

**MIWE condo
Unit version 2.0**

LEGAL NOTICE

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1. Responsibility of the owner-operator

The owner-operator

... is the person who operates the product himself for commercial or industrial purposes or makes the product available to a third party for use or application and bears the legal product responsibility for the protection of users or third parties during operation.



NOTE!

The owner-operator receives the following documents along with the “Essential Preparations” instructions:

- Confirmation of order.
- Technical dimension and data sheet. These documents provide technical data and dimensions.

The “Essential Preparations” provide important information. Read them carefully before starting any work.

If the owner-operator is to install and commission the unit, the owner-operator must carefully read the relevant sections of the operating manual before starting any work.

2. Transport, packaging and storage



NOTE!

Installation and commissioning may be performed only by MIWE service or an authorised partner of MIWE service.

However, operating and maintenance staff of the owner-operator may handle packing units in the course of installation and subsequent use. In such cases, the following instructions must be observed.

2.1. Safety instructions



RISK OF INJURY FROM SUSPENDED LOADS!

When loads are lifted, parts may fall or swing out of control and cause death. Therefore:

- Never step under suspended loads.
- Follow the instructions on designated attachment points.
- Do not attach lifting gear to protruding parts of the unit or eyelets in the components and always ensure lifting gear is securely attached and correctly positioned.
- Always use approved lifting tools and gear with a sufficient load capacity.
- Never use ripped or chafed ropes or slings.
- Do not place ropes or straps over sharp edges or corners; do not knot or twist.



RISK OF CRUSHING FROM SLIDING UNIT!

Parts of the body may be caught or crushed between the unit and site fittings, causing serious injuries. Therefore:

- Wear protective clothing during all work at the unit.
- Keep a safe distance from danger zones.
- Engage the castor locking brakes if available.



CAUTION: INCORRECT TRANSPORT CAN CAUSE DAMAGE!

Considerable material damage can result from incorrect transport. Therefore:

- Always take great care when unloading packing units and transporting them on site, and always observe the symbols on the packaging.
- Only ever use the designated attachment points.

2.2. Transport

2.2.1. Transport inspection

Check the contents of the delivery for completeness and for damage caused in transit immediately upon receipt.

If there are visible signs of damage from transport:

- Do not accept delivery, or only conditionally accept delivery.
- Make a note of the extent of the damage in the transport documents or the haulier's delivery note.
- Initiate a complaint.

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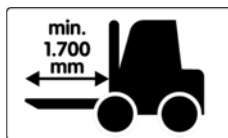
DAMAGES!

Report all defects within 2 days of delivery of the goods. Claims for damages can only be accepted if submitted by this deadline.

2.2.2. Packing units and pallets loaded with packing units

Packing units and pallets loaded with packing units may be transported with a forklift truck or a pallet truck, provided the following conditions are met:

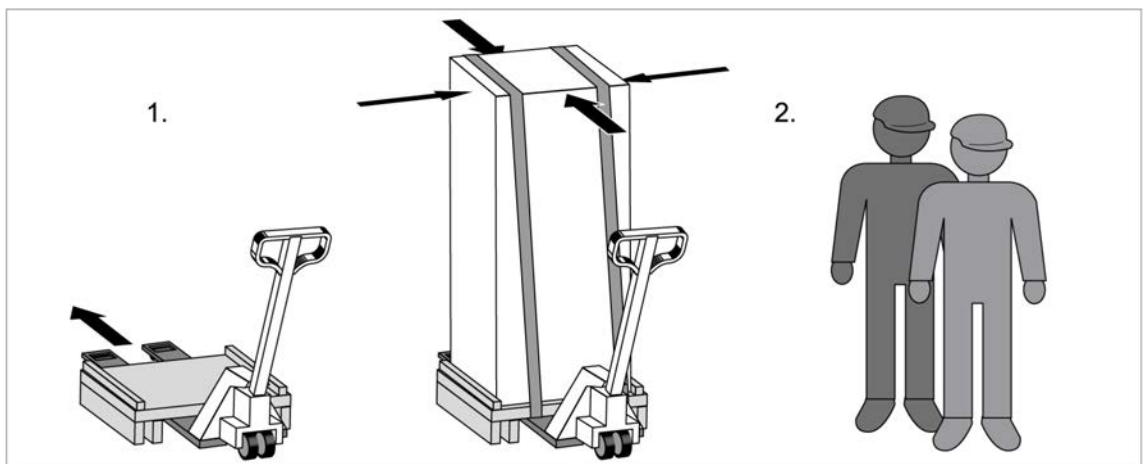
- The forklift truck or pallet truck must be designed to bear the weight of the transport units.
- The driver must be in possession of the required licence for operating the fork lift truck.



LIFT HERE

Only lift the unit at the marked points. Lifting the unit at other points may damage the unit and pose significant hazards.

- Place extensions of sufficient length and width (e.g. wood or metal) between forks and packing unit in order to spread the weight to the casing.



1. Drive the forklift truck or pallet truck under the pallet.
Drive the forks under the packing unit until they come out the other side.
2. Ensure that the packing unit cannot tip over if it is top-heavy.
If necessary, seek assistance to move the packing unit.

2.3. Packaging

2.3.1. Packaging information

Individual packing units are packed to meet the requirements of the expected transport conditions. Only environmentally friendly materials are used for packaging.

Unless any special agreements have been made in relation to the handling of the packaging, sort the materials and put them to further use or send them to be recycled.



CAUTION: INCORRECT DISPOSAL HARMS THE ENVIRONMENT!

Packaging materials are valuable raw materials. Therefore:

- Dispose of packaging material in an environmentally friendly manner.

2.3.2. Symbols on the packaging



KEEP DRY

Keep the packing units dry and protect from moisture.



FRAGILE

Indicates packing units with fragile or delicate contents. Treat packing units with care; do not drop or subject to shocks.



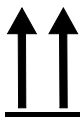
WEIGHT, ATTACHED LOAD

Indicates the weight of packing units. Handle labelled packing units according to their weight.



