

# turbofan<sup>®</sup>

## Turbofan Convection Oven

30 Series

### Installation Manual

E31D4

Electric Convection Oven

Digital Control



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## General information

The drawings and diagrams in this manual are representative only and not to scale. They supplement the written instructions and specifications that they refer to.

## Copyright

### ! IMPORTANT

The reproduction or copying of any part of this manual by any means whatsoever is strictly forbidden unless authorised previously in writing by Moffat Limited.

## Warranty requirements

### ! IMPORTANT

Installations must be carried out by a certified or licensed service person only. Failure to comply will void any written or implied warranty.

### ! IMPORTANT

Unauthorised alterations to the oven may void warranties and approvals.

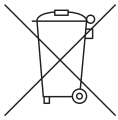
## Intended use and restrictions

### ! IMPORTANT

This appliance is intended for commercial use only, in kitchens of restaurants, canteens, and so on. It is not intended to be used in residential, outdoor, marine environments, or for the continuous mass-production of food.

- This oven must not be used by minors or adults with limited physical, sensory, or mental abilities.
- This oven must only be used by operators who are adequately trained in the purpose, limitations, and hazards of its operation. To avoid the risk of accidents or damage, operators should be regularly trained.

## Product disposal



This symbol on the oven indicates that this oven should not be treated as domestic or regular commercial waste, but must be correctly disposed of in order to prevent any negative consequences for the environment and human health. For further information on the recycling of this oven, contact your local city office or your waste disposal service.

- ☑ The oven is built with common electrical, electromechanical, and electronic parts. No batteries are used.
- ☑ The owner and operator are responsible for the proper and safe disposal of the oven.

## Safety information

Read the safety messages in this manual and follow the instructions carefully. Review them frequently.

Safety messages cannot cover every potential cause of injury or equipment damage but can highlight common causes of hazards. Read and understand all instructions in this manual prior to installing or servicing the oven and seek advice before operating the oven in a manner other than that described in this manual. Consult your authorised service technician before performing maintenance.

- Ensure that you and all operators of this appliance understand every safety message.
- Know and observe all safety rules that may apply to your work situation and your work site.
- Replace the user manuals and safety labels immediately if they are missing or damaged.

## Recognize safety information



Safety alert symbol.

When you see this symbol in the manual or on the oven, pay special attention to the instructions.



Read the instructions before using the oven.



Risk of electric shock.



Risk of burns—hot surface.



Equipotential bonding terminal—must be connected to equipotential bonding system.



Risk of burns—hot liquid products above height level.

This manual uses the following safety symbols to indicate the level of caution required when using the oven.

### ⚠ DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

### ⚠ WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

### ⚠ CAUTION

Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

### NOTICE

Indicates information considered important, but not hazard-related (for example, messages relating to property damage).

## General safety

### ⚠ WARNING

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

### ⚠ DANGER

Fire hazard. Do not use gasoline or other flammable substances in the vicinity of this oven. Do not spray aerosols in the vicinity of this oven while it is in operation.

### ⚠ WARNING

Fire hazard. The oven operator shall take great care to use the oven safely and guard against risk of fire. The oven must not be left unattended during use.

### NOTICE

The oven shall be regularly inspected by a competent service person to ensure that it is in safe and correct order for operation.

**⚠ CAUTION**

Do not operate this oven without the supplied legs fitted to it.

## Warranty

Moffat warrants all equipment supplied by Moffat against defects in material and workmanship.

Visit [www.moffat.com](http://www.moffat.com) for warranty terms and conditions or contact our Customer Care team.

