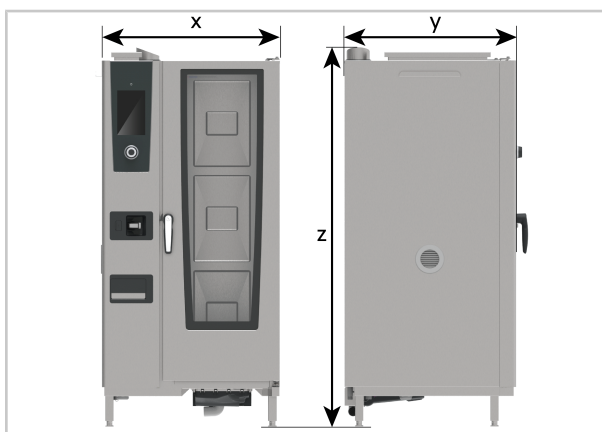


	Width (mm) x	Width (inch)	Depth (mm) y	Depth (inch)	Height (mm) z	Height (inch)
6 half size	850	33 1/2	775	30 1/2	754	29 5/8
6 full size	1072	42 1/4	975	38 3/8	754	29 5/8
10 half size	850	33 1/2	775	30 1/2	1014	39 7/8
10 full size	1072	42 1/4	975	38 3/8	1014	39 7/8

### 3 | Product description

	Depth overall dimension (mm)	Depth overall dimension (inch)	Overall height (mm)	Overall height (inch)
6 half size	842	33 1/8	804	31 5/8
6 full size	1042	41	804	31 5/8
10 half size	842	33 1/8	1064	41 7/8
10 full size	1042	41	1064	41 7/8

#### Unit size 20 half size, 20 full size GN



	Width (mm) x	Width (inch)	Depth (mm) y	Depth (inch)	Height (mm) z	Height (inch)
20 half size	877	34 1/2	847	33 3/8	1807	71 1/8
20 full size	1082	42 5/8	1052	41 3/8	1807	71 1/8

	Depth overall dimension (mm)	Depth overall dimension (inch)	Overall height (mm)	Overall height (inch)
20 half size	912.5	35 7/8	1872	73 3/4
20 full size	1116.5	44	1872	73 3/4

### 3.2.2 Unit weight

#### iCombi Pro Electric units

	XS	6 half size	6 full size	10 half size	10 full size	20 half size	20 full size
Weight without packaging (kg)	62	100	135	130	173	254	325
Weight without packaging (lbs)	137	220	298	287	381	560	717

#### iCombi Pro Gas units

	6 half size	10 half size	6 full size	10 full size	20 half size	20 full size
Weight without packaging (kg)	114	149	151	192	273	358
Weight without packaging (lbs)	251	328	333	423	602	789

#### iCombi Classic Electric units

	6 half size	10 half size	6 full size	10 full size	20 half size	20 full size
Weight without packaging (kg)	95	123	128	165	246	313
Weight without packaging (lbs)	209	271	282	364	542	690

#### iCombi Classic Gas units

	6-half size	10 half size	6 full size	10 full size	20 half size	20 full size
Weight without packaging (kg)	110	143	147	187	267	346
Weight without packaging (lbs)	243	315	324	412	589	763

### 3.2.3 Thermal load

#### iCombi Pro Electric units

	XS	6 half size	6 full size	10 half size	10 full size	20 half size	20 full size
Thermal load latent (kJ/h)	1020	2050	3450	3450	6350	6850	10900
Thermal load sensitive (kJ/h)	1350	2523	4583	4583	7982	9115	14420

### 3 | Product description

#### iCombi Pro Gas units

	<b>6 half size</b>	<b>10 half size</b>	<b>6 full size</b>	<b>10 full size</b>	<b>20 half size</b>	<b>20 full size</b>
Thermal load latent (kJ/h)	2050	3450	3450	6350	6850	10900
Thermal load sensitive (kJ/h)	2523	4583	4583	7982	9115	14420

#### iCombi Classic Electric units

	<b>6 half size</b>	<b>6 full size</b>	<b>10 half size</b>	<b>10 full size</b>	<b>20 half size</b>	<b>20 full size</b>
Thermal load latent (kJ/h)	2050	3450	3450	6350	6850	10900
Thermal load sensitive (kJ/h)	2450	4450	4450	7750	8850	14000

#### iCombi Classic Gas units

	<b>6-half size</b>	<b>10 half size</b>	<b>6 full size</b>	<b>10 full size</b>	<b>20 half size</b>	<b>20 full size</b>
Thermal load latent (kJ/h)	2050	3450	3450	6350	6850	10900
Thermal load sensitive (kJ/h)	2450	4450	4450	7750	8850	14000

We reserve the right to implement technical developments and changes.



## 4 Transport

### CAUTION

#### Risk of crushing due to the weight of the unit

Hands, fingers and feet may be crushed.

- Wear suitable protective clothing during transport.
- At least 3 people are required for the transport.

### CAUTION

#### Risk of tipping during transport

Risk of crushing if the unit tips over onto a person.

- Note the center of gravity (mass) of the unit.
- Ensure that the unit does not tip over during transport or lifting.

### NOTE

#### Damage to the unit due to narrow areas

Note the width and height of the access points during transport.

#### Transport options

Unit size	XS	6 half size - 10 full size	20 half size - 20 full size
With transport pallet	✓	✓	✓
Without pallet with lift truck (only with transport aid)	✓	✓	✓

#### Transporting the unit

1. Remove the packaging material.
2. Transport the unit to the installation site. Please observe the following descriptions.

### 4.1 Center of gravity (mass) on the unit

### CAUTION

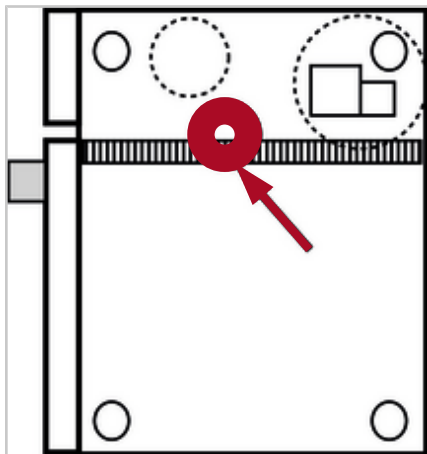
#### Risk of crushing and injury if the center of mass is not observed

Failure to observe the center of mass can result in the unit tipping over during lifting and transportation.

- Ensure that the weight of the unit is distributed evenly.
- Note the center of gravity of the unit.

**NOTE****Unit size XS GN: Damage to the unit due to incorrect lifting**

During transport, make sure that the air filter box and the USB port remain intact.

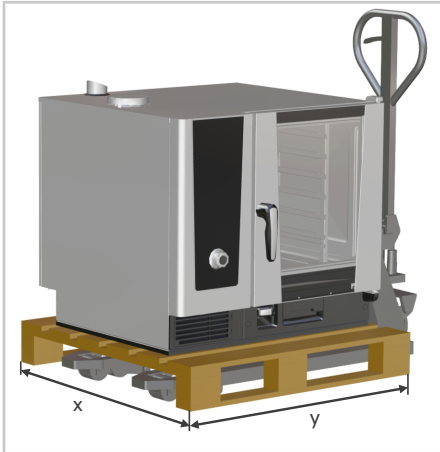
**4.2 Transport with pallet****⚠ CAUTION****Inclined plane during transport using transport aid**

Risk of crushing and injury during transport using a transport aid over an incline or uneven floor.

- Do not run over an incline of more than 10°.
- Take care when transporting the unit.

**NOTE****Transport with transport aid without protection**

Transport the unit on the pallet for as long as possible. Do not transport the unit with a transport aid or similar transport equipment without protection. Use a wooden board for protection, for example.

**Required door width with transport pallet**

Unit size	XS	6 half size	6 full size	10 half size	10 full size	20 half size	20 full size
x (mm)	880	945	1150	945	1150	989	1194
x (inch)	34 5/8	37 1/4	45 1/4	37 1/4	45 1/4	38 7/8	47
y (mm)	930	935	1170	935	1170	969	1174
Y (inch)	36 5/8	36 3/4	46 1/8	36 3/4	46 1/8	38 1/8	46 1/4

**Transport tabletop units with transport pallet**

- ✓ The packaging material is removed.
  - ✓ The unit is on the transport pallet.
  - ✓ The unit rests on the unit base frame.
1. Transport the unit to the installation site with the transport pallet.
  2. Lift the unit off the transport pallet on the lifting points and set it down on the designated installation surface.
- >> The unit is on the designated installation surface and is ready for setup and installation.

**Transport floor units with transport pallet**

Floor units are delivered on a special, divisible (2 piece) transport pallet.

- ✓ The packaging material is removed.

- ✓ The unit is on the transport pallet.
  - ✓ The unit feet are positioned in the foam rubber frame of the transport pallet.
1. Transport the unit to the installation site with the transport pallet. During transport, look out for protruding components on the underside of the unit.
- >> The unit is on the designated installation surface and is ready for setup and installation.

### 4.3 Transport without transport pallet with lift truck

NOTE
<p><b>Transport without transport pallet with lift truck</b></p> <p>Do not transport the unit with a lift truck without protection. Use a wooden pallet or a wooden beam as protection, for example.</p>

NOTE
<p><b>Unit size XS GN: Damage to the unit due to incorrect lifting</b></p> <p>During transport, make sure that the air filter box and the USB port remain intact.</p>

#### Required door width without transport pallet

Unit size	XS	6 half size	6 full size	10 half size	10 full size	20 half size	20 full size
x (mm)	630	845	1045	845	1045	925	1145
x (inch)	24 3/4	33 1/4	41 1/8	33 1/4	41 1/8	36 3/8	45 1/8

#### 4.3.1 Transport tabletop units without pallet with pallet truck

- ✓ The packaging material is removed.
  - ✓ The unit rests on the unit base frame.
  - ✓ To avoid scratches on the underside of the unit, provide protection against damage to the unit.
1. Slide the seal upwards out of the groove in the base frame.



2. Place the protection from damage on the pallet truck.

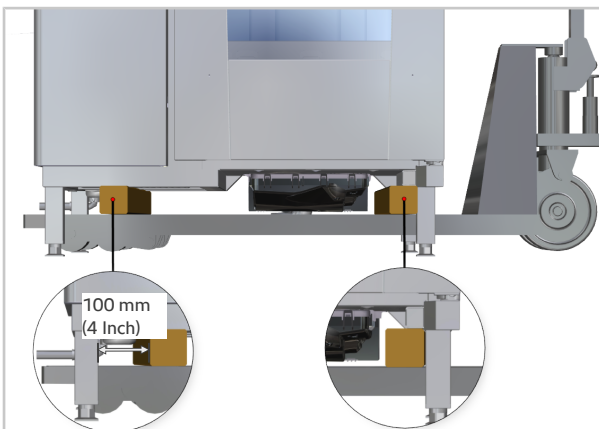
3. Use the pallet truck to lift the unit on the lifting points.
4. Transport the unit onto the designated installation surface.
5. Push the seal back into the groove provided in the base frame.



>> The unit is set down on the designated installation surface and is ready for setup.

#### 4.3.2 Transport floor units without pallet with lift truck

- ✓ The packaging material is removed.
  - ✓ The unit is on the unit feet.
  - ✓ The transport aids are ready.
  - ✓ The lift truck is in the lowest position.
1. Move with the lift truck from the left or right under the unit. Make sure that the lift truck is in the lowest position.
  2. Loosen the two screws holding the transport aids together and separate the transport aids.
  3. Place the transport aids between the floor unit and the lift truck. Look out for protruding components.
    - > The left transport aid must be approx. 100 mm [4 inches] next to the left foot of the unit.
    - > The right transport aid must rest on the right foot of the unit.



4. Lift the floor unit using the lift truck.
  5. Transport the unit onto the designated installation surface.
- >> The unit is set down on the designated installation surface and is ready for setup.

#### 4.4 Transport with lifting aid

Only transport the unit sizes 6 half size to 10 full size with the lifting aid.

- Only original service parts may be used.
- Check the lifting aid before use. Do not use the lifting aid if it is worn or damaged.
- Use the lifting aid as described. Changing, expanding or alternative use of the lifting aid is not permitted.  
The lifting aid may only be lifted by hand. It must not be used with other lifting equipment.

### CAUTION

#### **Risk of crushing during setup**

Fingers, hands and feet may be crushed under the unit.

- Wear suitable protective clothing during setup.
- Only lift the unit via the designated lifting points.

### CAUTION

#### **Risk of crushing and injury due to incorrect lifting with lifting aid**

Hands, fingers or feet may be crushed.

- Make sure that the lifting aid, installation surface and protective clothing are clean and grease-free.
- Only lift the unit by hand using the bars of the lifting aid. Do not use any mechanical aids for lifting.

### CAUTION

#### **Sharp edges on the panels**

Risk of cuts on the panels when working on the unit.

- Wear protective gloves.
- Only transport the unit at the approved transport points.

## ⚠ CAUTION

### Risk of crushing and injury during Combi-Duo installation

There is an increased risk of crushing hands and fingers in Combi-Duo installations.

The distance between the bars of the lifting aid and the Combi-Duo kit is very small when positioning on the kit.

- Make sure that the unit is placed carefully on the kit and is stable on the installation surface.
- Place the unit on the installation surface so that there is sufficient space between the kit and the lifting aid to protect hands and fingers.

## NOTE

### Correctly attached lifting aid wobbles without load

If the lifting aid is fully and correctly attached, a slight movement in horizontal direction can be detected without load.

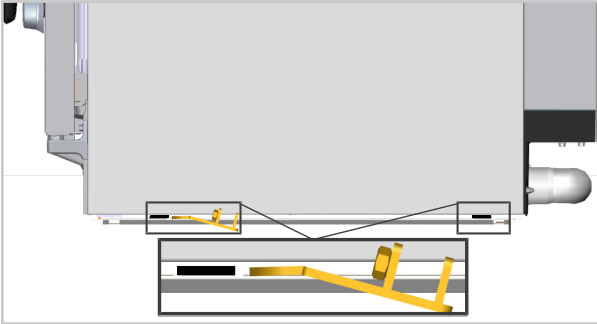
The screw connection prevents the lifting aid from slipping out of the lifting points. Transport can be carried out safely.

Observe the instructions in the installation manual.

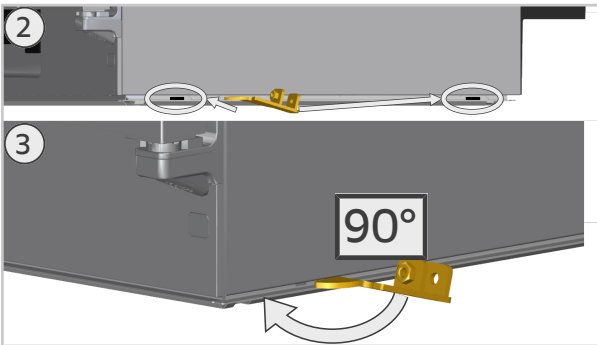
- ✓ All side panels are closed.
  - ✓ The unit is as close as possible to the final installation surface.
  - ✓ A torque wrench with a suitable attachment is ready for use.
  - ✓ The installation surface, the unit and the lifting aid are clean and free of grease.
  - ✓ Wear appropriate protective clothing, e.g. work gloves.
1. Slide the seal upwards out of the groove in the base frame.