TOP-HEAVY

The packing unit is top-heavy and is not sufficiently stable. Take particular care during transport and secure packing unit separately if necessary.



THIS WAY UP

The arrows point to the top of the packing unit. They must always point upwards, otherwise there is a risk of damage to the contents.



CENTRE OF GRAVITY

Indicates packing units' centre of gravity. Lift and transport in accordance with the centre of gravity.



FASTEN HERE

Only attach lifting gear (chains, slings) at the points marked with this symbol.

2.4. Storage

Store packing units in the following conditions:

- Do not store outdoors.
- Store in a dry and dust-free place.
- Do not expose to aggressive substances.
- Keep out of sunlight.
- Avoid mechanical shocks.
- Storage temperature: +3°C to +50°C.
- Relative humidity: max. 60%.
- If the unit is in storage for longer than 3 months, the general condition of all the parts and of the packaging must be checked regularly. Replenish or renew any preserving agents/materials.



NOTE!

In certain cases, there may be storage instructions included on the packing units which extend beyond the requirements specified here. All such instructions must be complied with.



NOTE!

If the oven is in storage for longer than 4 weeks, the oven deck plates must be baked out again – see 'Baking out the oven' under 'Operation' in the operating manual.

3. Customer preparations – installation guidelines

3.1. Safety instructions



CAUTION: INSUFFICIENT SITE PREPARATION CAN RESULT IN DAMAGE TO THE BUILDING!

The installation and assembly of baking ovens is governed by national and regional laws and regulations. The principal has a duty to observe the laws and regulations. Building work and installation must be carried out by trained specialists and in accordance with the national and regional laws and regulations.

The principal

... is the party who has commissioned the unit. The principal has a duty to observe the following national and regional laws and regulations:

- Obtaining the building and planning permits required under national and regional laws and regulations.
- Compliance with the national and regional hygiene and health regulations (e. g. for Germany BGV A3).
- Compliance with the national and regional accident prevention regulations.

For operation with burner:

- Compliance with the national and regional regulations for the operation of furnaces (e. g. for Germany "Feuerungsverordnung" [firing installation regulations] (FeuV)).

The contractor

... has the specialist training, knowledge and experience and knowledge of the applicable standards and regulations to carry out all construction work and services (e. g. for Germany: laying the foundation, connection to the flue). The contractor has been trained specially for the specific field and is familiar with the relevant standards and regulations. The contractor has a duty to observe the following national and regional laws and regulations:

- Compliance with the national and regional building regulations.
- Compliance with the national and regional hygiene and health regulations (e. g. for Germany BGV A3).
- Compliance with the national and regional accident prevention regulations.
- Compliance with the national and regional regulations for the operation of furnaces (e. G. for Germany "Feuerungsverordnung" [firing installation regulations] (FeuV))

For operation with burner:

- Provision of state-of-the-art construction services in accordance with the applicable standards and codes of practice.



NOTE!

The person who plans, monitors and approves on-site preparations must be officially authorised to do so pursuant to national regulations.

Authorised persons include architects, civil engineers, architectural technicians and master tradesmen [Handwerksmeister].

The above person(s) must be familiar with/able to:

- Statutory building regulations
- Calculations of the load-bearing capacity of floors and suspended ceilings
- Assessing the structural condition

3.2. Site conditions

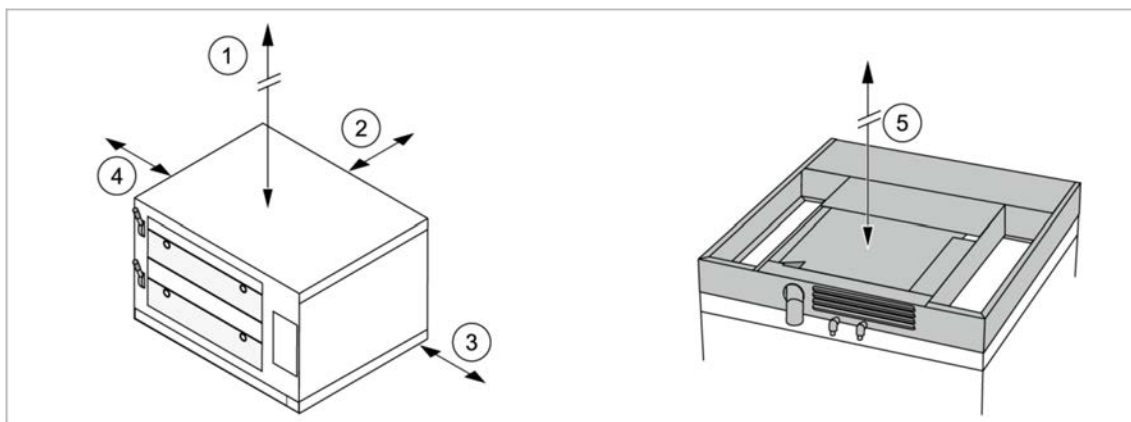
Ensure the installation area is level (in accordance with DIN 18202). The maximum permitted slope down to the back is 2°.

When selecting the location, please make sure that:

- Unauthorised persons have no access to the unit.
- No site damage, in particular due to exposure to heat, could result from the installation or operation of the unit.
Information on minimum clearances can be found in the technical dimension and data sheet.
- Objects and on-site equipment in the vicinity of the unit are made of non-flammable material or insulated with non-flammable material.
- Unit vents are not obstructed by on-site equipment or objects.
- There is additional ventilation, for example fans, with integrated units.
- No liquids or other foreign bodies can enter the unit through the vents.
- The unit and installation and work area are sufficiently ventilated and well lit.
- The site meets the local accident prevention and fire regulations.
- The floor/foundation is able to carry the weight of the unit.
- The ambient temperature at the unit installation site, in particular at the back of the oven and inside the on-site enclosure, does not exceed 40°C or 60% relative humidity.
- Supply and discharge lines of the specified dimensions can be laid.
- No objects are placed on the unit.
- The unit is accessible from the back or can be moved to allow access for maintenance and cleaning.
- The unit is guarded to prevent accidental contact. Depending on the place of installation and baking temperature, the surface temperature of the unit can exceed 65°C on metal surfaces and 80°C on glass surfaces at certain points.