# SPECIFICATIONS

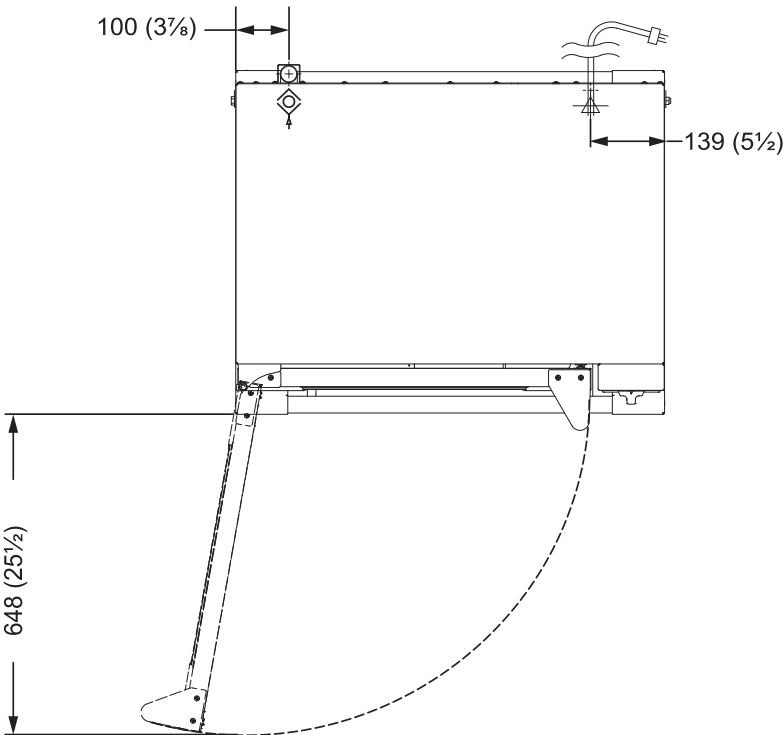
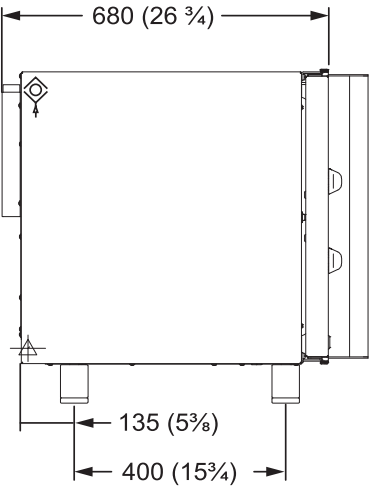
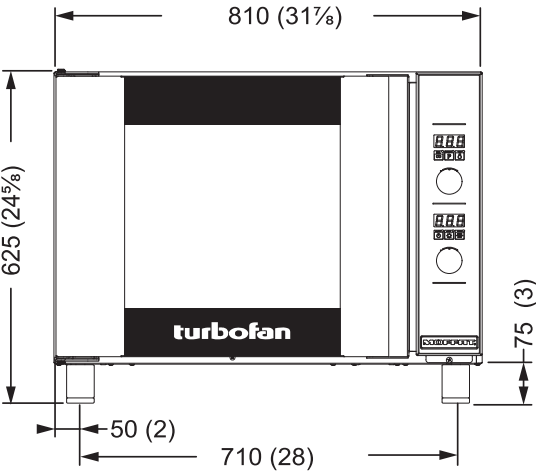
## Dimensions

☑ All dimensions are in mm (inches).

⬮ Air vent

⚡ Electrical supply entry point

⊕ Water supply entry point



## Product information

<b>power</b>	208 V, 1P+N+E, 50/60 Hz, 2.9 kW 220 V, 1P+N+E, 50/60 Hz, 3.1 kW 230-240 V, 1P+N+E, 50/60 Hz, 3.1 kW
<b>Capacity</b>	4 shelves
<b>Tray capacity</b>	1/1 GN pan capacity US ½ pan capacity
<b>Tray spacing</b>	80 mm (3 ⅛ inches)
<b>Net Weight</b>	56 kg

## Supply requirements

### Electrical supply

<b>Electrical Supply Specifications</b>	230-240 V, 1P+N+E, 50/60 Hz, 9.5A, 2.3 kW
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### Electrical connection requirements

- An isolation switch must be mounted adjacent to, but not behind the oven and must be readily accessible to the operator. This switch must be clearly marked and readily accessible in case of fire.
- The branch supply line shall be individually overload protected to the correct current rating and the supply cord shall be protected against any mechanical or thermal damage.
- All wiring connections must be tight.
- The size of the cable supply to the oven shall be appropriate for the current drawn on the line. Refer to the appropriate wiring standards for the cable size required.
- A RCD (Residual Current Device) / GFCI (Ground-Fault Circuit Interrupter) is recommended for protection of the power supply to this oven.