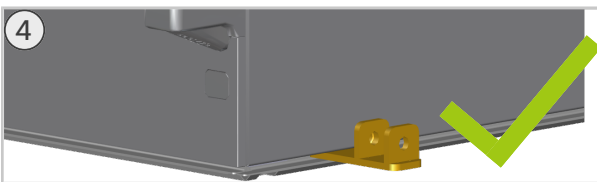
2. Insert the four lifting lugs into the side slots on the sides of the unit (1) with the top facing upwards.



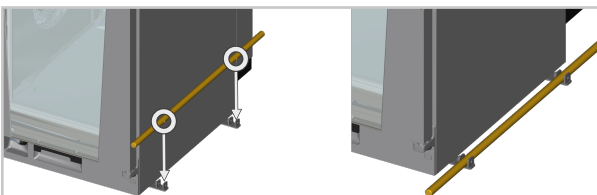
3. Insert the lug diagonally (2) and turn clockwise by 90° (3).



- > The lug can no longer be pulled out (4).
- > The top side of the lifting lugs is labeled with the lettering TOP.

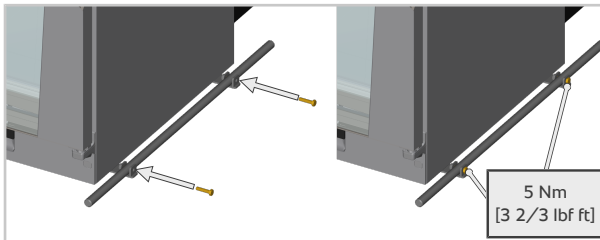


4. Attach the bar to the lifting lugs.
  - > Use the short bars for the unit sizes 6 half size and 10 half size.
  - > Use the long bars for the unit sizes 6 full size and 10 full size.

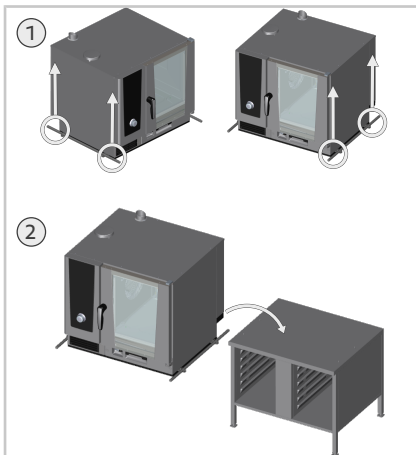




5. Screw the bar with the hexagon screws M8 with a torque of 5 Nm [3 2/3 lbf ft].
  - > Make sure that the screws are screwed in flush. All four screws must be tightened accordingly.



6. Transport the unit using the lifting aid and place it on the designated installation surface.
  - > Lift the unit evenly at the circled lifting points of the bars (1).
  - > Transport the unit to the designated installation surface (2) with the lifting aid.



7. Remove the lifting aid. To do this, proceed in reverse order (Points 2–4).
8. Push the seal back into the groove provided in the base frame.
  - >> The unit is set down on the designated installation surface and is ready for installation.

## 5 Setup

### CAUTION

#### **Risk of crushing during setup**

Fingers, hands and feet may be crushed under the unit.

- Wear suitable protective clothing during setup.
- Only lift the unit via the designated lifting points.

### NOTE

#### **Unit damage due to freezing**

Ambient temperatures below freezing (frost) may cause damage to the unit. Only install the unit in frost-proof areas.

### NOTE

#### **Malfunction of the unit due to moisture being drawn in**

Moisture can be drawn into the air filter from steam sources near the air filter, causing the unit to malfunction.

- Avoid moisture sources near the air filter.

### NOTE

#### **Malfunction of the unit due to blocked air filter**

If the air filter is blocked, the unit cannot draw in any air or, for gas units, any combustion air.

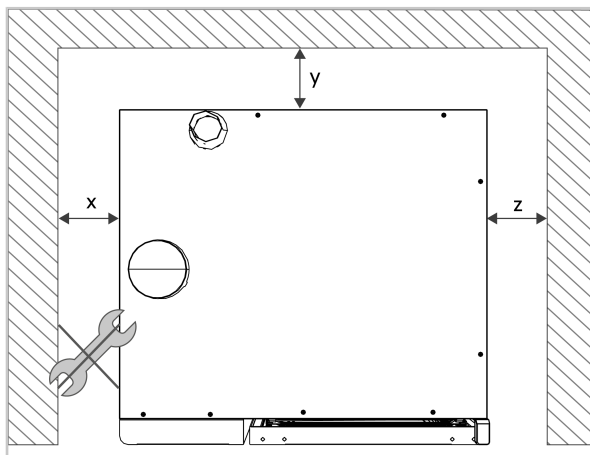
- Make sure that the grille of the air filter is not sealed or covered.

## 5.1 Minimum distance to the unit

### 5.1.1 Distance from walls

#### Minimum distance to all sides

Set up the unit taking into account the minimum distances to the wall and objects without heat source. The distances depend on the unit size, as shown in the table below.

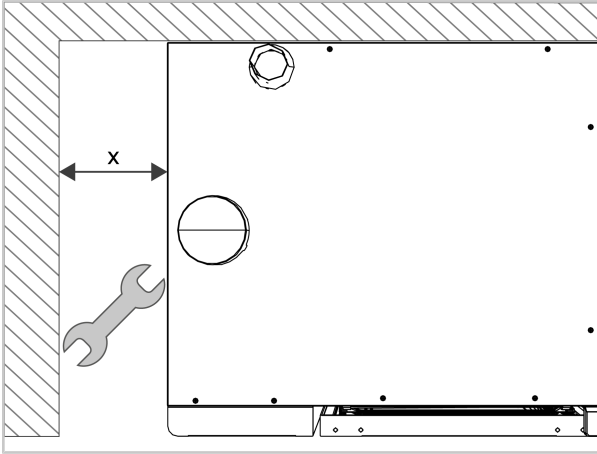


Unit size	XS	6 half size	6 full size	10 half size	10 full size	20 half size	20 full size
x (mm)	10	50	50	50	50	50	50
x (inch)	1/2	2	2	2	2	2	2
y (mm)	10	0	0	0	0	0	0
y (inch)	1/2	0	0	0	0	0	0
z (mm)	10	50	50	50	50	50	50
z (inch)	1/2	2	2	2	2	2	2

#### Recommended distance to the left side of the unit

To ensure that there is sufficient space on the left side of the unit to carry out service work in the installation area, place the unit on the left side at a recommended minimum distance from the wall.

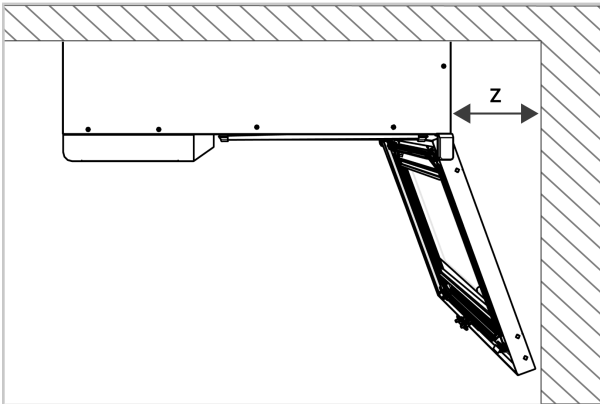
If this distance to the left side of the unit is not possible, place the unit so that it can be pulled out of the location for maintenance work.



	Distance to the left side of the device
x (mm)	500
x (inch)	20

**Recommended distance to the right side of the unit**

To open the unit door at the first grid, place the unit on the right with a recommended minimum distance to the wall. The distance depends on the unit size, as shown in the table below.



Unit size	XS	6 half size	6 full size	10 half size	10 full size	20 half size	20 full size
z (mm)	214	246	316	246	316	268	338
z (inch)	8 1/2	10	12 1/2	10	12 1/2	11	13

### 5.1.2 Distance from heat sources

#### NOTE

##### Minimum distance is not observed

To avoid damage to the unit or malfunctions, the unit should be set up with the specified minimum distance from heat sources or open flames.

#### NOTE

##### High ambient temperature next to the installation area (left side of the unit)

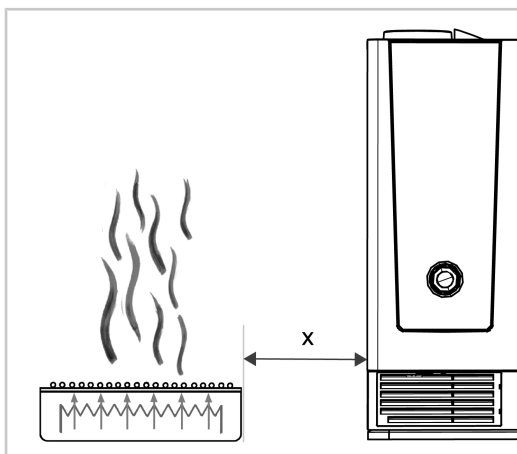
If the temperatures in the installation area on the left side of the unit exceed 80°C [176°F], the heating system is switched off by an automatic safety switch-off.

#### NOTE

##### High ambient temperatures at the rear of the unit

Do not place deep fryers or other heat sources at the rear of the unit.

Set up the unit with a minimum distance from heat sources on the left and right.



	Minimum distance to heat sources
x [mm]	350
x [inch]	14

#### Heat shield (optional)

If a sufficient distance to the heat source on the left and right cannot be maintained, an additional heat shield is available to reduce the thermal load.

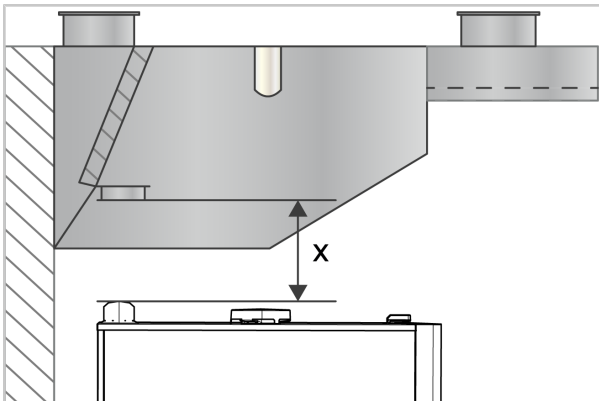
The heat shields are available for the following unit sizes and combinations:

Unit sizes	XS	6 half size - 10 full size	20 half size; 20 full size
Hitzeschild links	x	x	x
Hitzeschild rechts	-	x	-
Hitzeschild links with Combi-Duo	x	x	-
Hitzeschild rechts with Combi-Duo	-	x	-
Hitzeschild links with UV/UV Plus	x	-	-
Hitzeschild rechts with UV/UV Plus	-	-	-
Hitzeschild links with Combi-Duo and UV/UV Plus	x	-	-
Hitzeschild rechts with Combi-Duo and UV/UV Plus	-	-	-

### 5.1.3 Distance to ceiling

#### Electric units

Install the electrical unit with a minimum distance between the ventilation pipe of the unit and the grease filters of the extraction hood/ventilation ceiling.



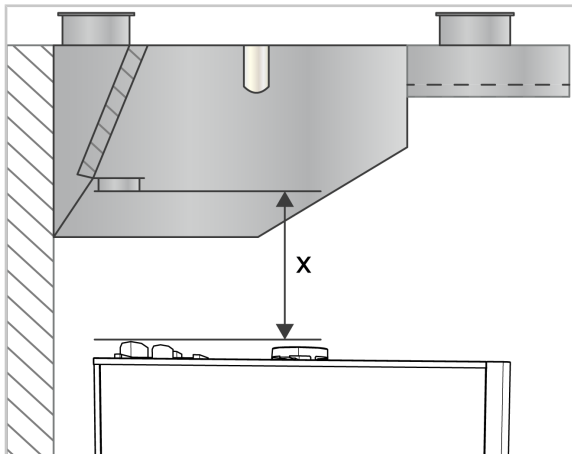
	Minimum distance from ceiling
x [mm]	250
x [inch]	10

**Note:**

- We recommend maintaining a clearance of 450 mm for all units and Combi-Duo installations with an UltraVent or UltraVent Plus.
- For tabletop units up to size 10-1/1, this distance can be reduced to at least 250 mm in individual cases after checking all local conditions by an expert.

**Gas units**

Install the gas unit with a minimum distance between the flue gas pipes of the unit and the grease filters of the extractor hood/ventilation ceiling.

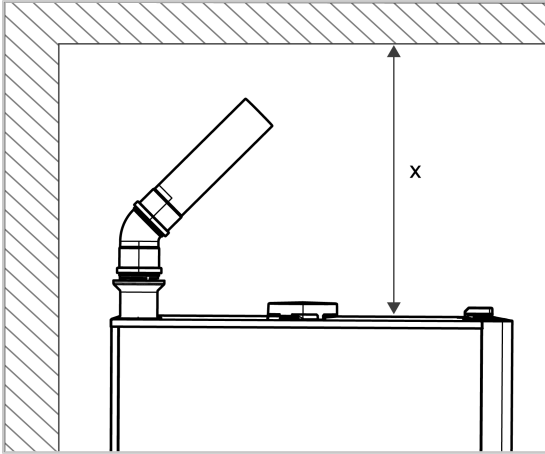


	Minimum distance from ceiling
x [mm]	400
x [inch]	16

**Condensation breaker**

If the steam from the ventilation pipe cannot be fed directly into an extraction hood or ventilation ceiling, there must be a minimum distance between the unit and the ceiling.

This space is needed to install a condensation breaker that can be used to direct the flue gas air into noncritical areas.



	Minimum distance from ceiling
x [mm]	500
x [inch]	20

## 5.2 Installation of tabletop units

### WARNING

#### Unit could fall from the installation surface

Risk of crushing and injury if the unit is tilted or turned.

- Do not tilt the unit on the installation surface.
- When turning the unit, ensure that the weight of the unit is evenly distributed and that the unit is positioned completely on the installation surface.

### WARNING

#### Height adjustment via unit feet or leveling frame

Danger of burns during operation when loaded on rack rails over 1600 mm [63 inch].

- Attach the enclosed safety sticker to the unit.
- Inform the end user about the danger of the raised rack rails.



**NOTE****Contamination of the unit due to broken sealing tape**

Sealing tape is attached to the underside of the unit to seal it at the installation location. The sealing tape prevents dirt and liquid from getting under the unit. When moving the unit, make sure that the seal is not destroyed.

- Equipment is to be sealed to the counter (or floor) to establish proper sanitary operation.
- If the sealing has been carried out according to the specifications, the result should be: prevent liquids from spilling onto adjacent surfaces of the floor or worktop under inaccessible parts of the unit reach.

**NOTE****Usage of sealing tape to prevent contamination**

Equipment is to be sealed to the counter (or floor) to establish proper sanitary operation.

There is a sealing tape on the underside of the unit to seal the installation site. The sealing tape prevents dirt and liquid gets under the unit. Be careful when moving the unit. Make sure that the seal is not destroyed.