**NOTE!**

Detailed dimensions can be found in the technical dimension sheet.



- | | | | |
|---|---|---|---|
| ① | Distance between top of oven and ceiling | ④ | Distance between left of oven and wall/equipment |
| ② | Distance between back of oven and wall | ⑤ | Distance between vapour hood with steam condenser and ceiling |
| ③ | Distance between right of oven and wall/equipment | | |

3.3. Load on floor/foundation

The floor/foundation must be designed to bear the weight of the oven. The manufacturer therefore recommends the use of MIWE-approved base structures only.

**CAUTION: OVERLOADING CAUSES DAMAGE!**

To heavy a load can damage the floor/foundation and base. Therefore:

- Check the load capacity of the floor/foundation and base.
- Prepare floor/foundation and base in accordance with load-bearing capacity.
- Use heavy-duty castors for units with 4 castors and a total weight of over 750 kg.

**NOTE!**

The detailed technical data is sent to the owner-operator together with the order confirmation. Remember to allow for the weight of the dough and baking trays.

3.4. Sensors in the oven area

3.4.1. Sprinkler systems



CAUTION: HIGH TEMPERATURES CAN ACTIVATE THE SPRINKLER SYSTEM!

Air temperature of > 60°C at the ceiling above ovens can activate sprinkler systems. Therefore:

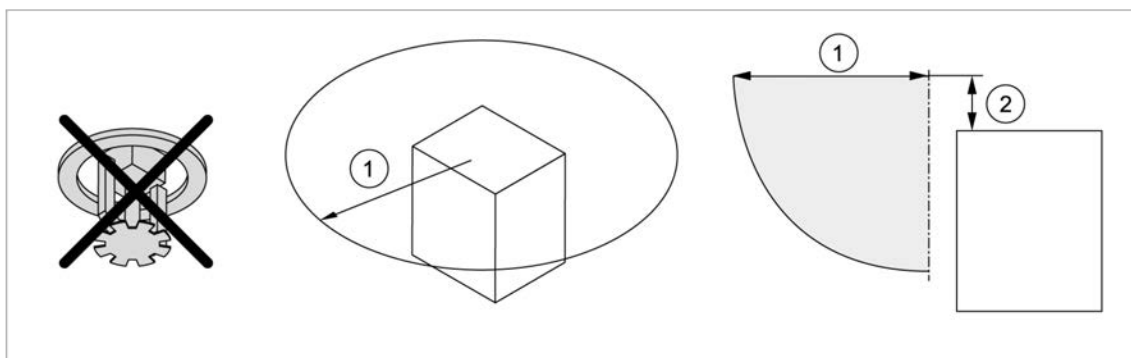
- Use sprinkler heads with T = 92°C in places exposed to high temperatures.
 - Once the unit has been commissioned, check the ambient temperature at the sprinkler head during normal baking operation.
- Seek the advice of the competent fire safety official if in doubt.

You must consider the following for temperature measurement in the safety zone of a sprinkler head:

- The situation of the building.
- The circulation of air in the room.

The following points are key for the measurement of actual temperature in the safety zone.

- The waste heat generated by the oven as a result of steam, heat and waste air.
- The heat rising from the products when they are taken out of the oven.



- ① Safety zone – radius c. 2500 mm
- ② Distance to ceiling is variable

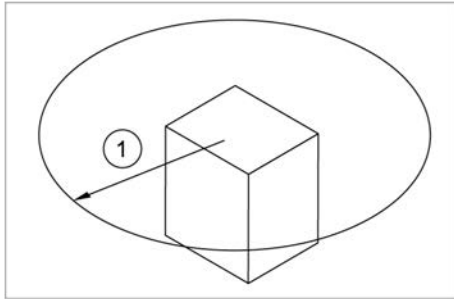
3.4.2. Safety device sensors



CAUTION: SENSORS CAN BE TRIGGERED ACCIDENTALLY!

Sensors of all types of safety device can be triggered accidentally. Therefore:

- No sensors of any type of safety device should be fitted in the safety zone of the oven.
- Consult the relevant qualified personnel of the owner-operator on the required safety clearances.
- The owner-operator must check during baking that none of the sensors in site safety and other devices trigger false alarms because of the MIWE oven.
- Move the sensors if necessary.



① Safety zone – radius at least 2500 mm

4. Electrical installation

4.1. Safety instructions



RISK OF ELECTROCUTION!

Contact with live parts can kill. Damage to the insulation or individual components can cause death. Therefore:

- Before starting work, switch off the power supply and ensure it cannot be switched on again.
- Protect live parts from moisture. Moisture can cause short-circuiting.
- Have damaged insulation repaired.
- Always have work on the electrical equipment carried out by qualified electricians.
- Never bypass or disable fuses. Observe the correct amperage and characteristics when replacing fuses.
- Lay the electricity cable so it is not kinked or pinched.
- Never pull on the electricity cable. Always pull directly on the plug to disconnect the unit from the electricity supply.

A qualified electrician

... has the technical training, expertise, experience and knowledge of the relevant standards and regulations necessary to assess all tasks assigned and recognise potential hazards.

The above person(s) must be familiar with/able to:

- Install low-voltage systems
- Operate electrical systems
- Machine safety
- Safety and protective measures for electrical systems
- Human-machine interfaces
- Installing stationary electrical facilities.
- Laying and connecting electrical lines and connections
- Fitting distributors, residual current devices, switches, pushbuttons and sockets
- Measuring the effectiveness of electrical safety measures.



NOTICE FOR ELECTRICAL INSTALLATIONS IN GERMANY!

The qualified electrician must be registered in the network operator's register of installation engineers. Qualified electricians receive training on the latest standards, laws and technical developments at least once a year.

In Germany, qualified electricians must satisfy the requirements of the accident prevention regulations BGV A3. Corresponding regulations apply in other countries.