## Clearances

Position the oven with the following minimum clearances:

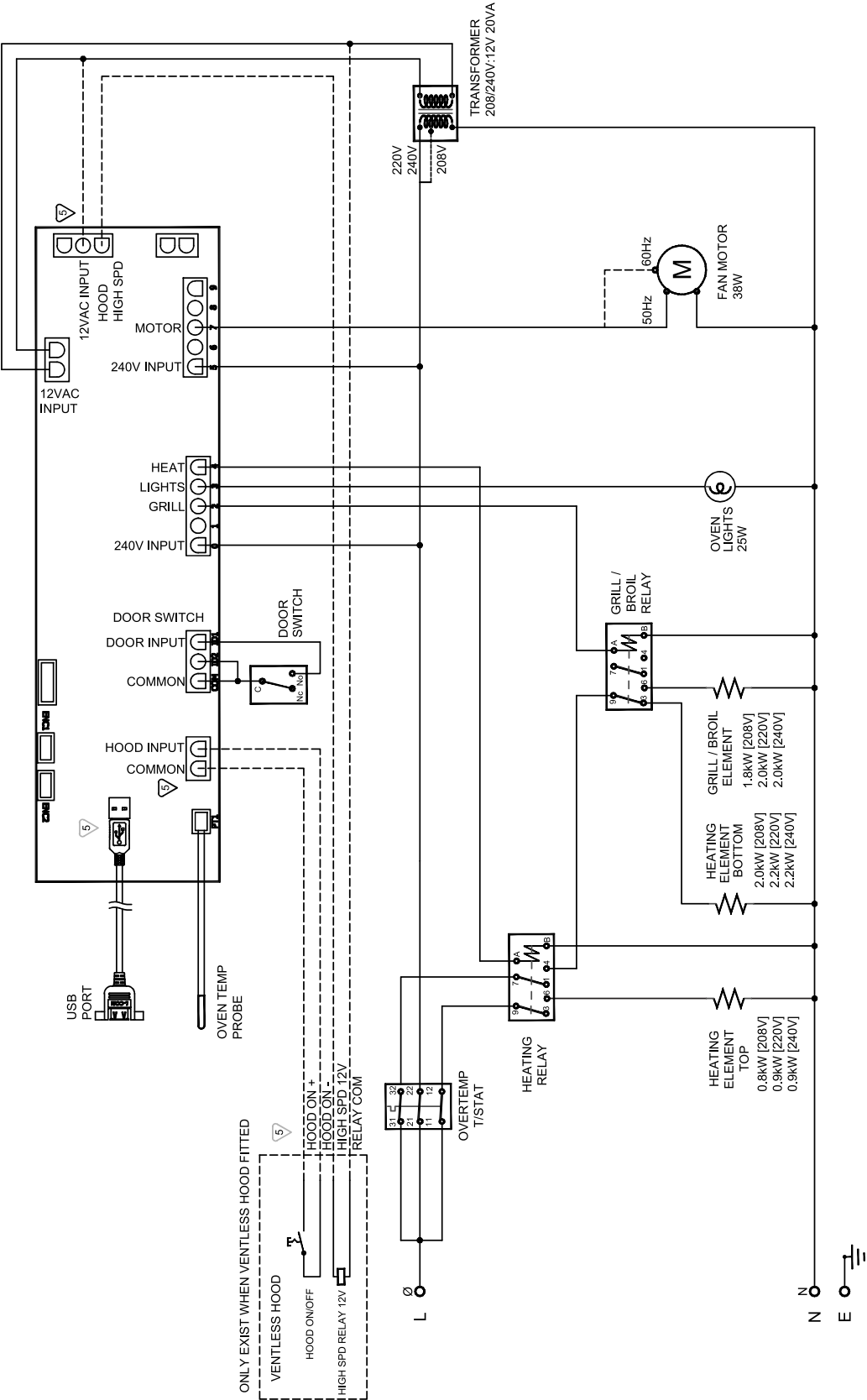
<b>Top</b>	200 mm (8 inches)
<b>Left</b>	50 mm (2 inches)*
<b>Right</b>	75 mm (3 inches)* †
<b>Rear</b>	50 mm (2 inches)
<b>Front (recommended)</b>	600 mm (23 inches)*

\* Door-side clearance. If the oven is fitted with a right-hand side door (RMD), swap the left- and right-hand side clearances.