If the sealing has been carried out according to specifications, the result should be as follows: Prevent liquids from reaching adjacent surfaces of the floor or worktop under inaccessible parts of the unit.

**Requirements**

- When setting up the unit on a stand or floor unit, ensure that only genuine stands or floor units from the unit manufacturer are used.
- Only install the unit on a horizontal surface. Any unevenness must not exceed 1 mm [0.04 inch] in relation to the unit width.
- If the installation surface is not level, use a leveling frame to level the unevenness.
- The installation surface is free of grease and clean.
- Place the unit in a freely accessible location. The function, e.g. the cooking cabinet door, must not be impaired by decorations and obstructions. Always observe the minimum distances.

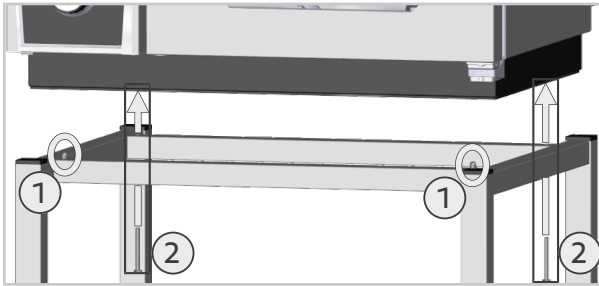
**See also**

- 📄 Installation on non-original substructures of the unit manufacturer [► 38]

**5.2.1 Install unit size 6-2/3 GN on stand**

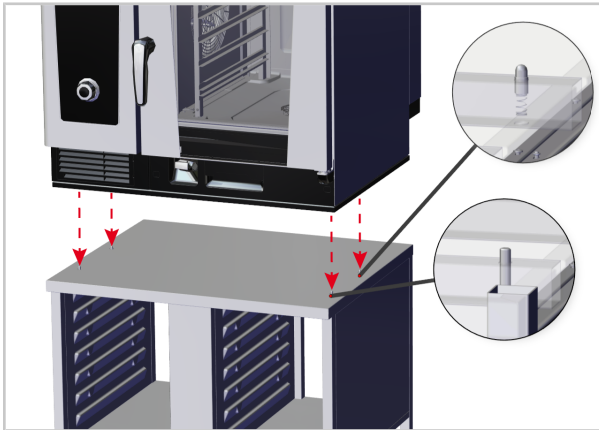
- ✓ The installation surface is horizontal, free of grease and clean.
  - ✓ There are two screws available for fastening.
1. Lift the unit on to the stand.

2. Position the unit using the spring pins (1). Make sure that the spring pins of the stand engage in the front holes on the underside of the unit.
3. Insert the two screws from below into the rear holes and tighten them (2).



### 5.2.2 Install unit sizes 6 half size to 10 full size GN on stand

- ✓ The installation surface is horizontal, free of grease and clean.
1. Lift the unit on to the stand.
  2. Position the unit using the spring pins.
  3. Screw the unit to the stand using two screws. The illustration shows schematically the position of the screwed-in screws in the stand. The screws are fastened with nuts welded into the unit.



### 5.2.3 Align and fasten the stand horizontally

#### CAUTION

#### Slipping of the unit at the installation position

Risk of crushing if the unit slips.

Connections and lines may be damaged in certain units.

- Secure the unit using the fixing set.

## Non-mobile stand

### Align stand horizontally

- ✓ The unit is installed on the stand and is on the intended installation surface.
1. Place 2 spirit levels on the unit: 1 spirit level along the right edge of the unit and 1 spirit level along the front edge.
  2. To align the unit horizontally on the right, turn the stand feet on the front right and rear right.
  3. To align the unit horizontally on the left, turn the stand feet on the front left and rear left.

### Fix stand

Secure the stand against slipping using the fixing set.

The fixing set, including special adhesive, screws and dowels, is not included in the scope of supply for the units and can be ordered separately from the manufacturer under item number 8700.0317.



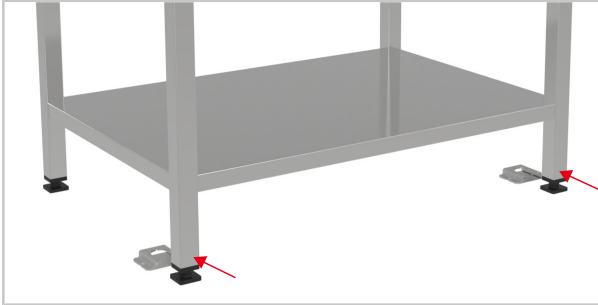
Observe the distances between the foot locks for the respective unit sizes:



	6 half size - 10 half size	6 full size - 10 full size
x [mm]	755.5	977.5
x [inch]	29 3/4	38 1/2

- ✓ The foot locks and the fixing set are available.
1. Secure the foot locks for the front feet to the floor with the special adhesive or screws and dowels. Make sure that both foot locks point forward with the openings.

2. Slide the stand into the foot locks.



### Mobile stand

#### Align the mobile stand

To level out unevenness in the ground and align the mobile stand, proceed as follows:

1. Loosen the set screw on the castors using an Allen key.
2. Adjust the height adjustment on the castors with a wrench until the castors are securely in position.
3. Tighten the set screw on the castors using an Allen key.

#### Secure the mobile stand

### NOTE

#### Damage to the power and gas supply due to moving

Also secure the unit with a suitable retaining unit against slipping on the rear wall (retaining unit is not included in the scope of delivery).

### 5.2.4 Installation on non-original substructures of the unit manufacturer

### ⚠ CAUTION

#### Risk of crushing due to the weight of the unit

Hands, fingers and feet may be crushed.

- Wear suitable protective clothing during transport.

### ⚠ CAUTION

#### Risk of injury due to inadequate substructure

Setting up the unit on inadequate support substructures can result in injury and damage to the unit and substructure.

- The substructure must meet the static requirements for the weight and dimensions of the unit. Check whether the static requirements are met.
- The tabletop must be at least 2mm [1/8 inch] thick metal.

Units in unit sizes XS to 10 full size can be installed directly on non-original substructures of the unit manufacturer.

Only install the unit on substructures that are statically suitable for this purpose. Note the unit weight (Unit weight [▶ 17]) including the maximum load.

If the unit is built on a non-original substructure, the manufacturer's liability shall be voided.

## 5.3 Installation of floor units

### 5.3.1 Install and align floor units

#### Lift the floor unit from the transport pallet and install

#### ⚠ CAUTION

##### Danger of tipping during installation

Risk of crushing if the unit tips over onto a person.

- Note the center of gravity (mass) of the unit.
- Ensure that the unit does not tip over when the pallet is set down.

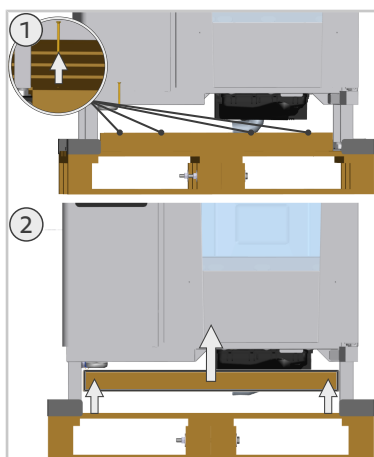
#### ⚠ CAUTION

##### Risk of injury due to the weight of the unit

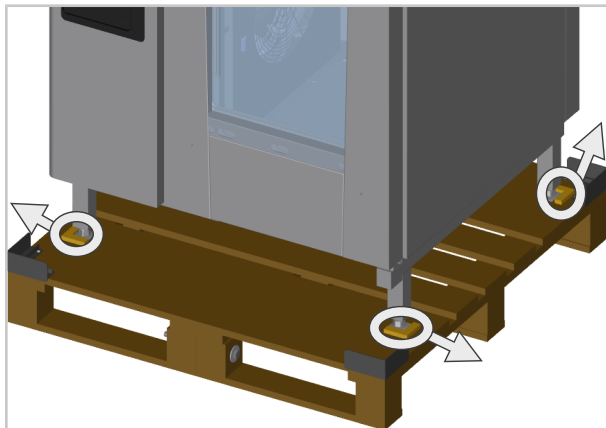
Personal injury and material damage caused by the unit tipping over

- At least two people are required to install the unit.

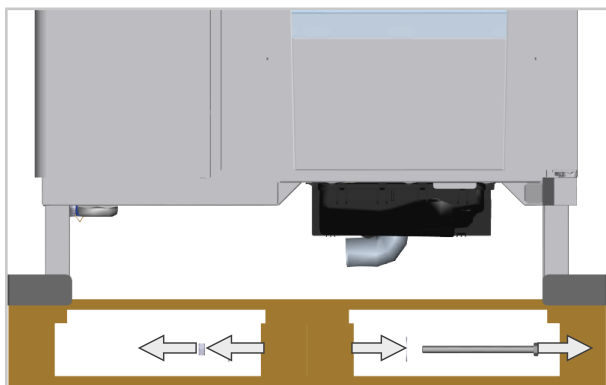
- ✓ The installation surface is horizontal, free of grease and clean.
  - ✓ The transport aid is available.
1. Open the screws connecting the transport pallet to the transport aid. Place the screwed transport aid to the right of the transport pallet.



2. Remove the foam rubber next to the unit feet from the transport pallet.

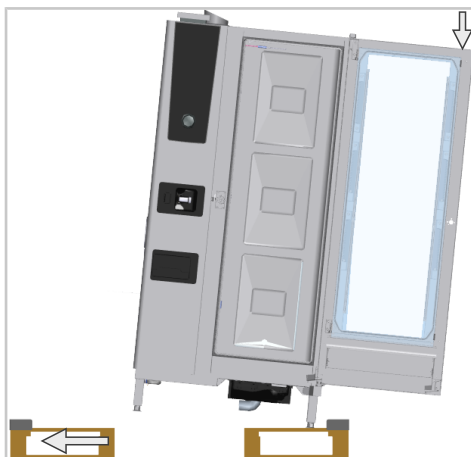


3. Open the screws with nut on the divided transport pallet.

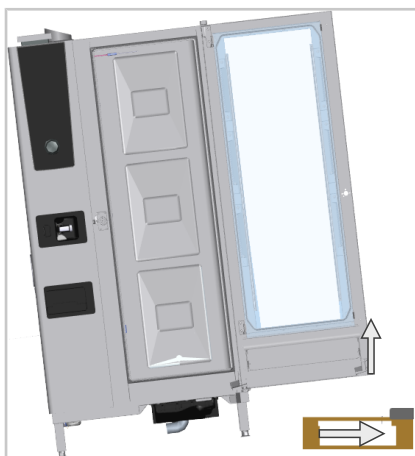


4. Open the cooking cabinet door.

5. Pull the floor unit downwards by the cooking cabinet door. Remove the part of the pallet under the electrical compartment.



6. Install the unit with the rear feet on the installation surface.
7. Carefully lift the unit by the cooking cabinet door and pull out the pallet under the unit.



8. Set down the unit with the front unit feet on the installation surface.

#### Align the floor unit

- ✓ The unit is installed and is on the intended installation surface.
1. Place a spirit level in the cooking cabinet of the unit.
  2. To align the unit horizontally on the right, turn the unit feet on the front right and rear right.

3. To align the unit horizontally on the left, turn the unit feet on the front left and rear left.



### 5.3.2 Secure floor unit

#### CAUTION

##### Slipping of the unit at the installation position

Risk of crushing if the unit slips.

Connections and lines may be damaged in certain units.

- Secure the unit using the fixing set.

Secure the floor unit against slipping using the fixing set.

The fixing set, including special adhesive, screws and dowels, is not included in the scope of supply for the units and can be ordered separately from the manufacturer under item number 8700.0317.





Observe the distances between the foot locks for the respective unit sizes:



	20 half size	20 full size
x [mm]	741	946
x [inch]	29 1/8	37 1/4

- ✓ The foot locks and the fixing set are available.
1. Secure the foot locks for the front feet to the floor with the special adhesive or screws and dowels. Make sure that both foot locks point forward with the openings.
  2. Slide the floor unit into the foot locks.



### 5.3.3 Align mobile oven rack

#### WARNING

##### **The maximum approach angle of the entry ramp is exceeded**

Risk of burns due to hot liquid and food being cooked at too steep an approach angle.

Make sure that the approach angle of the entry ramp is less than 4 degrees.

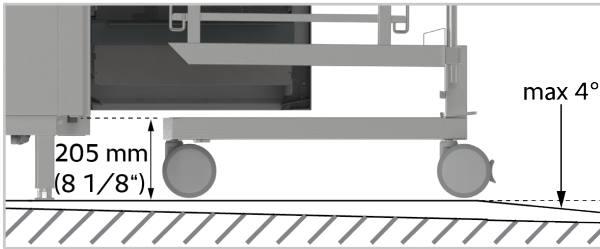
#### NOTE

##### **Malfunction due to inclined mobile oven rack**

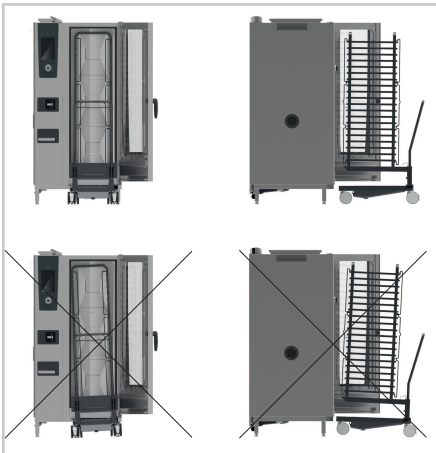
An incorrectly aligned mobile oven rack can lead to malfunctions in the unit function, for example during cleaning.

Align the mobile oven rack horizontally in the unit.

1. Set a distance of 205 mm [8 1/8 inch] between the upper edge of the entry frame and the floor using the feet. The distance is required so that the mobile oven rack can move correctly into the unit.



2. Check that the mobile oven rack enters the unit straight. If this is not the case, use an entry ramp or drive-over aids.



**Entry ramp and drive-over aid**

- If the ground is not level, the unevenness must be compensated by an entry ramp.

- If there is a drain grille in front of the floor unit, install a drive-over aid in the entry area of the mobile oven rack.



#### Storage of the handle

The included holder provides safe storage of the handle for the mobile oven rack during cooking.

1. Attach the handle holder to the top of the unit so that the holder faces the left side panel.
2. Hang the handle in the holder.

## 5.4 Fixing the unit in place

### CAUTION

#### Slipping of the unit at the installation position

Risk of crushing due to shifting or slipping of the units.

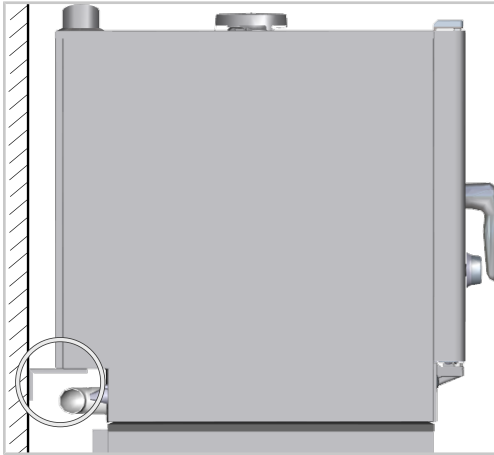
Connections and lines may be damaged in certain units.