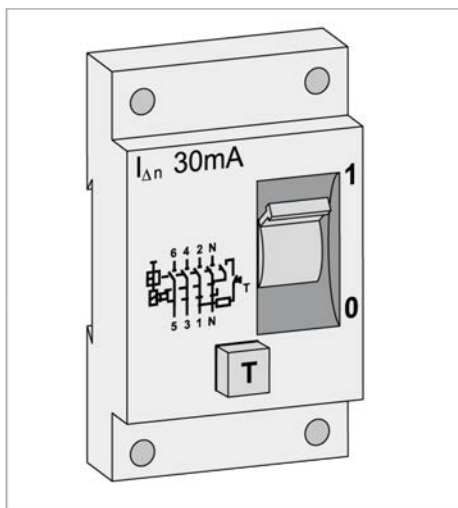
4.2. Installation information

The units are protection class 1 and therefore fitted with a protective earth. This provides the basic protection.



WARNING: CONSIDER STAFF SAFETY!

To increase staff safety, the customer must fit an additional 30 mA residual current device for all electrical connections.

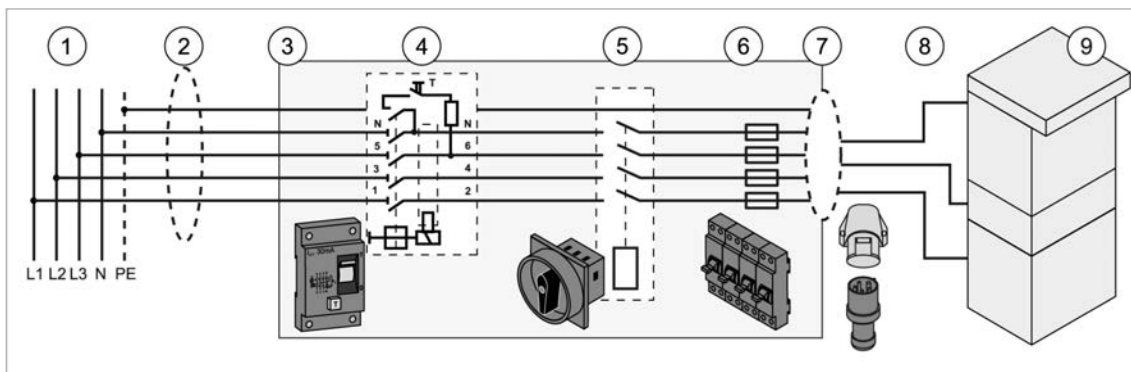


- The electrical distribution box must always be accessible to personnel. It must be fully accessible at all times.
- Install the master switch (all-pole circuit breaker) in the main supply line and keep it accessible to personnel at all times.
- The main supply line to the fuse box must meet the power ratings required.
- The detailed technical data is sent to the owner-operator together with the order confirmation.
- Keep and archive training records for trained staff.



NOTE!

For values for connecting the unit to special voltages, please see the “Special voltages” supplementary sheet.



- ① Owner-operator power supply
- ② Main supply line to the distribution box
- ③ Distribution box
- ④ Residual current device
- ⑤ Master switch
- ⑥ Fuses
- ⑦ Electrical connections of the units
- ⑧ Supply lines to the units
- ⑨ Units

4.3. Electrical connections



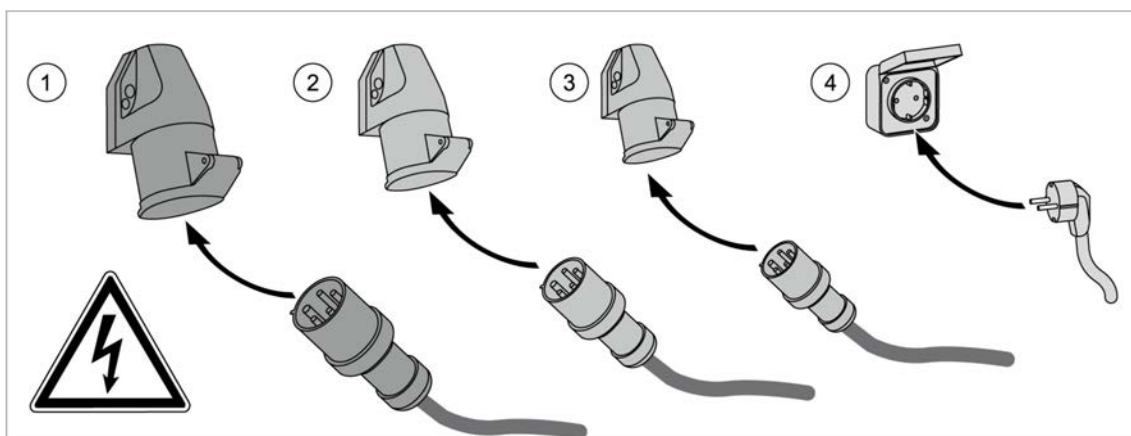
WARNING!

Electrical connections are safety devices and must be freely accessible for emergency situations.



NOTE!

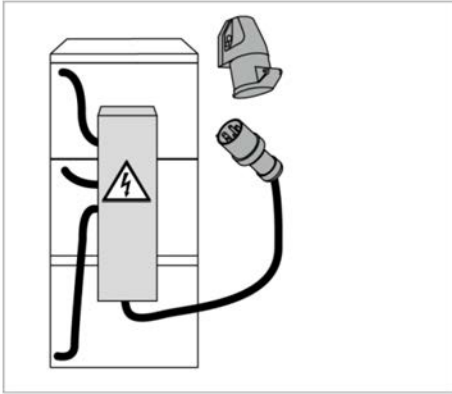
The detailed technical data is sent to the owner-operator together with the order confirmation.