† Fixed installations require at least 500 mm (20 inches) clearance on right-hand side of the oven for service access.

Do not place the oven close to a heat source. A minimum distance of 300 mm (12 inches) from the appliance sides and the heat source is required.

Electrical schematic



# INSTALLATION AND SETUP

Your oven is designed to provide years of satisfactory service, and correct installation is essential for the best performance, efficiency, and trouble-free operation. It is of utmost importance that this oven is installed correctly and that operation is correct before use.

## ⚠ WARNING

Installations must be carried out by qualified service persons only. Failure to install equipment to the relevant codes and the manufacturer's specifications in this manual will void the warranty.

## ⚠ WARNING

Components that are paint-sealed during manufacture shall only be adjusted by an authorised service technician. They shall not be adjusted by the installer.

## ⚠ WARNING

The oven installation must conform to national installation codes and local and national codes for fire safety.

Australia and New Zealand  
AS/NZS 3000      Wiring Rules

United Kingdom  
BS 6173      Installation of Catering Appliances.  
BS 5440 1 & 2      Installation Flueing & Ventilation.

BS 7671      Requirements for Electrical Installation.

US and Canada  
ANSI / NFPA70      National Electrical Code.  
CSA C22.2      Canadian Electrical Code.

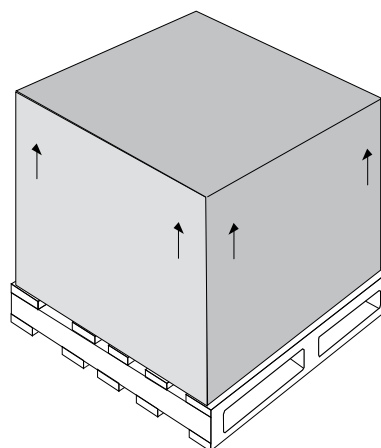
## NOTICE

The oven installation must conform to national installation codes and local and national codes for plumbing and drainage.

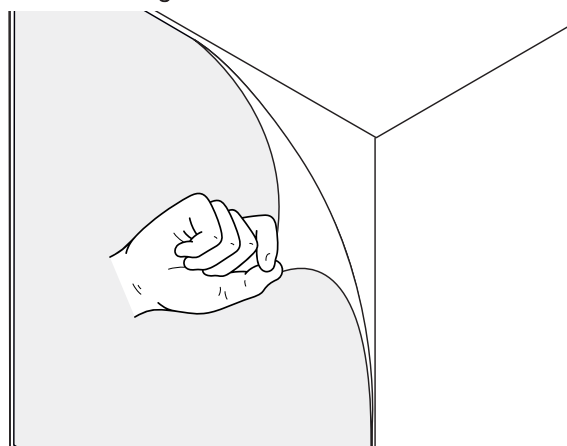
Australia and New Zealand  
AS/NZS 3500      Plumbing & Drainage.

Europe  
EN 1717      Protections of water installations.

## Unpacking the oven



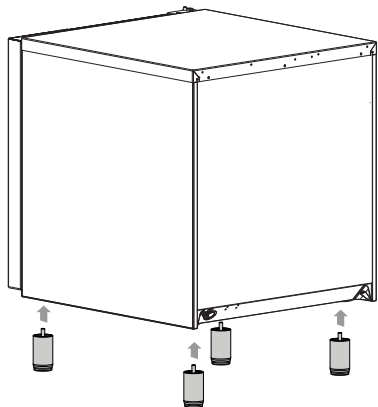
1. Carefully remove all packaging and transit protection from the oven including all protective plastic coating from the exterior stainless steel panels.
  - ☑ Do not discard the carton and other packaging material until you have inspected the appliance for transit damage and have tested it for proper operation.
2. Remove the protective film from the stainless steel panels, taking care not to scratch the surface if using a blade or shim.



3. Check equipment and parts for damage. Report any damage immediately to carrier and distributor.
4. Check that the supply specifications on the rating plate are correct for your location and installation requirements.
5. Check that all parts are supplied with the product. See [Parts on page 13](#).

Assembling the oven

Fit the legs



Positioning the oven

**NOTICE**

This oven is intended to be installed on an elevated work surface, such as a bench top or onto the stand.