- Secure the unit using the fixing set.
- Also secure the unit with a suitable retaining unit against slipping on the rear wall (retaining unit is not included in the scope of delivery).

#### Fixing

Secure units against slipping with optional expansions (e.g. Marine, Combi-Duo). The fixing set must be expanded with suitable retaining units.

If present, use the supplied retaining units (e.g. bracket for wall fixing).



## 5.5 Notes on the extractor hood

### DANGER

#### Harmful flue gases

Risk of suffocation or poisoning due to concentrations of harmful flue gases (Carbon monoxide).

- Make sure that there are sufficient ventilation options in the installation area.
- Carry out a flue gas analysis during commissioning of the unit.
- Install the unit under a kitchen ventilation system.
- Only for Japan:  
The unit must be installed under an flue gas hood.

#### Local ventilation

Observe the following instructions when installing an extractor hood:

- VDI Guideline 2052, NFPA 96 and the guidelines of the local building commission for extractor hoods.
- USA and Canada: The exhaust hood must protrude 150 - 500 mm [6 - 20 inches] over the front of the unit.
- When using a VarioSmoker, install the unit under an externally ventilated extractor hood.
- Install a grease filter in the overhanging area of the extractor hood.

**Extraction hood**

An extraction hood (also for retrofitting) is available for the units. To install the extraction hood, follow the installation instructions supplied with the extraction hood.

## 6 Electrical connection

### DANGER

#### High voltages during connection to the power grid

Danger to life when working with high voltage.

- Disconnect the connection from the power supply.
- Ensure that the unit is de-energized.

### DANGER

#### Electric shock due to incorrect connection

There is a danger to life if the cable conductors are connected incorrectly.  
Connect the wires correctly according to their color coding.

### CAUTION

#### Risk of injury due to incorrect installation

Use an all-pole disconnecting unit accessible on-site with a contact distance of at least 3 mm [0.12 inch].

### NOTE

#### Supply voltage does not correspond to the unit voltage

Before connecting, check that the supply voltage corresponds to the required voltage on the type plate of the unit.

### 6.1 Regulations for the electrical connection

- Observe the VDE, NEC regulations and the regulations of the local power supplier.
- Connect the unit in accordance with the valid regulations in your country, state, city or municipality.
- Connect the unit to a standardized power grid.
- The power consumption, fuses and cable cross-sections depend on the following factors:
  - Local regulations
  - Cable length
  - Cable quality
  - Power supply
- Adapt the connected loads to the local conditions and requirements for a correct power connection.
- Observe the NFPA 70/NEC and CSA C22.2 regulations.

- Only use power cables in accordance with NEC/NEMA or local code regulations.
- Only connect the unit using copper cables. The cables must meet the applicable regulations.

### Color coding of the conductors

Observe the color coding of the conductors and country-specific deviations.

Color of the conductor	Function of the conductor
Yellow/green	Protective conductor (Ground)
Blue	Neutral conductor (neutral)
Brown, Red, Orange, gray or black	Phase L1, L2, L3

### RCD maximum fault-current circuit breaker

All units are installed with a protective conductor terminal. It may also be necessary to include a RCD maximum fault-current circuit breaker when installing the unit to comply with country-specific standards and regulations.

### Unit sizes 6 half size GN to 20 full size GN

Connect the unit to a maximum fault-current circuit breaker in accordance with the table Connected loads of different voltage types [▶ 62].

### Unit size XS GN

Voltage waveforms with neutral conductor ("NAC"): Connect the unit to a maximum fault-current circuit breaker in accordance with the table Connected loads of different voltage types [▶ 62].

Voltage waveforms without neutral conductor ("AC"): Connect the unit to a maximum fault-current circuit breaker in accordance with the table Connected loads of different voltage types [▶ 62].

The power connection of the unit must be carried out so that the mains plug is freely accessible and can be disconnected from the mains at any time.

### Notes on floor units

- The maximum output impedance on the grid connection point is 0.09 Ω.
- The cross-sections of the connection cables are based on the power consumption and local regulations.

### Notes for UltraVent/UltraVent Plus condensation hood

For units with a condensation hood, disconnect both unit from the power supply before servicing.

Before disconnecting the power cord from the power supply or reconnecting the unit, make sure that the unit is switched off to prevent the condensation hood from starting up.

### Notes for XS GN units with an UltraVent/UltraVent Plus condensation hood

- The condensation hood must be connected to a standardized power supply network in accordance with the applicable regulations (VDE and UL/CSA NEC regulations).

- The condensation hood is connected to the power supply via a fixed connection. The fixed connection must be accessible on-site with an all-pole disconnecting device with a contact distance of at least 3 mm [1/8 inch].
- If the condensation hood is connected with a power cable, the power cable must always be accessible.
- The condensation hood must be fused with a maximum of 15 A on-site.
- The condensation hood is equipped with an approx. 2 m [approx. 6 1/2 foot] connection cable without a plug.
- If the connection cable is replaced, use at least one cable of quality H05 RN-F 3x1.5 mm (14AWG SJO)<sup>2</sup>. The replacement may only be carried out by the manufacturer or by technicians authorized and trained by the manufacturer.
- Before unplugging the power cord or reconnecting to the power supply, make sure that the unit is switched off to prevent the condensation hood from starting up.

### **Notes on units with the uninterruptible power supply (UPS) option**

With the UPS unit option, electronic components can be connected to a stable power supply. With this option, a second connection cable for the electronic components is routed out of the unit. When carrying out service work on the unit, disconnect both voltage sources from the mains.

## **6.2 Opening the electrical compartment**

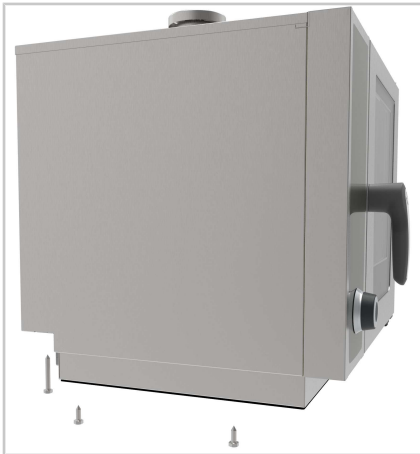
The electrical compartment is located behind the left side wall.

- ✓ The unit is positioned on the designated installation surface.
  - ✓ The unit is switched off.
  - ✓ All voltage sources are switched off via an external circuit breaker.
1. Open the electrical compartment as described below for the respective unit size.



**Unit size XS GN**

1. Loosen two screws on the bottom of the left side wall and one screw on the back.



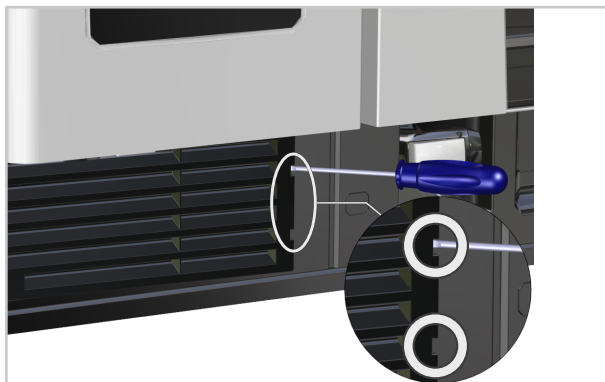
2. Lift the left side wall from below and pull the side wall downwards away from the unit.



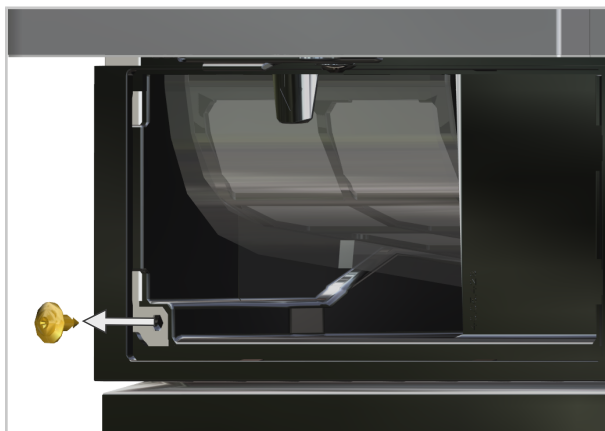
>> The electrical compartment is open.

**Unit sizes 6 half size GN to 10 full size GN**

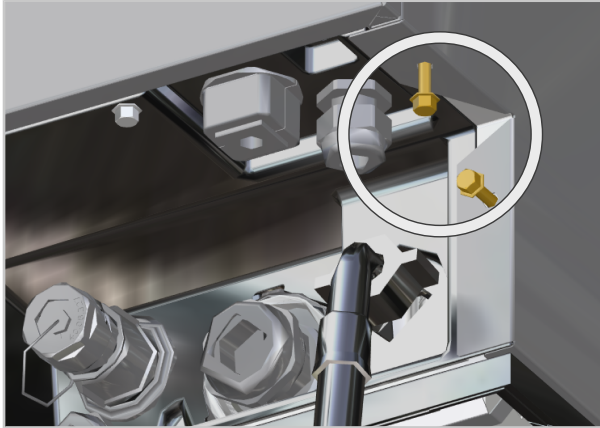
1. Use a screwdriver to leverage out the grille below the control panel.



2. Unscrew the blind rivets in the lower left corner.



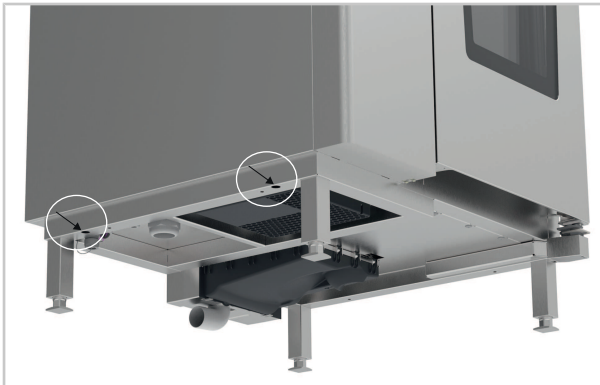
3. Loosen two screws in the recess of the rear side wall of the unit.



4. Pull the left side wall downwards away from the unit.
  5. Remove the side wall.
- >> The electrical compartment is open.

**Unit size 20 half size GN, 20 full size GN**

1. Loosen two screws on the underside of the side panel in recess of frame.
- > The openings to the screws are closed with a cover. Remove the cover carefully to access the screws.



2. Lift the left side wall from below and pull the side wall downwards away from the unit.

>> The electrical compartment is open.



### 6.3 Connecting the electrical units to the power grid

#### Notes on the power cord and connection point

- There is a fixed connection for the electrical connection of the unit.
- Units with a 3 NAC 400 V connection voltage can be connected via a fixed connection (conduit connection) or connection with a safety switch.
- You have your own supply cable on hand for the unit.
- The units are supplied without a power cord.
- Unit size XS GN: The unit is delivered with a power cable.
- The connection point of the power cable is on the main contactor in the electrical compartment behind the removable left side wall.

#### Making the connection on the tabletop unit

- ✓ Unit size XS GN: For the installation, there is an all-pole disconnecting unit with a contact distance of at least 3 mm [0.12 inch].
  - ✓ A maximum fault-current circuit breaker according to the table Connected loads of different voltage types [▶ 62] is in place.
  - ✓ The strain relief for the power cord is tightened.
  - ✓ The electrical compartment is open.
1. Feed the power cord through the opening on the rear side into the electrical compartment to the connection point.
  2. Connect the wires to the terminals. Observe the following color coding.
  3. Check that the conductors are connected correctly.
- >> The unit is connected to the power grid.

**Making the connection on the floor unit**

- ✓ A maximum fault-current circuit breaker according to the table Connected loads of different voltage types [▶ 62] is in place.
  - ✓ The strain relief for the power cable is tightened.
  - ✓ The electrical compartment is open.
1. Feed the power cable through the opening on the underside into the electrical compartment to the connection point.
  2. Pull the cable gland tight in the opening.
  3. Open the terminals with the relevant tool and connect the conductors. Observe the following color coding.
  4. Check that the conductors are connected correctly.
- >> The unit is connected to the power grid.

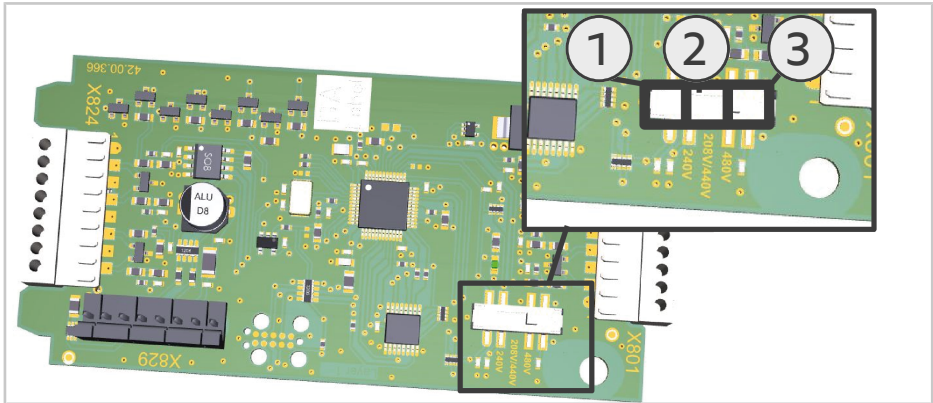
**Color coding terminals**

Connection	Conductor color	Terminals	Tool (only floor units)
Phase (independent of rotating field)	Grey, Black or Orange	L1, L2, L3	Hex key
Neutral conductor	Blue	N	Slotted screwdriver
Protective conductor	Yellow-green	PE (Physical Earth)	Hex socket (Torx)

**6.4 Switching the power supply (USA and Canada only)**

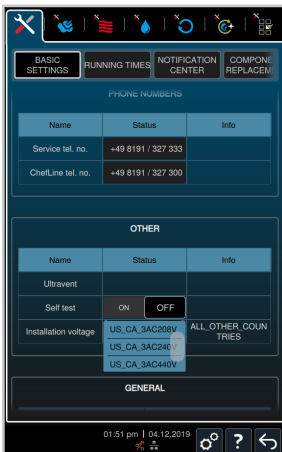
- ✓ The unit is switched off.
  - ✓ All voltage sources are switched off via an external circuit breaker.
  - ✓ The electrical compartment is open.
1. Check the supply voltage at the connection.

- Set the voltage at the switch in accordance with the power supply. In its base position, the switch is in Position 2:



Position	Voltage (V)
1	240
2	208/440
3	480

- Close the electrical compartment.
- Connect the unit to mains power.
- Switch the unit on.
- Use the control panel to select the service level. Navigate to Basic Settings - Other - Installation Voltage. Set the voltage.



- Switch the unit off and on again. The changes will now be applied.
- Run a performance check. Verify that the performance data matches the information on the identification plate.

>> The voltage is now successfully switched.