- ① CEE socket, 63A, 400V 3 / N / PE, 50Hz, 6h IP44
- ② CEE socket, 32A, 400V 3 / N / PE, 50Hz, 6h IP44
- ③ CEE socket, 16A, 400V 3 / N / PE, 50Hz, 6h IP44
- ④ Electrical socket with earthing contact, 230V ~ 16A, IP44

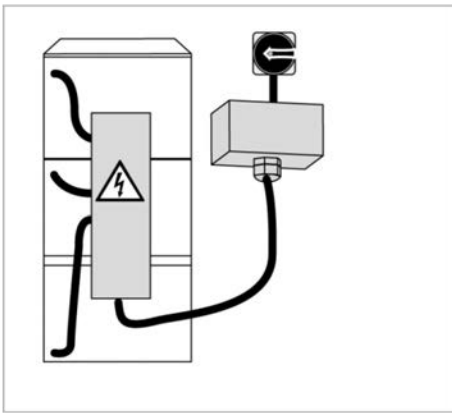
The electrical interface may vary depending on the unit.

4.3.1. Fuse box at oven for site socket



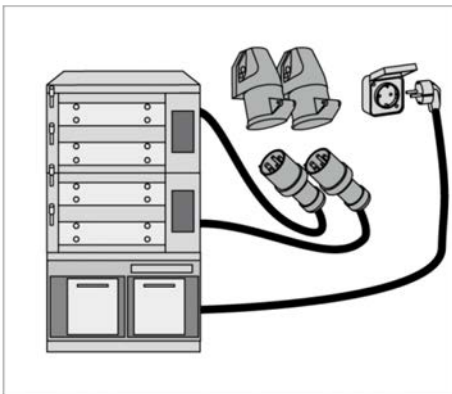
- The units are connected to the oven fuse box.
- A supply line to the site socket runs from the fuse box.
- The plug and socket connection must not be replaced by a fixed electrical connection.

4.3.2. Oven fuse box for site distribution box



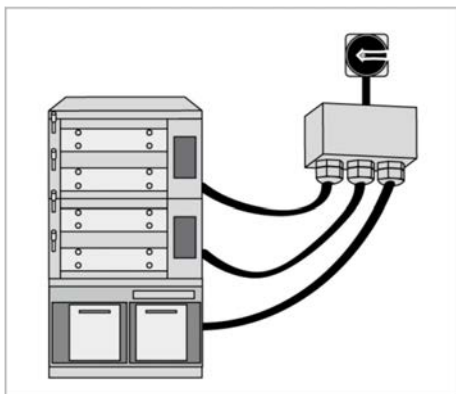
- The units are connected to the oven fuse box.
- A supply line is wired to the site distribution box.

4.3.3. Separate supply line with plug for each unit



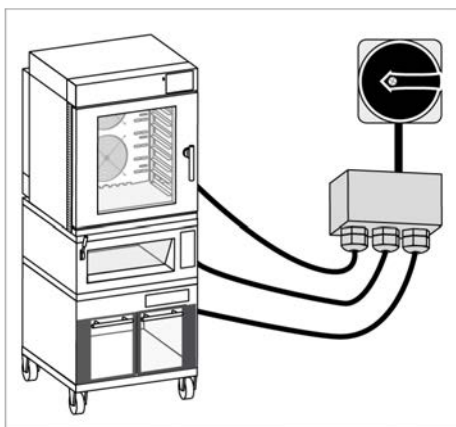
- Each deck is connected to a site plug with a CEE plug and socket connection.
- A site plug with earthing contact connects the proofing cabinet to the site socket.
- The plug and socket connections must not be replaced by a fixed electrical connection.

4.3.4. Separate supply line for each unit to the site distribution box

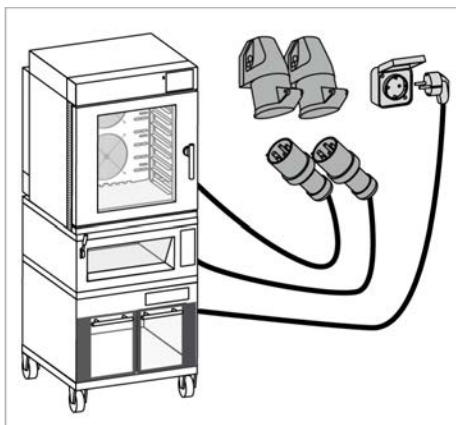


- The supply lines are hardwired to the site distribution box.
- Systems with fixed wiring must be fitted with a master switch with an all-pole disconnect function.

4.3.5. backcombi



- The supply lines are hardwired to the site distribution box.
- Systems with fixed wiring must be fitted with a master switch with an all-pole disconnect function.



- Each oven is connected to a site plug with a CEE plug and socket connection.
- A site CEE plug connects the proofing cabinet to the site socket.
- The plug and socket connections must not be replaced by a fixed electrical connection.

4.4. Connecting the unit to a network (optional)



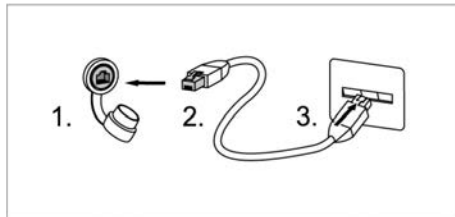
CAUTION: INSUFFICIENT EQUIPOTENTIAL BONDING CAN CAUSE MATERIAL DAMAGE!

Large differences in potential can damage network devices. Therefore:

- Always ensure sufficient equipotential bonding.

Ethernet RJ-45

The unit can be fitted with an RJ-45 network interface.



1. Remove the protective cap from the network interface.
2. Plug the network plug into the network interface.
3. Plug the network plug into the site network connection.

4.5. Equipotential bonding

MIWE ovens with a network interface have a bolt on the back of the unit to connect the equipotential bonding conductor.