**CAUTION**

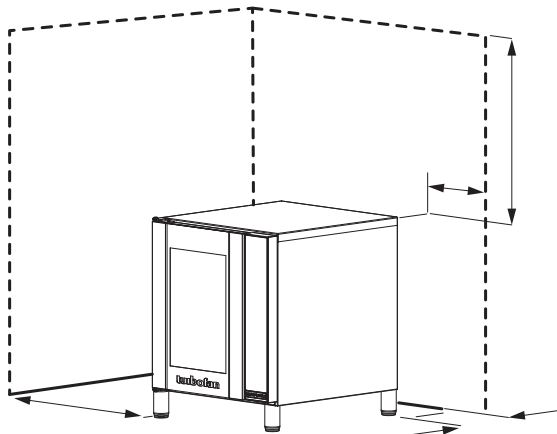
Position the oven so that the control panel and oven cooking area is easily reachable for loading and unloading.

**NOTICE**

Do not place the oven close to a heat source. A minimum distance of 300 mm (12 inches) from the appliance sides and the heat source is required.

**WARNING**

Do not block or obstruct the vent at the rear of the oven.



Clearances

Position the oven with the following minimum clearances:

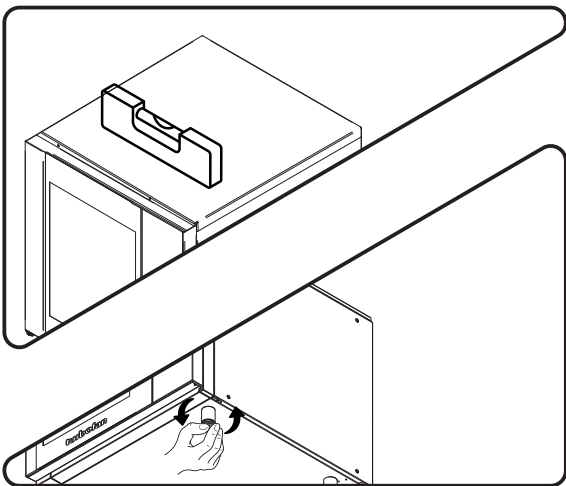
Top	200 mm (8 inches)
Left	50 mm (2 inches)*
Right	75 mm (3 inches)*†
Rear	50 mm (2 inches)
Front (recommended)	600 mm (23 inches)*

\* Door-side clearance. If the oven is fitted with a right-hand side door (RMD), swap the left- and right-hand side clearances.

† Fixed installations require at least 500 mm (20 inches) clearance on right-hand side of the oven for service access. Do not place the oven close to a heat source. A minimum distance of 300 mm (12 inches) from the appliance sides and the heat source is required.

Levelling the oven

Correctly locate the oven into its final operating position and, using a spirit level, adjust the oven feet so that the oven is level and at the correct height.



## Connecting the electrical supply

Ensure that you meet the electrical connection requirements. See [Electrical connection requirements on page 6](#)

### ⚠ WARNING

All electrical connections must only be carried out by a suitably qualified person.

### ⚠ WARNING

The oven must be earthed (grounded).

### ⚠ WARNING

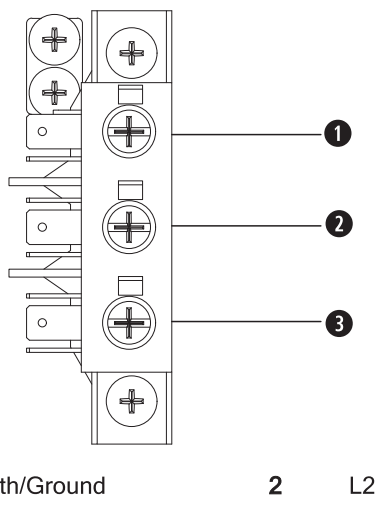
If the power supply cord is damaged, it must be replaced by a suitably qualified person in order to avoid a hazard.

### NOTICE

Each oven should be connected to an adequately protected power supply with an appropriate power cord.

- ☑ Check that the electricity supply is correct as shown on the oven's rating plate.
- ☑ Ensure that a grommet is fitted around the wiring entry hole into the oven.