## 6.5 Conduit connection (USA and Canada only)

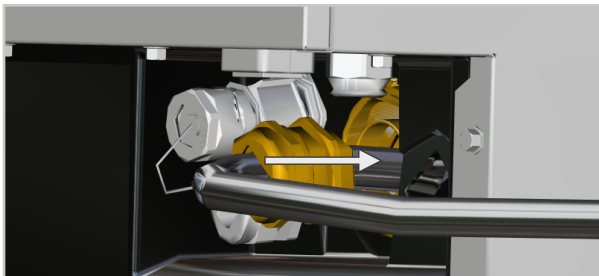
The conduit connection kit for installing tabletop units is not included in the scope of delivery of the units and must be ordered separately.

The conduit connection is required for units with the following voltage variants. Refer to the following table for the diameters of the conduit connection kits:

Voltage variant	6 half size	10 half size	6 full size	10 full size
11 - 3 AC240V 60 Hz	3/4 inch	1 inch	1 inch	1 1/4 inch
12 - 3 AC208V 60 Hz				
19 - 2 AC208V 60 Hz	1 inch			
42 - 3 AC440V 60 Hz	1/2 inch	3/4 inch	3/4 inch	1 inch
43 - 3 AC480V 60 Hz	1/2 inch	3/4 inch	3/4 inch	1 inch

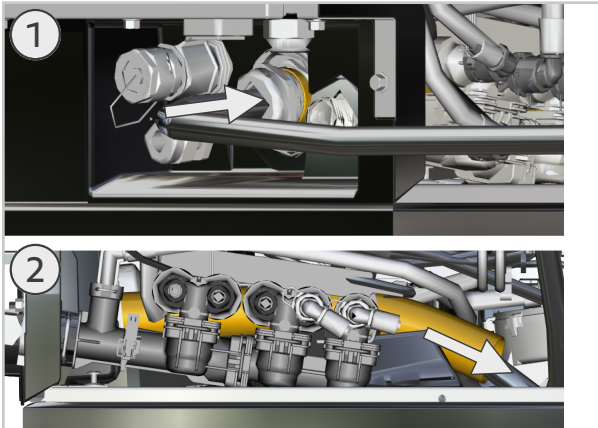
### 6.5.1 Making conduit connection

- ✓ The unit is switched off.
  - ✓ All voltage sources are switched off via an external circuit breaker.
  - ✓ The corresponding pipe adapter is loosely attached to the wires (the pipe adapter is not included in the scope of delivery).
  - ✓ The wires are inserted into the cable. The lock nut and the seals for the outside of the unit are loosely attached to the cable.
1. Mount the corresponding pipe adapter to the electrical connection on the rear wall of the unit.

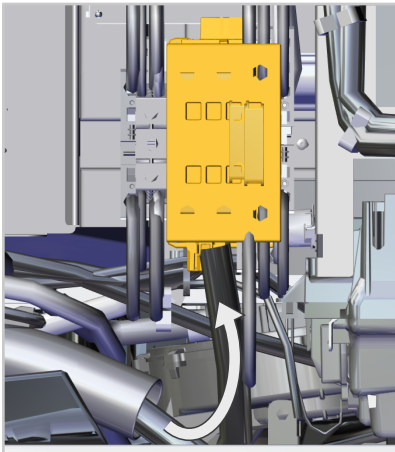


2. Open the left side wall.
  - > The electrical compartment is open.

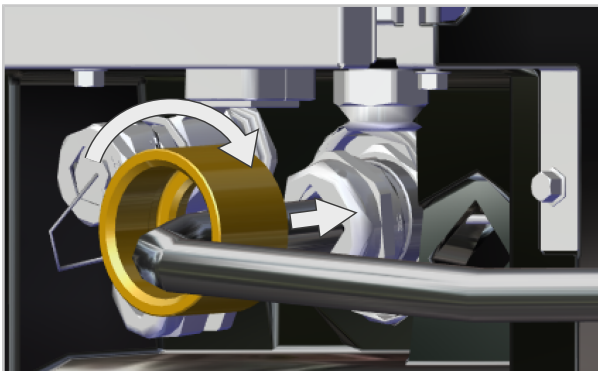
3. Guide the wires through the connection pipe.



4. Connect the wires to the main contactor.



5. Mount the seals and the lock nut on the pipe adapter via the cable.





6. Close the left side wall.  
>> The installation of the conduit connection is completed on the unit.

## 6.6 Connecting the gas units to the power grid

### NOTE

#### Incorrect polarity at the electrical connection

Observe the polarity of the electrical connection. If the polarity is incorrect, an error message appears. The unit is not functioning.

#### Notes on the power cable and connection point

- It is recommended by the manufacturer to use a separate fused supply line for each unit.
- For the electrical connection of the units, either a fixed connection or a connection with a plug can be provided.
- You have your own supply cable on hand for the unit.
- The units are supplied with a power cable without a plug.
- Combi-Duo: Both units can be operated via a double socket with a 15 A circuit breaker.
- For gas units, the connection point of the power cable is located on the flat pins of the integrated mains filter in the electrical compartment.

#### Carrying out the connection

- ✓ If local regulations do not require a GFCI outlet or fuse, a plug can be connected to the supplied cable on site. A NEMA 5-15 and NEMA 6-15 are included in the optional installation kit.  
To avoid false trips when a GFCI is required, this device is approved for fixed wiring on site in accordance with applicable local and national electrical codes and utility requirements.
  - ✓ The strain relief for the power cable is tightened.
  - ✓ The electrical compartment is open.
1. Connect the wires to the flat pins. Observe the following color coding.
  2. Check that the conductors are connected correctly.
- >> The unit is connected to the power grid.

#### Color coding of the flat pins

Connection	Conductor color	Flat pin
Phase	Brown, black or gray	L1
Neutral conductor	Blue	N
Protective conductor	Yellow-green	PE (Physical Earth)

## 6.7 Closing the electrical compartment

### NOTE

#### Trapped cable

When closing the electrical compartment, ensure that no cables or hoses are pinched or trapped.

#### Unit size XS GN

1. Insert the left side panel under the top frame of the housing.
  2. Push the side wall upward.
  3. Tighten two screws on the bottom of the side wall and one screw on the back.
- >> The electrical compartment is closed.

#### Unit sizes 6 half size GN to 10 full size GN

1. Insert the left side panel under the top frame of the housing.
  2. Push the side wall upward.
  3. Push the side wall inwards in the lower area.
    - > The front edge is behind the plastic part and the rear sheet edge is placed over the grounding plate.
  4. Tighten two screws on the back of the unit.
  5. Turn the blind rivets on the front in the lower left corner and tighten.
  6. Insert the grille and press it firmly.
  7. Check that the floor seal is fitted correctly.
- >> The electrical compartment is closed.

#### Unit size 20 half size GN - 20 full size GN

1. Insert the left side panel under the top frame of the housing.
  2. Push the side wall upward.
  3. Tighten two screws on the underside of the side wall.
- >> The electrical compartment is closed.

## 6.8 Connecting the equipotential bonding (Physical Earth Ground)

The connection for equipotential bonding (Physical Earth Ground) is located on the bottom or rear of the units.

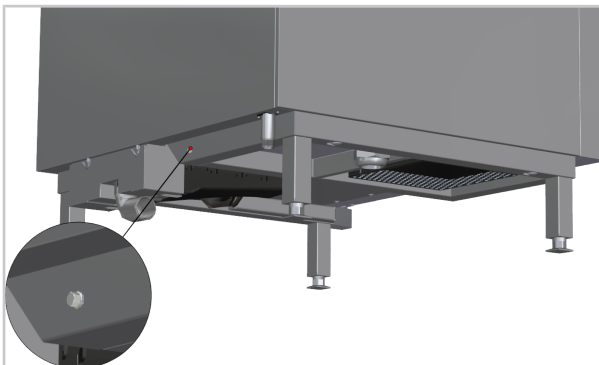
**Unit size XS GN**



**Unit sizes 6 half size GN to 10 full size GN**



**Unit size 20 half size GN, 20 full size GN**



## 6.9 Connected loads of different voltage types

### Maximum connection voltage

- Maximum permissible tolerance for the input voltage: -15% to +10%
- The unit can be used with frequencies of 50 Hz and 60 Hz without technical modifications.

### iCombi Pro, iCombi Classic Electric units

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6-2/3 (1 ph 208 V)	60	27.4	5.7	50	B
6 half size E (1 ph 208 V)	60	51.9	10.8	70	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6-2/3 (1 ph 240 V)	50/60	24	5.7	50	B
6 half size E (1 ph 240 V)	50/60	45	10.8	60	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6-2/3 (3 ph 208 V)	60	15.9	5.7	30	B
6 half size E (3 ph 208 V)	60	30	10.8	40	B
6 full size E (3 ph 208 V)	60	62.5	22.4	80	B
10 half size E (3 ph 208 V)	60	52.8	18.9	70	B
10 full size E (3 ph 208 V)	60	103.9	37.4	150	B
20 half size E (3 ph 208 V)	60	105.6	38	150	B
20 full size E (3 ph 208 V)	60	189	67.9	250	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6 half size E (3 ph 440 V)	60	14.2	10.8	20	B
6 full size E (3 ph 440 V)	60	29.5	22.4	40	B
10 half size E (3 ph 440 V)	60	25	18.9	35	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
10 full size E (3 ph 440 V)	60	49.1	37.4	70	B
20 half size E (3 ph 440 V)	60	49.9	38	70	B
20 full size E (3 ph 440 V)	60	89.3	67.9	125	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6 half size E (3 ph 480 V)	60	13	10.8	20	B
6 full size E (3 ph 480 V)	60	27.1	22.4	35	B
10 half size E (3 ph 480 V)	60	22.9	18.9	30	B
10 full size E (3 ph 480 V)	60	45	37.4	60	B
20 half size E (3 ph 480 V)	60	45	38	60	B
20 full size E (3 ph 480 V)	60	81.9	67.9	125	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6-2/3 (1 ph 208 V)	60	27.4	5.7	50	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6-2/3 (1 ph 240 V)	50/60	24	5.7	50	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6-2/3 (3 ph 208 V)	60	15.9	5.7	30	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6-2/3 (3 AC 240 V)	50/60	15.5	6.2	16	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6-2/3 E (3 AC 240 V)	60	15.5	5.7	30	B
6 half size E (3 AC 240 V)	60	26	10.8	35	B
6 full size E (3 AC 240 V)	60	53.9	22.4	70	B
10 half size E (3 AC 240 V)	60	45.8	18.9	60	B
10 full size E (3 AC 240 V)	60	90.1	37.4	125	B
20 half size E (3 AC 240 V)	60	91.5	38	125	B
20 full size E (3 AC 240 V)	60	163.8	67.9	225	B

### iCombi Pro, iCombi Classic Gas units

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6 half size G (1 ph 120 V)	60	5.0	0.6	15	F/B
10 half size G (1 ph 120 V)	60	7.5	0.9	15	B
20 half size G (1 ph 120 V)	60	10.8	1.3	15	F/B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6 half size G (1 ph 208 V)	60	2.9	0.6	15	B
6 full size G (1 ph 208 V)	60	4.3	0.9	15	B
10 half size G (1 ph 208 V)	60	4.3	0.9	15	B
10 full size G (1 ph 208 V)	60	7.2	1.5	15	B
20 half size G (1 ph 208 V)	60	6.3	1.3	15	B
20 full size G (1 ph 208 V)	60	10.6	2.2	15	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
6 half size G (1 ph 240 V)	50/60	2.5	0.6	15	B
6 full size G (1 ph 240 V)	50/60	3.8	0.9	15	B
10 half size G (1 ph 240 V)	50/60	3.8	0.9	15	B

	Hz	Power consumption (A)	Power (kW)	Maximum Circuit Breaker (A)	RCD model
10 full size G (1 ph 240 V)	50/60	6.3	1.5	15	B
20 half size G (1 ph 240 V)	50/60	5.4	1.3	15	B
20 full size G (1 ph 240 V)	50/60	9.2	2.2	15	B

## 7 Network connection

\*this chapter does not apply for USA and Canada.

### 7.1 Notes on the network connection

The network port allows you to connect the unit to your network to connect the unit to ConnectedCooking.

#### Ethernet connection (Local Area Network)

##### iCombi Pro:

- The units are equipped with an Ethernet connection as standard.
- To connect to a network, use at least one network cable with the CAT-5 specification.
- For unit sizes XS GN to 10 full size GN, the connection is located on the rear of the unit.
- For unit sizes 20 half size GN and 20 full size GN, the connection is located on the underside of the unit.
- A detailed description of the connection to the network can be found in the original operating manual.

##### iCombi Classic:

The units may be ordered or retrofitted with an optional Ethernet connection. The retrofit kit is available under item number 87.01.420.

#### WLAN (Wireless Local Area Network)

The WLAN adapter integrated in the unit is a market-dependent option that is not available in every country.

- The units from the iCombi Pro series are equipped with a WLAN adapter as standard.
- A WLAN adapter is optionally available for units from the iCombi Classic series.

### 7.2 Connecting the unit to the network

#### Connecting the Ethernet cable

1. Unscrew the LAN connection.
  2. Unscrew the cap.
  3. Remove the sealing plug.
  4. Push the Ethernet cable through the union nut.
  5. Push the Ethernet cable through the rubber grommet.
  6. Push the rubber grommet back into the clamp ring.
  7. Connect the Ethernet cable to the connector.
  8. Screw on the connection.
  9. Tighten the cap.
- >> The Ethernet cable is connected.



## 8 Water connection

### 8.1 Regulations for water connection

#### NOTE

##### **Malfunction due to falling below the minimum conductivity value**

Make sure that the minimum conductivity of the water is 50  $\mu\text{S}/\text{cm}$  [32 ppm TDS].

The unit complies with current regulations.

Observe the country-specific standards and regulations for connection to the drinking water network, including for hygiene requirements.

#### **Water pipe**

- Use a separate tap for each unit on-site.
- The water pipe used must at least meet the requirements of IEC 61770, EN 61770, EN 13618 or equivalent quality.
- Do not use previously used water hoses.
- A water hose as per EN 61770 is available from the manufacturer under item number 2067.0709. The materials used for this water pipe comply with the KTW, WRAS and FDA regulations. A brass adapter on the water hose is required for connection USA and Canada. (included with kit supplied)

#### **Drinking water protection**

Drinking water protection in accordance with EN 1717 requirements is required for connection to the drinking water network.

- For unit size XS GN from the iCombi Classic series, drinking water protection for material class 3 as per EN 1717 must be installed in the inlet pipe of the water tap for connection to the drinking water network, e.g. a CA system separator as per EN 14367. The CA system separator is included in the scope of delivery in the Netherlands, Switzerland and Japan. For other countries in Europe, the CA system separator is available under item number 50.01.820.
- All other units comply with the requirements for drinking water protection as per EN 1717 when delivered.
- In countries with special requirements for drinking water protection, a check valve must be installed (item number 60.73.482). In Germany, the Netherlands and Switzerland, this set is included in the scope of supply. In Japan, the check valve is included (item number 50.01.685).  
If a second water connection is used, this must also be equipped with a check valve.