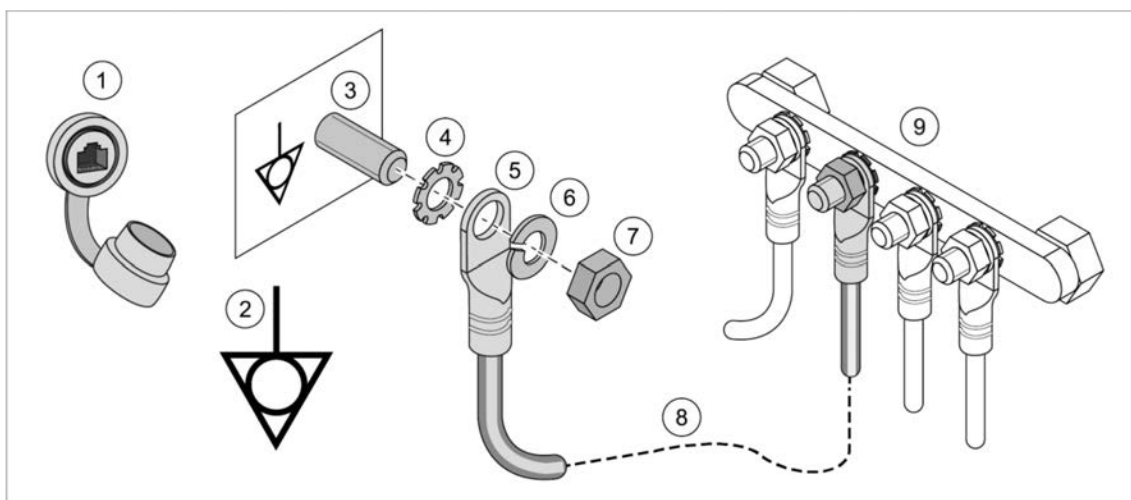


NOTE!

Correctly connected equipotential bonding significantly reduces faults in data transfer over networks.



1. Before connecting the oven to a data network, connect the unit to the building's equipotential bonding point at the bolt.



- 1 Network interface
 - 2 Equipotential bonding labelling
 - 3 Equipotential bonding bolt, M8 x 20 mm min.
 - 4 Toothed washer
 - 5 Cable eye with equipotential bonding conductor
 - 6 Spring washer; prevents the connection coming loose
 - 7 Retaining nut
 - 8 Insulated copper cable with a min. diameter of 10mm²
 - 9 Building equipotential bonding point
- The protective earthing conductor connection for the building must comply with DIN VDE 0100-410.

5. Water / waste water system installation

5.1. Safety instructions



CAUTION: INCORRECT INSTALLATION CAN DAMAGE THE UNIT!

All work on installing the plumbing system must be carried out by a qualified plumber.

Qualified plumber

A plumber is able to install plumbing systems according to plans and to service and repair such systems.

Anyone commissioned to work on or in drinking water or waste water systems must have passed an exam to prove they are familiar with the safety regulations and have the necessary expertise.

The above person(s) must be familiar with/able to:

- Install and remove pipes and components in supply and disposal systems.
- Prepare sites for laying pipes; this includes breaking through walls and ceilings.
- Install, connect and set water treatment systems.
- Commission supply facilities and systems and hand them over to customers, and instruct customers in their operation.
- Service and repair supply facilities.
- Clean unit/facility components and piping.
- Adjust facilities and draw up maintenance logs.
- Supply and transport components, materials and tools and set up the work station.
- Check and evaluate finished work and implement quality assurance measures.
- Technical standards for drinking water installation.
- Technical standards for waste water installation.

5.2. Water feed



CAUTION: HOT WATER CAN CAUSE MATERIAL DAMAGE!!

Therefore:

- Only connect cold water.

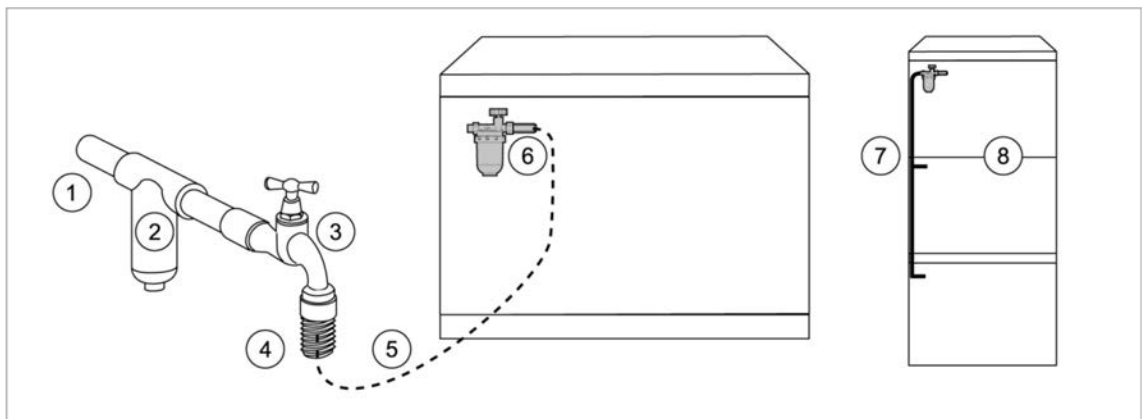
USING THE WRONG HOSES CAN DAMAGE THE UNIT!

Particles of plastic or rubber may come off if the wrong hoses are used. These particles can damage the unit. Therefore:

- Only use suitable plastic or rubber supply lines.
- Supply lines must be approved for use in the food sector.
- Contact MIWE service if in doubt.

5.2.1. Water supply

The drinking water supply line with shut-off valve may not be more than three metres away from the unit. The shut-off valve must still be easily accessible once the unit has been installed.



- | | |
|--|--|
| ① Water feed (site) | ⑤ Hose (optional; included in the scope of delivery) |
| ② Pressure regulator, water treatment system | ⑥ Water connection at the unit |
| ③ Shut-off valve | ⑦ Water connection for multiple components |
| ④ 3/4" external thread | ⑧ Units - Back view |

The water supply hose may, depending on the order, also be included in the scope of delivery. If a water supply hose is required, it must meet the following technical specifications.

Specification	Value
Reinforced hose	3/4" union nut x 3/4" union nut
Length	c. 3 m*
Temperature range	0°C to +93°C +/-3°C

*The length of hose actually required depends on the distance between the unit and the site water connection.

5.2.2. Water pressure

Water pressure	Value
Acceptable	1.5 to 6 bar
Optimum	1.5 to 4 bar



NOTE!