## Terminal block wiring connection



## Adjustment and calibration

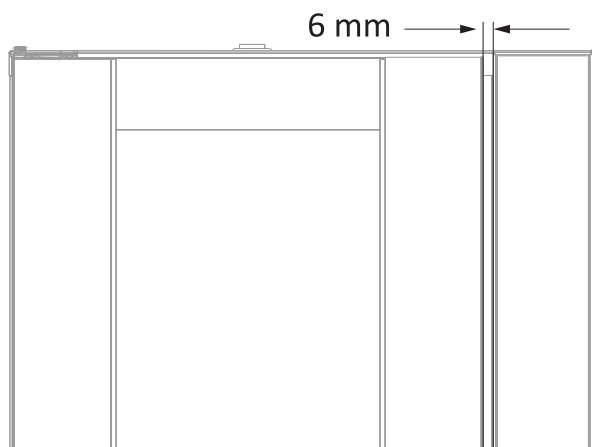
### ⚠ WARNING

Always turn off the electrical power at the mains supply before you access the oven's internal components.

### Adjusting the door

#### Align the door with the chassis

- ☑ A correctly aligned door has a nominal gap of 6mm from the edge of the door to the side of the control panel.



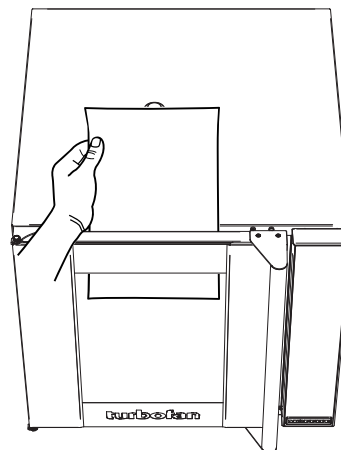
1. Loosen the screws from the upper and lower hinge plates.
2. Adjust the position of the door horizontally and vertically until the door is correctly aligned.
3. Fasten the screws at the hinge plates and ensure that the door closes correctly.

#### Adjust the door catch

To check that the door seals correctly when it is closed:

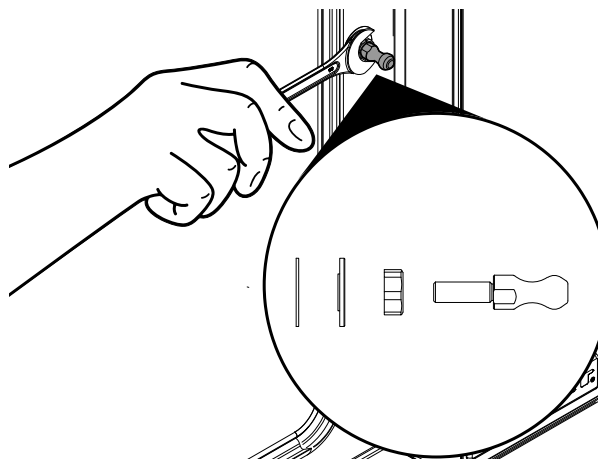
1. Place a sheet of paper between the door and the seal.
2. Close the door on the paper and attempt to withdraw the paper by firmly tugging on the paper.

The paper should just pull out with some resistance but without tearing.



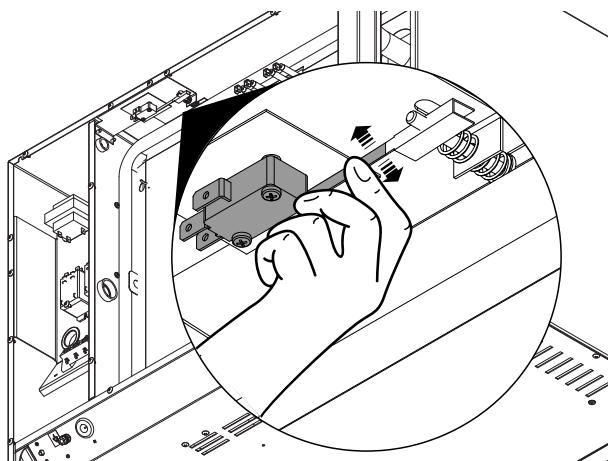
To adjust the door catch:

- If the paper withdraws easily, screw the door catch in by a ½ turn and repeat the test above until the door is adjusted correctly.
- If the paper cannot be withdrawn and the door springs open, screw the door catch out by a ½ turn and repeat the test above until adjusted correctly.