#### **Water pressure**

- The water pressure in the supply line is 1.5 – 6\* bar (21 – 87 psi).  
\* Only Norway, Denmark, Finland and Sweden: 1.5 - 10 bar (22 – 145 psi)

- A water pressure of 3 bar (43 psi) is recommended.

### Required flow rate per unit

Unit size	XS	6 half size	6 full size	10 half size	10 full size	20 half size	20 full size
Max. flow rate [l/min]	5	12	12	12	12	12	12
Max. flow rate [gal/min]	1.32	3.17	3.17	3.17	3.17	3.17	3.17

## 8.2 Connecting the water inlet

The water inlet is located on the back or underside of the unit.

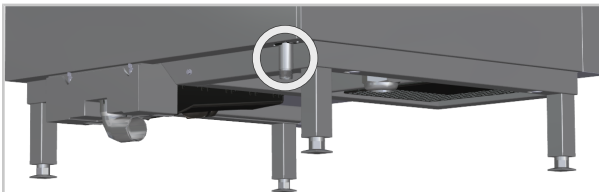
### Unit size XS GN



### Unit size 6 half size GN to 10 full size GN



### Unit size 20 half size GN, 20 full size GN



- ✓ The on-site water supply line is flushed and vented.
- ✓ The water hose is flushed.
- ✓ Safety units, such as check valves or CA system separators are installed in the feed line on the tap.
- ✓ Line for shared cold water connection: 3/4 inch
- ✓ Cold water temperature: max. 30°C [86°F]
- ✓ Water hardness: min. 5°dH (90 ppm).
- ✓ Conductivity: min. 50 µS
- ✓ The chlorination (Cl<sub>2</sub>) is below 0.2 mg/l (0.2 ppm) and the chloride concentration (Cl<sup>-</sup>) below 80 mg/l (80 ppm). If the values are higher, use a required water filter. Follow the instructions for selecting the water filter.

1. Connect the water hose to the water inlet for the unit.

2. Open the tap.
- >> The water inlet is connected.

### **Recommendation for CombiMaster Plus without Care**

The manufacturer recommends a preventive check approx. 6 months after commissioning to determine the current limescale build-up in the steam generator. The inspection should be carried out by a trained technician.

## **8.3 Notes on water treatment**

If the water quality is not suitable for the unit, water treatment is required. Observe the following notes:

- Treated water with a hardness of less than 5°dH can have an aggressive and corrosive effect and shorten the service life of the unit. Do not use treated water with a hardness of less than 5 dH.
- Observe the country-specific regulations regarding water and wastewater connections, in particular also regarding the installation of water extraction points.
- Check the chloride concentration (Cl<sup>-</sup>), chlorination (Cl<sub>2</sub>), conductivity and water hardness with your local water supplier.
- When connecting the iCombi Pro to water with less than 7 °dH: When the self-test is started, a query is made as to which water hardness the unit is connected to. In this case, select the point water hardness below 7 °dH.
- A water connection without additional filters and water treatment is possible in most cases.
- If critical water conditions prevail, filtration and/or water treatment is necessary.

## **8.4 Selection of the water filter**

If critical water conditions prevail, filtration and/or water treatment is necessary. Observe the following notes when making your selection:

### **(A) Fine filter**

If the water is contaminated by sand, iron particles or suspended particles, we recommend fine particle filters with 5 – 15 µm [0.0002 – 0.0006 inch] filter size.

### **(B) Activated carbon filter**

In the case of strong chlorination (Cl<sub>2</sub>) of the water above 0.2 mg/l (corresponds to 0.2 ppm), an activated carbon filter must be installed upstream. Information on the chlorination (Cl<sub>2</sub>) can be obtained from the local water supply company.

**(C) Reverse osmosis system**

If the chloride concentration ( $\text{Cl}^-$ ) is above 80 mg/l [80 ppm], a reverse osmosis system must be installed due to the risk of corrosion. Information about the chloride concentration ( $\text{Cl}^-$ ) can be obtained from the local water supply company.

**NOTE****Malfunction due to falling below the minimum conductivity value**

Make sure that the minimum conductivity of the water is 50  $\mu\text{S}/\text{cm}$  [32 ppm TDS].

**(D) Water softening****iCombi Pro / iCombi Classic**

When used according to instructions, iCombi Pro / iCombi Classic units remove the limescale themselves. Upstream water softening for scale is not necessary.

**CombiMaster Plus without Care**

- Water softening is recommended for water treatment in the event of very strong calcification (without chloride contamination).
- Set a weakly acidic decarbonization via a hydrogen ion exchanger ( $\text{H}^+$ ). Sodium ion exchangers (salt water) (as are common in dishwashers) are not recommended.
- Phosphate dosing is not recommended because of its negative effect on the water system.

**Notes on connecting the water filter**

The diameter of the water hose must be at least 1/2 inch ID, to the water filter at least 3/4 inch ID.

When using a combination of water filters, observe the order of the filters in the flow direction:

- (A)-(B)-(C)
- Or
- (A)-(B)-(D)

## 9 Wastewater connection

### 9.1 Regulations for the wastewater connection

#### General notes on all units

#### NOTE

##### **Drain pipe does not comply with the regulations**

Use a steam temperature resistant drain pipe that at least corresponds to a pipe of type PP. Do not use a hose.

#### NOTE

##### **Incorrect installation of the drain pipe**

Do not glue or weld the drain pipe on to the drain of the unit.  
Do not connect the drain pipe to the unit drain with a reducer.

#### NOTE

##### **Never seal or pipe the safety overflow**

Do not reduce the cross-section of the safety overflow.  
The safety overflow must be accessible and clear at all times. It is used for ventilation and as a drain in the event of blockages.

#### NOTE

##### **Contaminated wastewater and wastewater containing grease**

Ensure that a grease separator is installed on-site to treat the wastewater.

- The unit complies with the current valid regulations (SVGW, KIWA, KIWA UK).
- The average wastewater temperature is 60 °C [140°F].
- When dimensioning the discharge, note that the steam generator's pumping rate is 0.5 l/s [0.13 gal/s] for a short time.
- If there is a floor drain without an odor seal, there must be a free outlet distance of 20 mm [0.75 inch].
- Each unit size can be connected to a wall drain or floor drain.

#### **Requirements for unit size XS GN**

In order to achieve optimum energy consumption, it is recommended to integrate a siphon into the wastewater connection.

- Diameter of the unit drain: DN 40 mm [1.5 inch]

- The unit drain adapter DN 40/50 is supplied with the unit. The unit drain DN 40/50 is also available separately from the manufacturer under item number 8720.1031.
- Each unit must have its own wastewater connection.

#### Requirements for unit sizes 6 half size GN to 20 full size GN

### NOTE

#### Overflow of the unit due to external siphon

The unit is already equipped with an integrated siphon. A second, external siphon (p trap) without ventilation of the drain section can cause the unit to overflow.

No external siphon may be connected to the wastewater connection without upstream ventilation.

Make sure that there is a free outflow zone or vent at the wastewater connection.

- Diameter of the unit outlet: DN 50 mm [2 inch]
- A connection set for the unit drain DN 40/50 is available from the manufacturer under item number 8720.1031.
- Tabletop units: Each unit must have its own wastewater connection.

#### Additional requirements for Combi-Duo

In addition to the requirements for the individual units, note the following for a Combi-Duo setup:

- A separate wastewater connection must be used for each unit.
- For the Combi-Duo with a floor drain, there must be no siphon installed at the drain.

#### Options

- Install a riser pipe on the drain pipe to reduce pressure on the drain pipe.
- Tabletop units: A 110 mm [4.33 inch] unit extension and a height-adjustable transport trolley for mobile oven racks are available to increase ground clearance.
- Floor units: A unit extension and extension for the mobile oven rack are available to increase the ground clearance.

#### Additional requirements for the iCareSystem AutoDose option.

### NOTE

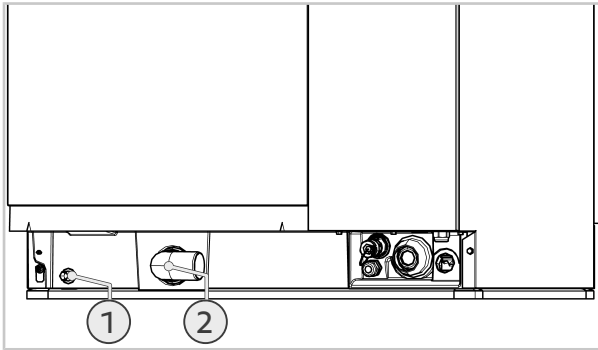
#### Dirty waste water contaminating the unit

The dirty waste water must not enter the unit or the drinking water network after cleaning.

- Do not install piping systems on the safety overflow.

- Do not combine the unit with other drain systems.

In addition to the requirements for tabletop units, note the following for the iCareSystem AutoDose (iCareSystem AutoDose [▶ 90]) option:



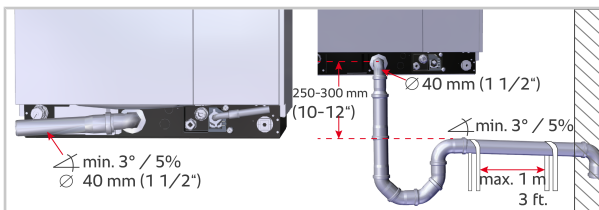
- The safety overflow (1) on the unit must always be clear.
- The safety overflow (1) must not be combined with waste water or drain systems.
- The drain connection (2) must not be combined with other wastewater systems.

## 9.2 Connecting the wastewater drain

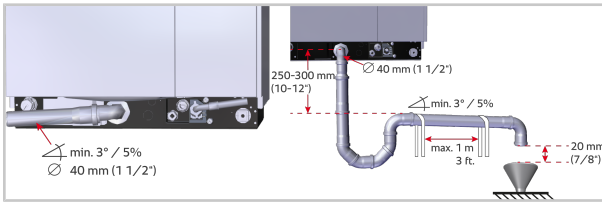
- ✓ The drain pipe is resistant to steam temperature.
1. Connect the drain pipe DN 50 mm [2 inch] (for unit size XS: DN 40 mm [1.5 inch]) with a constant gradient of at least 5 % or 3° (1/4 inch/foot). Use a 90° elbow as the first pipe piece for the drain pipe.
  2. Align the drain pipe to the side, straight or leading downwards.

### Unit size XS GN

International - exception: does not apply for United Kingdom:

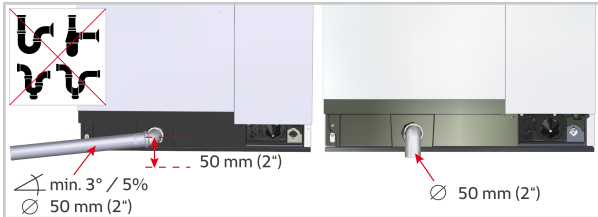


Only applies for United Kingdom:

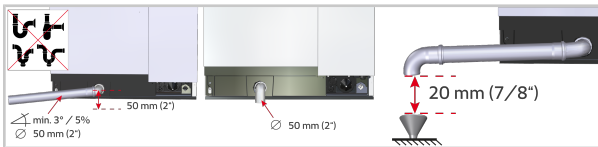


Unit sizes 6 half size GN to 10 full size GN

International - exception: does not apply for United Kingdom:

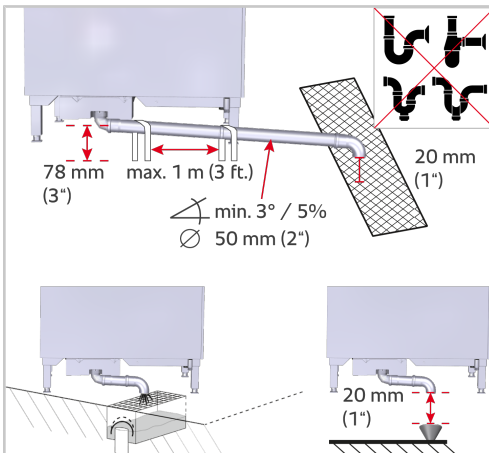


Only applies for United Kingdom:



The average height of the wastewater connection for tabletop units is approx. 50 mm [1.57 inch].

Unit size 20 half size GN, 20 full size GN



The average height of the 90-degree pipe on the wastewater connection is 78 mm [3 inch].



### 9.3 Additional ventilation of the drain section (optional)

#### NOTE

##### **Overflow of the unit due to external siphon**

The unit is already equipped with an integrated siphon. A second, external siphon (p trap) without ventilation of the drain section can cause the unit to overflow.

No external siphon may be connected to the wastewater connection without upstream ventilation.

Make sure that there is a free outflow zone or vent at the wastewater connection.

#### NOTE

##### **Regular cleaning of the funnel**

The funnel on the ventilation pipe must be cleaned at regular intervals. The funnel must be removed from the ventilation pipe for cleaning.

#### NOTE

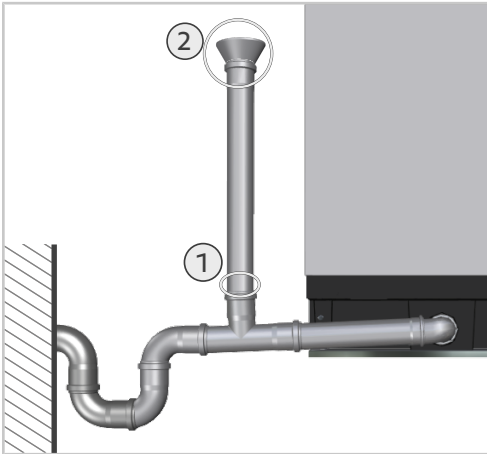
##### **Odor formation due to unused ventilation line**

Odor formation may occur if a ventilation pipe is installed for safety due to an unknown waste water line. This occurs when no external siphon is installed in the wall.

- The ventilation pipe is not required.
- Remove the ventilation line with the ventilation pipe.
- Connect the waste water line according to the specifications.

If an external siphon is connected, the unit requires additional ventilation of the drain section via a vent pipe which is attached to the drain pipe and prevents the unit from overflowing. This vent pipe is provided with holes (1) in the lower area to achieve a suction effect.

The ventilation pipe must be fitted with a funnel (item number: 60.76.798) (2). The funnel reduces any occurring foam during cleaning and prevents the ventilation pipe from overflowing.



#### Cleaning the funnel

### CAUTION

#### **Risk of scalding when cleaning with liquid**

There is a risk of scalding when cleaning with hot water.

- Clean the funnel carefully with hot water.
- Wear protective clothing when cleaning.

- ✓ The unit is switched off.
  - ✓ The funnel must be removed from the unit for cleaning.
1. Clean the funnel with hot soapy water.
  2. Mount the cleaned funnel on the ventilation pipe.
- >> The funnel is cleaned and mounted. The unit can be started up again.

## 10 Gas connection for gas units

This chapter only applies to gas units.

### DANGER

#### **Fire due to incorrect gas connection**

Risk of death due to fire caused by incorrect gas connection.

- Observe the local regulations of the gas supply company.
- Check the existing gas type and the dynamic connection pressure with the values indicated on the unit.