Install a pressure regulator if the water pressure exceeds 4 bar.

5.2.3. Water quality



CAUTION: UNSUITABLE WATER QUALITY CAN CAUSE MATERIAL DAMAGE!

Using the right water quality is important for the operation of the unit. Corrosion and lime scale can be caused by some types of water. Therefore:

- Always analyse the water before installation to prevent such damage.
- Please contact MIWE service or a specialist plumbing/water treatment firm with questions on the best water quality for the unit.



NOTE!

Information about the local water quality may be obtained from your local water provider.

Water analysis covers a large number of parameters. Some are of particular importance for the unit.

Parameter	Unit	Details/Effect
Conductivity (Con)	µS/cm	Conductivity is the total of all the minerals contained in the water and the conductivity value is important for calculating the non-hardness (NH); see "Corrosion Check"
Total hardness (TH)	°dH (German degrees)	The total hardness is the carbonate hardness plus the permanent hardness. It describes the concentration of calcium and magnesium ions which cause deposits.
Carbonate hardness (CH)	°dH (German degrees)	Carbonate hardness is primarily the magnesium and calcium ion content, which causes lime scale (hard lime or boiler scale).
Permanent hardness (PerH)	°dH (German degrees)	Permanent hardness is the remaining calcium and magnesium ions and sulphates. Permanent hardness causes small deposits of white gypsum, which do not usually pose a problem.
Chloride (Cl)	mg/l	High levels of chloride accelerate corrosion; however, the chloride values depend greatly on the material and on the unit's operating conditions. Even 100 mg/l can lead to corrosion.
Sulphate (SO ₄)	mg/l	High sulphate levels in the water accelerate corrosion. Even 100 mg/l can lead to corrosion.
Chlorine (Cl ₂)	mg/l	Chlorine is used to disinfect drinking water. As well as the smell, it also affects the water's taste. The chlorine content changes in the water supply network. There is therefore no specific content threshold, but rather a limit on the amount that can be added.

Recommended water quality values for the operation of MIWE units:

Properties	Acceptable values
Chlorine content	0.1 mg / l
Chloride content	50 mg / l
Total hardness	< 7° dH
Conductivity	150 – 250 µS/cm

Corrosion check

Constant steam input is only possible with water of the correct conductivity. If the conductivity is greater than 1000 µS/cm, we recommend a corrosion check. A corrosion check involves calculating the non-hardness (NH). The non-hardness is primarily the sodium chloride and sodium sulphate levels in the water.

The formula for calculation is as follows:

$$\text{Con} - (\text{TH} \times 30) = \text{NH}$$

NH	Corrosion Risk
<250 µS/cm	low - moderate
250 – 500 µS/cm	moderate - high
> 500 µS/cm	corrosion certain

Note: 1°dH is equal to c. 30 µS/cm



NOTE!

If the maximum admissible values are exceeded, MIWE recommends the installation of a water filter or a demineralisation system with internal mixing.

We do not recommend the installation of a domestic water softener unit where the maximum admissible values are exceeded: although these units remove calcium and magnesium, they also add sodium, which also increases corrosion.

For further information, please see the documentation of the filter manufacturer.



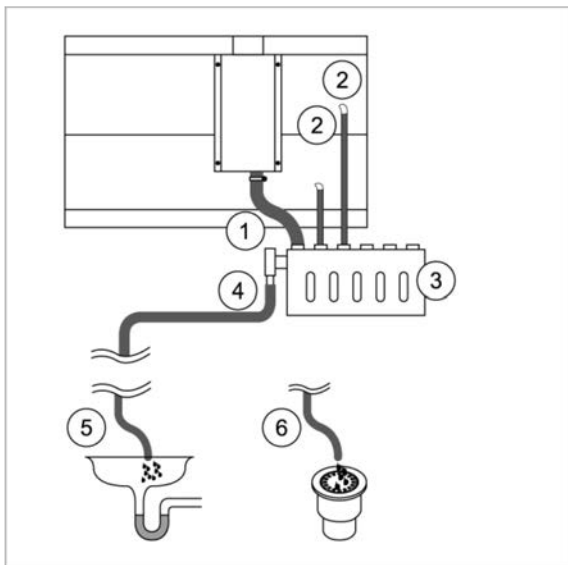
LAPSE OF WARRANTY

The manufacturer shall not be liable for corrosion damage or scaling that is a result of the use of unsuitable water.

5.3. Water drain

The type of drain required will depend on the model. Water drains must be laid without kinking and with a downward gradient of at least 2°.

5.3.1. Siphon drainage



- ① Condensate hose
- ② Baking chamber drainage hose
- ③ Siphon

1. Lay the siphon drainage hose ④ to a lower-level container with an odour ⑤ trap.

Or

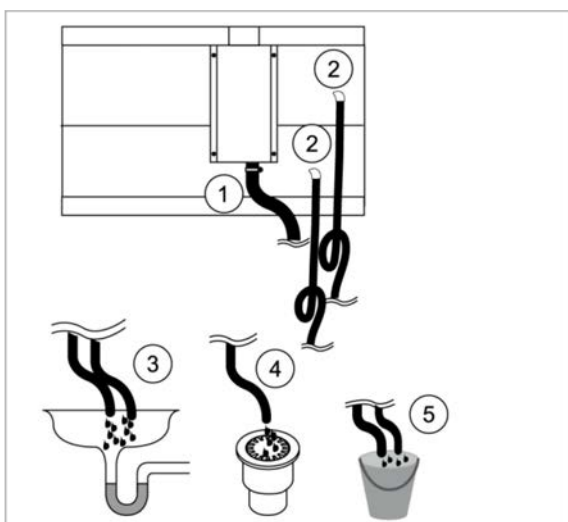
1. Lay the siphon drainage hose ④ to a floor drain with an odour ⑥ trap.

5.3.2. Drain without siphon



NOTE!

The baking chamber drainage hose must be laid with a bend to create a siphon with odour trap.



1. Lay the condensate hose ① and baking chamber drainage hose ② to a lower-level container with an odour ③ trap.

Or

1. Lay the condensate hose ① and steam device drainage hose ② to a floor drain with an odour ④ trap.

Or

1. If there are no site drains, lay the drainage hoses to a ⑤ container.

6. Ventilation system installation

6.1. Safety instructions



CAUTION: INCORRECT INSTALLATION CAN DAMAGE THE UNIT!

All work on installing the ventilation system must be carried out by a qualified ventilation technician.

Qualified ventilation technician

Anyone commissioned to work on heating, ventilation or air conditioning systems must have passed an exam to prove they are familiar with the latest safety regulations and have the necessary expertise.

The above person(s) must be familiar with/able to:

- The measurement and functioning of system components
- Effective maintenance schedules and maintenance requirements
- System fire safety requirements
- Hygiene requirements pursuant to current ventilation system regulations
- Check and monitor system components
- Draw up test logs for fire shutters

6.2. Steam discharge

6.2.1. General instructions



CAUTION: POOR AMBIENT CONDITIONS CAN CAUSE INJURY!

Discharging steam into the surrounding area/bakery can create unpleasant ambient conditions for personnel due to condensate and heat. Therefore:

- Always pipe steam outside through site pipes.
- The customer must install condensate drains in pipes over 2m long.
- Install pipes made of stainless, steam-tight and non-flammable material that is resistant to temperatures of up to 180°C.
- If it is impossible to discharge the steam to the outside for structural reasons, install a vapour hood with steam condenser on the unit.
- Pipes must always go up from the unit and be laid straight.



- ① Steam discharge through flue
- ② Steam discharge to the outside
- ③ Discharge of condensate into the site siphon

6.3. Overpressure / negative pressure



CAUTION: OVERPRESSURE AND NEGATIVE PRESSURE CAN CAUSE MATERIAL DAMAGE!

Overpressure and negative pressure caused by excessively long pipes to the outside or blockages in the drainage outlet can cause damage to the unit or lead to poor baking results. Therefore:

- A negative pressure of 0.1 mbar is standard.
- The negative pressure may briefly be 0.2 – 0 mbar.
- Make sure that the waste air can escape freely to the outside.
- Protect the site air outlet from rain, snow and wind.
- Always ensure the bakery is sufficiently ventilated.
- If in doubt, seek expert advice.

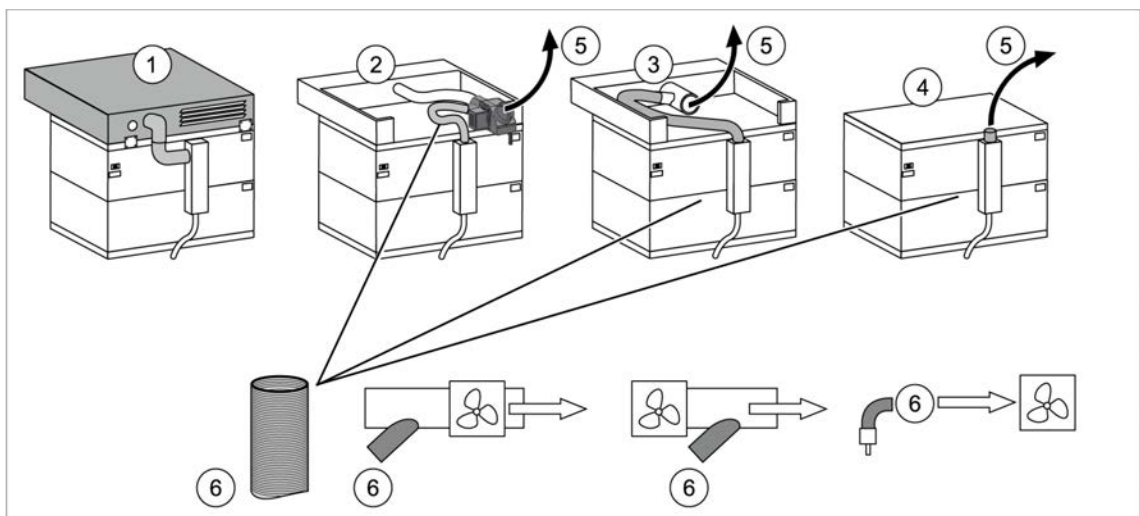
6.3.1. Steam discharge – versions

The diagrams below shows the connection piece at the unit.



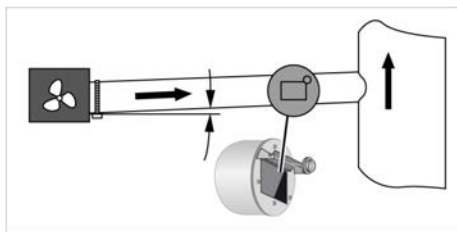
NOTE!

There must be a constant negative pressure of around 0.1 mbar at the connection piece after installation of the complete ventilation system.



- ① Connection to a steam condenser.
No ventilation system needed.
- ② Connection to vapour hood with condensate container.
- ③ Connection to vapour hood with fan.
- ④ Unit without separate ventilation system.
- ⑤ Connection to the owner-operator ventilation system.
- ⑥ Permitted negative pressure at the extraction hose

6.3.2. Draught control valve



If a flue is used for venting, MIWE recommends the installation of a draught control valve to compensate for pressure fluctuations in the system.

6.4. Moisture produced during baking

Varying levels of moisture are produced during baking depending on the product, quantity of dough and operating mode and have to be extracted.



NOTE!

You should assume a humidity of between 3 m³ and 4 m³ depending on the product. Mostly bread will tend to produce humidity in the range of 3 m³, while mostly rolls will produce humidity levels closer to 4 m³.

The average level of moisture produced during the baking process can be calculated with the following formula:

3.5 m³ moisture per m² baking area per hour

Type:

$$\text{MIWE condo CO2.0608} = 2 \times 0.6 \times 0.8 = 0.96 \text{ m}^2$$

Use:

$$0.96 \text{ m}^2 \times 3.5 \text{ m}^3 / \text{m}^2\text{h} = 3.36 \text{ m}^3/\text{h}$$