### DANGER

#### **Risk of poisoning due to faulty gas connection**

Risk of poisoning from CO and other toxic gas components

- Do not connect the units to networks containing carbon monoxide (CO) gases or other toxic components.

### DANGER

#### **Exceeding the permissible CO/CO<sub>2</sub> values**

Risk of poisoning due to increased CO/CO<sub>2</sub> values caused by incorrect burner settings.

- Perform a flue gas analysis during initial commissioning.
- Document the flue gas values.
- It is recommended that the installation site be equipped with a CO gas alarm and detector.

### DANGER

#### **Increased CO values due to incorrect gas type**

Risk of poisoning due to connecting the wrong type of gas

- Only connect the unit to the gas type specified on the unit's type plate.
- Check the existing gas type and the dynamic connection pressure with the values indicated on the unit.
- It is recommended that the installation site be equipped with a CO gas alarm and detector.

### DANGER

#### **Changes on components with sealing paint**

Risk of injury and damage when changing components sealed with paint.

- Do not change components with sealing paint (exception: CO<sub>2</sub> screw).
- In the event of damage to the sealing paint, the affected components must be replaced before the unit is put into operation.

## 10.1 Gas connection regulations

### NOTE

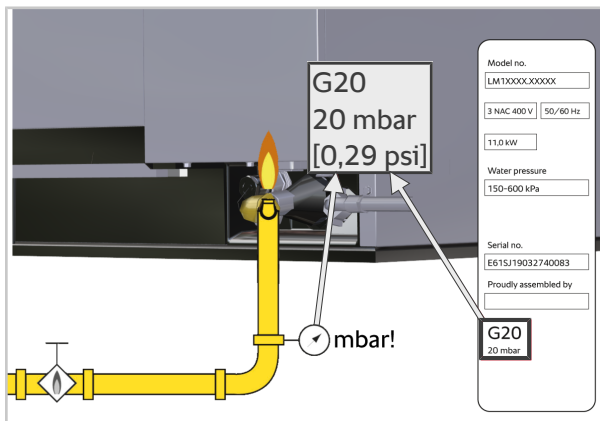
#### Exceeding the connection flow pressure

A connection flow pressure above 65 mbar [0.94 psi] causes a failure of the unit and damage of gas components.

- For natural gas, maintain the maximum connection flow pressure of 30 mbar [0.5 psi].
- For liquid gas, maintain the maximum connection flow pressure of 58 mbar [0.84 psi].
- Observe the maximum connection flow pressure of 65 mbar [0.94 psi].
- If the pressure is higher, turn off the gas supply to the unit and do not carry out any commissioning.
- Only USA and Canada: National Fuel Gas Code, ANSI Z223.1/NFPA 54 and the Natural Gas and Propane Installation Code, CSA B149.1

#### Requirements for gas type and gas pressure

- Check that the ex-works gas setting on the unit matches the actual conditions for the local gas connection.
- The gas type and the dynamic connection pressure set in the unit must match the specifications on the type plate.



- If the line pressure deviates from the connection flow pressure of the unit, contact your gas supply company.
- Observe the regulations of the local gas supply company.

### Requirements for gas supply and gas lines

- The flue gas analysis may only be carried out by a technician authorized by the manufacturer. The flue gas analysis must be carried out before commissioning.
- The gas connection may only be carried out by a locally approved gas installer.
- The gas connection line must be designed for the nominal heat load specified on the type plate.
- The gas supply and gas distribution in the unit must be checked for leaks using a suitable gas leak detector.
- The cross-section of the gas line must be designed for the maximum connected power of all consumers, at least  $\frac{3}{4}$  inch for a single unit, line size must increase with increased number of units on same line.
- A gas shut-off valve must be installed upstream of each unit.
- All on-site connection parts must be tested in accordance with DIN-DVGW (the local regulations).  
The hose for the gas connection must not be longer than 2.0 m [78  $\frac{3}{4}$  inch].
- The gas line can be connected to a gas socket.
- A connection with the appropriate counterpart to the  $\frac{3}{4}$  inch internal thread (RP thread) is required to connect the gas line.
- The unit must be secured against slipping (safety cable restraint)
- For values of undiluted CO greater than 174.7 mg/m<sup>3</sup> [150 ppm] for hot air and greater than 465.8 mg/m<sup>3</sup> [400 ppm] for steam, the burner setting must be checked by a company-trained and certified technician in accordance with the setting instructions, and adjusted as necessary. Subsequently, a flue gas analysis must be carried out by the technician.
- Observe the maintenance instructions for gas components.
- The gas installation must comply with CGA-B 149.1 natural gas regulations or CGA-B 149.2 propane gas regulations.

#### Gas installation Australia

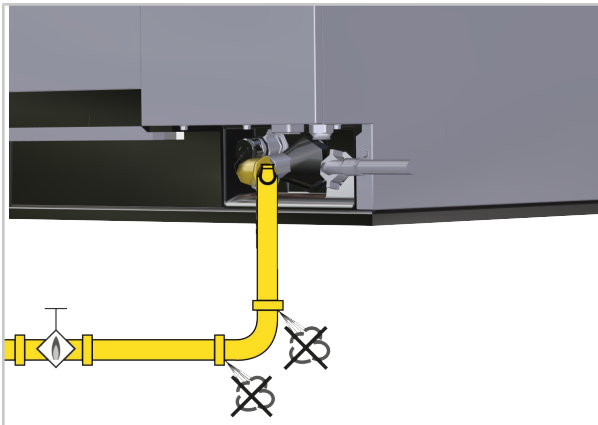
- The installation may only be carried out by authorized personnel in accordance with AS/NZS 5601, local authorities, gas, electricity, all applicable legal regulations and manufacturer requirements.
- The relevant requirements for ventilation must be observed.
- This unit is not suitable for use in marine environments.

## 10.2 Connecting the unit to the gas supply

- ✓ The gas connection is equipped with an internal thread (RP thread). (use of supplied gas pipe adapter required) A suitable counterpart meeting the standards is available.

## 10 | Gas connection for gas units

- ✓ An additional Teflon tape for sealing in the thread is available. The sealing agent must comply with the locally approved regulations.
  - ✓ A gas shut-off valve is provided on-site.
  - ✓ The gas type available and the dynamic connection pressure match the values on the unit type plate.
  - ✓ The unit is secured against slipping (Safety cable restraint).
  - ✓ The gas line is routed so that it cannot be kinked, turned or pulled. The gas line must be at a sufficient distance from heat sources.
1. Connect the gas pipe to the unit gas connection.
    - > Make sure that the threads are screwed in far enough to ensure mechanical tightness and strength.  
For this, refer to regional standards and ISO 7/1.
  2. Use a suitable gas leak detector to check the gas supply and gas distribution on the unit for leaks.



### 10.3 Gas consumption by gas type

#### Natural gas G20Y20

	6-half size	6 full size	10 half size	10 full size	20 half size	20 full size
Required connection flow pressure (mbar)	17-25	17-25	17-25	17-25	17-25	17-25
Wobbe index (MJ/m <sup>3</sup> ) Wi	43.24	43.24	43.24	43.24	43.24	43.24
Wobbe index (MJ/m <sup>3</sup> ) Ws	48.24	48.24	48.24	48.24	48.24	48.24
Max. consumption at nominal heat load (at 15 °C, 1013 mbar)	1.6 m <sup>3</sup> /h	3.45 m <sup>3</sup> /h	2.71 m <sup>3</sup> /h	4.92 m <sup>3</sup> /h	5.17 m <sup>3</sup> /h	9.48 m <sup>3</sup> /h

	<b>6-half size</b>	<b>6 full size</b>	<b>10 half size</b>	<b>10 full size</b>	<b>20 half size</b>	<b>20 full size</b>
Max. consumption at nominal heat load (at 15 °C, 1013 mbar)	13 kW	28 kW	22 kW	40 kW	42 kW	80 kW

**Natural gas EK G25.3 Netherlands**

	<b>6 half size</b>	<b>6 full size</b>	<b>10 half size</b>	<b>10 full size</b>	<b>20 half size</b>	<b>20 full size</b>
Required connection flow pressure (mbar)	20-30	20-30	20-30	20-30	20-30	20-30
Wobbe index (MJ/m <sup>3</sup> ) Wi	38.49	38.49	38.49	38.49	38.49	38.49
Wobbe index (MJ/m <sup>3</sup> ) Ws	42.71	42.71	42.71	42.71	42.71	42.71
Max. consumption at nominal heat load (at 15 °C, 1013 mbar)	1.56 m <sup>3</sup> /h	3.37 m <sup>3</sup> /h	2.65 m <sup>3</sup> /h	4.81 m <sup>3</sup> /h	5.05 m <sup>3</sup> /h	9.63 m <sup>3</sup> /h
Max. consumption at nominal heat load (at 15 °C, 1013 mbar)	13 kW	28 kW	22 kW	40 kW	42 kW	80 kW

**Natural gas G25.3Y20**

	<b>6 half size</b>	<b>6 full size</b>	<b>10 half size</b>	<b>10 full size</b>	<b>20 half size</b>	<b>20 full size</b>
Required connection flow pressure (mbar)	20-30	20-30	20-30	20-30	20-30	20-30
Wobbe index (MJ/m <sup>3</sup> ) Wi	36.85	36.85	36.85	36.85	36.85	36.85
Wobbe index (MJ/m <sup>3</sup> ) Ws	41.14	41.14	41.14	41.14	41.14	41.14
Max. consumption at nominal heat load (at 15 °C, 1013 mbar)	1.8 m <sup>3</sup> /h	3.88 m <sup>3</sup> /h	3.05 m <sup>3</sup> /h	5.54 m <sup>3</sup> /h	5.82 m <sup>3</sup> /h	11.08 m <sup>3</sup> /h
Max. consumption at nominal heat load (at 15 °C, 1013 mbar)	13 kW	28 kW	22 kW	40 kW	42 kW	80 kW

**Natural gas G20 USA (North America)**

	<b>6 half size</b>	<b>6 full size</b>	<b>10 half size</b>	<b>10 full size</b>	<b>20 half size</b>	<b>20 full size</b>
Required connection flow pressure (mbar)	6.5-10.0 in/wc	6.5-10.0 in/wc	6.5-10.0 in/wc	6.5-10.0 in/wc	6.5-10.0 in/wc	6.5-10.0 in/wc

	<b>6 half size</b>	<b>6 full size</b>	<b>10 half size</b>	<b>10 full size</b>	<b>20 half size</b>	<b>20 full size</b>
Wobbe index (MJ/m <sup>3</sup> ) Wi	45.67	45.67	45.67	45.67	45.67	45.67
Wobbe index (MJ/m <sup>3</sup> ) Ws	50.72	50.72	50.72	50.72	50.72	50.72
Max. consumption at nominal heat load (at 15 °C, 1013 mbar)	48.58 ft <sup>3</sup> /h	104.64 ft <sup>3</sup> /h	82.21 ft <sup>3</sup> /h	149.48 ft <sup>3</sup> /h	156.96 ft <sup>3</sup> /h	298.96 ft <sup>3</sup> /h
Max. consumption at nominal heat load (at 15 °C, 1013 mbar)	49500 BTU/hr	106500 BTU/hr	83500 BTU/hr	152000 BTU/hr	159500 BTU/hr	303500 BTU/hr

### Propane gas 3P G31 USA (North America)

	<b>6 half size</b>	<b>6 full size</b>	<b>10 half size</b>	<b>10 full size</b>	<b>20 half size</b>	<b>20 full size</b>
Required connection flow pressure (mbar)	10-15 in/wc	10-15 in/wc	10-15 in/wc	10-15 in/wc	10-15 in/wc	10-15 in/wc
Wobbe index (MJ/m <sup>3</sup> ) Wi	74.75	74.75	74.75	74.75	74.75	74.75
Wobbe index (MJ/m <sup>3</sup> ) Ws	81.19	81.19	81.19	81.19	81.19	81.19
Max. consumption at nominal heat load (at 15 °C, 1013 mbar)	2.23 lb/h	4.80 lb/h	3.77 lb/h	6.85 lb/h	7.19 lb/h	13.7 lb/h
Max. consumption at nominal heat load (at 15 °C, 1013 mbar)	48500 BTU/hr	104000 BTU/hr	82000 BTU/hr	148500 BTU/hr	156000 BTU/hr	296500 BTU/hr



## 11 Flue gas connection for gas units

This chapter only applies to gas units.

### DANGER

#### Harmful flue gases

Risk of suffocation or poisoning due to concentrations of harmful flue gases (Carbon monoxide).

- Make sure that there are sufficient ventilation options in the installation area.
- Carry out a flue gas analysis during commissioning of the unit.
- Install the unit under a kitchen ventilation system.
- Only for Japan:  
The unit must be installed under an flue gas hood.

### 11.1 Regulations for flue gas connection

- The units are classified as per DVGW G631 from 03/2012 as flue gas types A3 and B23, B13, B13BS. Observe the regulations for the respective types.
- For installation, observe the local standards in their respective valid version.
- The flue gas connection must comply with the regulations of NFPA 96.
- Observe the maintenance instructions for gas components.

#### Flue gas and room volume

The following values only apply to the individual unit:

	6-half size	6 full size	10 half size	10 full size	20 half size	20 full size
Min. room size with constant ventilation (m <sup>3</sup> )	26	56	44	80	88	*
Min. room size with free ventilation (m <sup>3</sup> )	52	112	88	160	176	*
Min. combustion air supply (m <sup>3</sup> /h)	21	45	35	64	70	128
Min. combustion air supply (ft <sup>3</sup> /h)	742	1590	1236	2260	2472	4521
Max. flue gas volume (m <sup>3</sup> /h)	38	108	78	160	150	311
Max. flue gas volume (ft <sup>3</sup> /h)	1342	3814	2755	5651	5298	10983
Max. flue gas temperature (°C)	350	520	470	590	430	520
Max. flue gas temperature (°F)	662	968	878	1094	806	968

\*Combustion air supply through ventilation and air conditioning systems

### Combustion air supply

The combustion air supply is ensured by free ventilation or constant ventilation, one near the ceiling, one near the floor.

#### Free ventilation

The combustion air supply is ensured via windows and doors.

#### Constant ventilation

The combustion air supply is ensured via two ventilation openings into the open air, each with a free cross-section of  $150 \text{ cm}^2$  [ $23.25 \text{ in}^2$ ] (one near the ceiling, one near the floor).

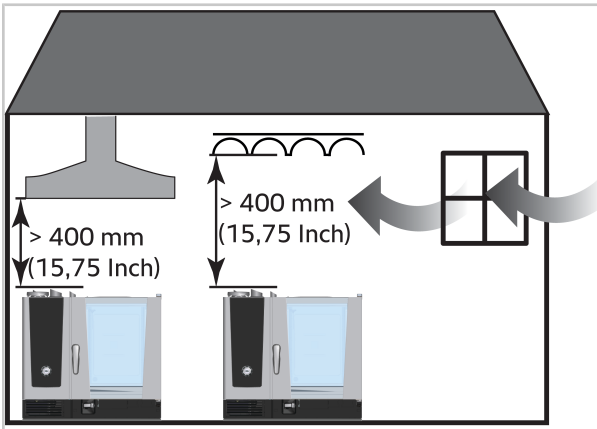
#### Ventilation and air conditioning systems

Kitchens in which gas units with a total nominal heat load of more than 50 kW are installed must be ventilated with ventilation and air conditioning systems. These air conditioning plants also secure combustion air supply for gas units if designed in accordance with VDI 2052.

## 11.2 Flue gas connection type A3 and B23

### Requirements for unit size 6 half size GN

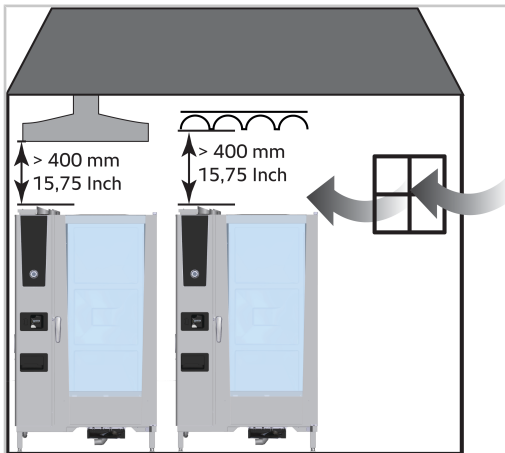
- The flue gas connection type A3 for this unit size corresponds to a room air-dependent gas fireplace with a blower upstream of the burners without flow protection and with a total nominal load in the installation area of less than or equal to 14 kW.  
If the total rated load is greater than 14 kW, the requirements for 6 full size - 20 full size GN also apply to the unit size 6 half size (see Flue gas connection type A3 and B23 [► 85]).
- To avoid a fire hazard due to accumulation of dirt and grease in the grease filter, a distance of 400 mm [16 inches] must be maintained between the flue gas pipes of the unit and the grease filters of the extractor hood/ventilation ceiling.



- It is not mandatory, but is recommended by the manufacturer, that the gas supply to the burners is only released when the hood /extraction system is in operation.
- Updraft lines are not required.
- For the installation of gas units with a type A flue gas connection with a total rated load of less than or equal to 14 kW, it is sufficient if the installation site meets one of the following criteria:
  - The installation area has a volume of more than  $2 \text{ m}^3/\text{kW}$  [ $70.63 \text{ ft}^3/\text{kW}$ ].
  - The installation area has a door to the outside or a window that can be opened.
  - A kitchen ventilation system is operated which has a minimum delivery volume of  $15 \text{ m}^3/\text{h}$  [ $529.72 \text{ ft}^3/\text{h}$ ] per kW total rated load and corresponding supply air openings are provided.

#### Requirements for unit sizes 6 full size GN to 20 full size GN

- The flue gas connection type B23 for these unit sizes corresponds to a room air-dependent gas fireplace with a fan upstream of the burners without flow protection and with a total nominal load in the installation area greater than 14 kW.
- To avoid a fire hazard due to accumulation of dirt and grease in the grease filter, a distance of 400 mm [15.75 inches] must be maintained between the flue gas pipes of the unit and the grease filters of the extractor hood/ventilation ceiling.



- Updraft lines are not required.
- The unit must be positioned directly below a kitchen ventilation system. The flue gases from gas units with type A flue gas connection are first discharged into the room, flow directly into the kitchen ventilation system and are promptly discharged to the open air.

- By monitoring the flue gas discharge, it must be ensured that the gas supply to the burners is only released if extraction is ensured.

## 12 Initial start-up

### WARNING

#### **Danger of scalding due to hot steam**

Hot steam is generated during operation and cleaning of the unit. You can be scalded by the hot steam when opening the cabinet door.

- Open the cabinet door carefully and leave the door leaned for a few seconds so that the steam can escape upwards.
- Make sure that there are no persons in the area of the steam outlet.

### 12.1 Before commissioning

#### Removing transport materials from the cooking cabinet

### CAUTION

#### **Combustible materials and objects in the cooking cabinet**

Fire hazard due to packaging and transport materials as well as starter kit in cooking cabinet.

Remove all combustible materials and objects from the cooking cabinet before initial commissioning.

#### **Starter kit**

The unit comes with a starter kit, which varies according to the scope of the order. Remove the starter kit from the cooking cabinet.

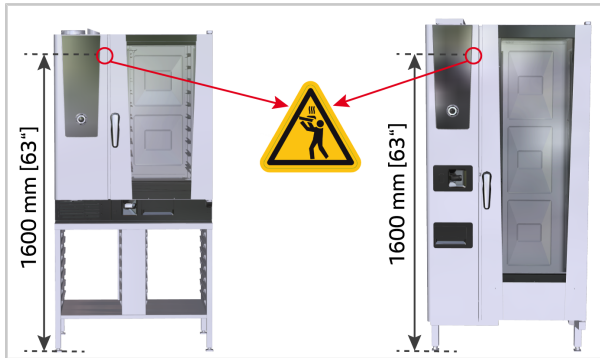
#### **Maximum insertion height**

### WARNING

#### **Danger of scalding from liquids**

To avoid scalding, only use cooking vessels that are visible and easy to observe when heating liquids and food that becomes liquid when heated.

After installing the unit, attach the 1600 mm [63 inch] maximum insertion height sticker to the unit. The sticker is included with the starter kit.



### Run software update

#### NOTE

#### Run software update

Always carry out a software update before commissioning. This means that your unit will start with the latest software version.

## 12.2 Performing a self-test

### ! DANGER

#### Changed CO / CO<sub>2</sub> values after self-test

Risk of poisoning due to excessive flue gas values.

- Perform a flue gas analysis after the self-test.
- Set the values according to the flue gas analysis specifications.

The self-test must be started once when the unit is first commissioned. During the self-test, the unit is adapted to the ambient conditions.

The self-test runs automatically. The duration depends on the unit size and is between 45 and 65 minutes. With an UltraVent extraction hood, the self-test is extended by approx. 20 minutes.

#### Preparations

- The unit is properly connected to water, wastewater, electricity and, for gas units, to the gas supply and flue gas system as described in these instructions.
- Check that the pan rack hooks and the air baffle are correctly fitted.
- The left side wall is closed.
- One GN container per blower wheel is required for the self-test.

### Inserting GN container

1. Slide a flat GN container with the opening facing down into the hang ladders in front of each blower wheel.
- >> For unit sizes XS GN to 6 full size GN, there is a GN container in the middle of the rack rails in front of the fan wheel.
  - >> For unit sizes 10 half size GN and 10 full size GN, there are two GN containers in the rack rails, one in the middle of each fan wheel.
  - >> For unit sizes 20 half size GN and 20 full size GN, there are three GN containers in the support rack trolley, one in the middle of each fan wheel.



### Start self-test

1. Close the cabinet door.
  2. Start the self-test.
- >> During the self-test, the unit is also checked for leaks. If steam escapes from the closed cooking cabinet door during the self-test, wait until the self-test is complete and check the door setting.
  - >> The display shows when the self-test has been completed.

#### NOTE

If steam escapes from the door during the self-test, the door setting may not be correct. In this case, check the door setting and reset the door if necessary.

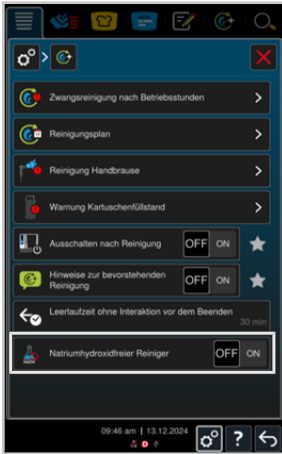
## 12.3 Sodium hydroxide-free cleaner

In order to achieve an optimal cleaning result with the sodium hydroxide-free cleaner (NaOH-free cleaner), the use of the sodium hydroxide-free cleaner must be activated in the operator menu.

The activation adjusts the required quantity of cleaner.

For units with the AutoDose option, service messages may also occur if sodium hydroxide-free cleaner is used without it being activated in the operator menu.

## Activating sodium hydroxide-free cleaner



1. Select Settings in the operator menu.
  2. Select the Cleaning menu item.
  3. Activate sodium hydroxide-free cleaner.
- >> The sodium hydroxide-free cleaner can now be used.

## 12.4 iCareSystem AutoDose

\*Only iCombi Pro, when ordering the option iCareSystem AutoDose. The option must be ordered separately and is available for unit size 6 half size - 10 full size.

The option cannot be retrofitted.

Observe the regulations for the drain connection in the chapter Drain connection (Regulations for the wastewater connection [▶ 72]).

### WARNING

#### Risk of chemical burns due to cleaning chemicals

There is a risk of chemical burns through conscious and unconscious contact with cleaning chemicals.

- During installation and maintenance, wear tight-fitting safety glasses and chemical protective gloves that will allow you to handle cleaning products safely.

### NOTE

#### Risk of damage due to spraying water

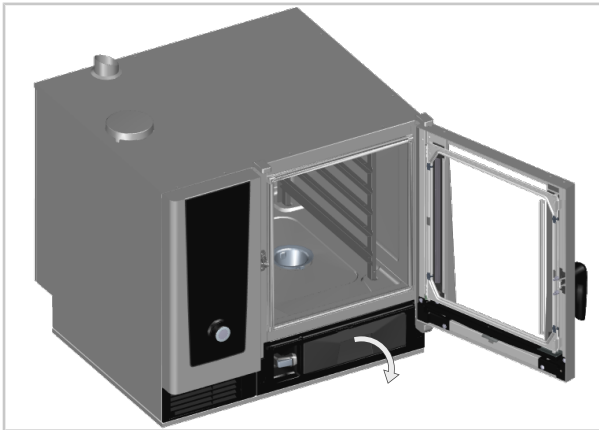
Cleaning with water jets can damage the iCareSystem AutoDose.



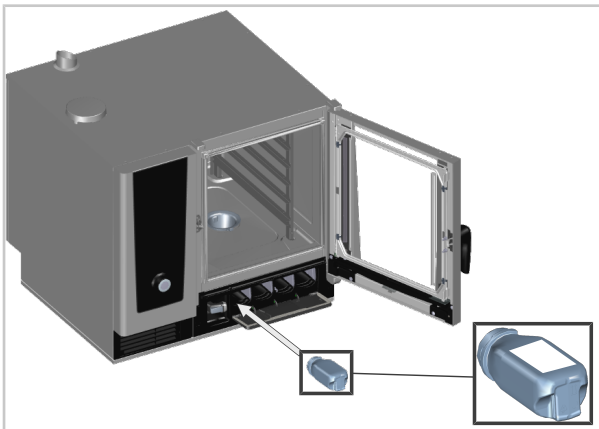
- Never use mechanical cleaning equipment to clean the iCareSystem AutoDose.
- Clean the iCareSystem AutoDose according to the specifications in the original operating instructions.

### Inserting cartridges

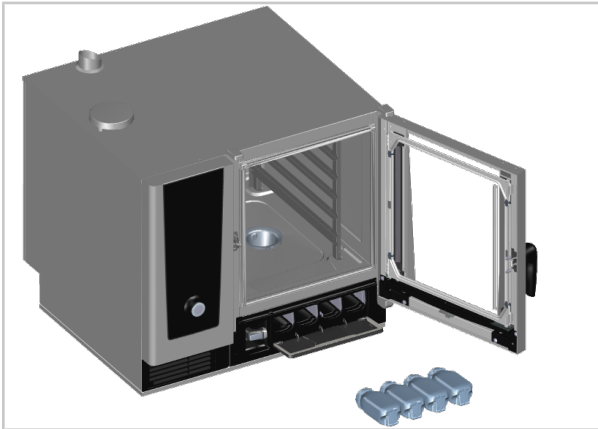
- ✓ The unit is connected according to the regional specifications described in this installation manual.
  - ✓ Start by opening the cabinet door.
  - ✓ The cleaner and Care cartridges are open.
1. Open the cover flap for the iCareSystem AutoDose. Carefully fold down the cover flap underneath the cabinet.



2. Insert the cartridges into the holder. Insert the cartridge into the holder with the label facing upwards. Press the cartridge into the holder until you feel it click into place.

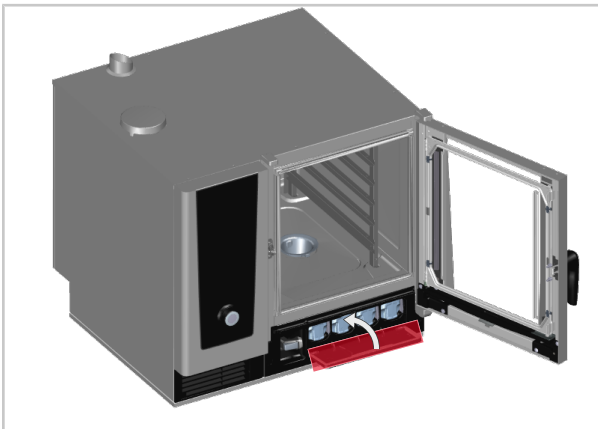


- > Insert cleaner and Care cartridges. A total of four cartridges can be inserted. Operation with fewer cartridges is also possible.



- > You do not need to follow any order when inserting the cartridges.

3. Close the cover flap for the iCareSystem AutoDose.



- > Cleaning will not start if the cover flap is not closed fully.

- >> The cartridges with the cleaning chemicals have been successfully inserted.

## 13 Maintenance

### 13.1 Maintenance notes

#### Notes on gas units

- According to the specified standards, the gas components must be serviced at least once a year.
- If maintenance or repair work has been carried out on gas units, observe the following instructions:
  - Check that the compensation hose is fitted correctly.
  - Perform a leak test on the gas-carrying parts.
  - Perform a flue gas analysis.

### 13.2 Replacing air filters

If the air filter is dirty, a service message and request to change the air filter appears on the unit display. Air filters should be cleaned monthly.

#### Notes for changing the air filter

Air filters may be replaced by the end user. When changing, make sure that the new air filter engages carefully in the correct position. Follow the instructions in the original operating instructions in the Maintenance chapter.

#### Air filter item numbers

Unit size	XS	6 half size - 10 full size	20 half size - 20 full size
Air filter item number	40.04.771	40.05.424	40.05.654

## 14 Decommissioning

### 14.1 Notes on decommissioning

Observe the following when decommissioning the unit:

- Make sure that the unit has cooled down to below 40°C [104°F].
- Make sure that the steam generator is pumped empty.
- Make sure that the cleaning box is pumped empty.
- Switch off the gas supply.
- Make sure that the unit is de-energized and disconnected from the power supply.
- Remove all water, wastewater and, for gas units, additional gas connections from the unit.
- If the unit is to be transported, remove the unit from the foot locking mechanisms and from any wall mountings (mounting chain).

#### Option iCareSystem AutoDose

- Make sure that the mixing box for the iCareSystem AutoDose is pumped empty.
- Remove the cartridges from the unit. These can be closed and reused.

### 14.2 Disposal

Electrical and electronic units such as the iCombi Pro and iCombi Classic must be disposed of separately.

- Do not dispose of the unit as household waste or in the old equipment container at municipal connection points.
- Observe the country-specific regulations for unit disposal.
- Where necessary, contact the manufacturer for further information on disposal.



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