#### Adjusting the door micro-switch

1. Remove the back panel.
2. Bend the micro-switch arm to adjust the micro-switch operation.
3. Open and close the oven door and check that the micro-switch operates correctly.

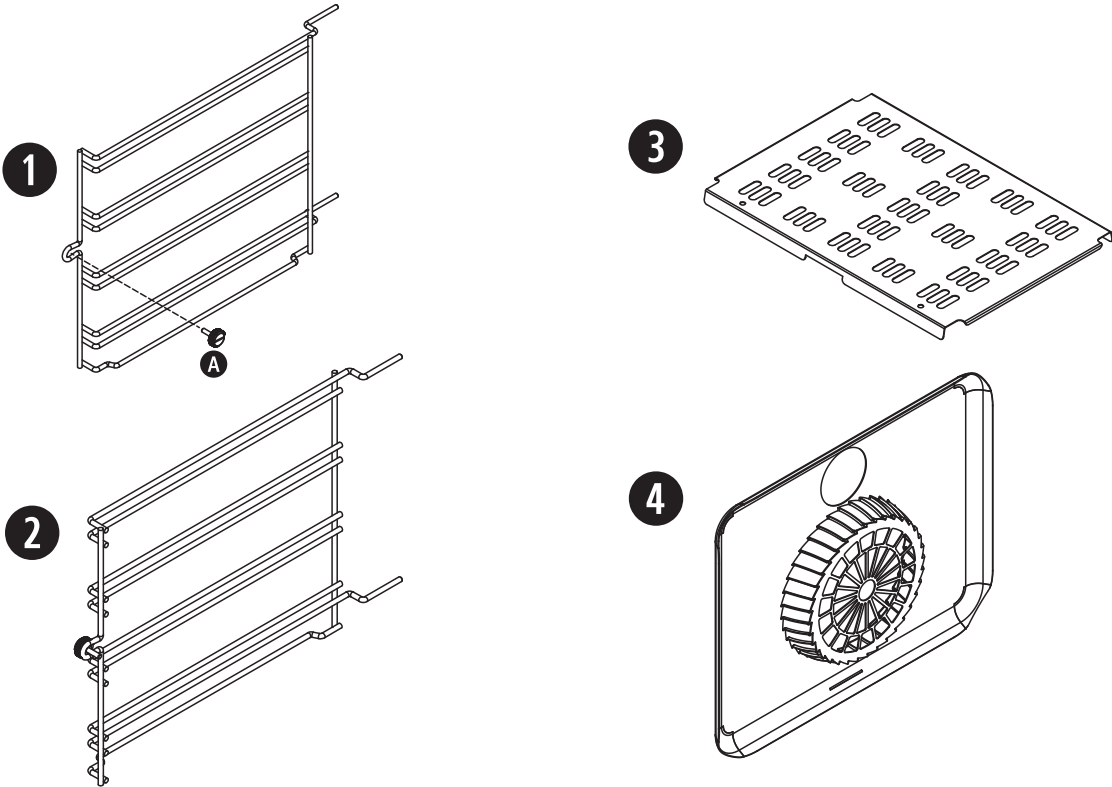


# PARTS

## Main parts

### Supplied parts (fitted)

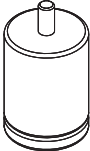
These accessories are supplied fitted with your oven, depending on your oven model and region.



	Part No.	Description	Quantity
1	234204	Side Rack LH E31	1
A	233552	Thumbscrew	1
2	234205	Side Rack RH E31	1
3	234206	Bottom Element Guard	1
4	004595	Fan baffle	1

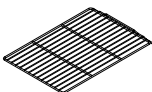
### Supplied parts (unfitted)

These accessories are supplied unfitted with your oven. See [Assembling the oven on page 9](#).

	Part No.	Description	Quantity
	232379	Adjustable Leg 3 inches (76 mm)	4

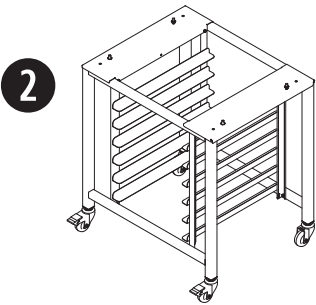
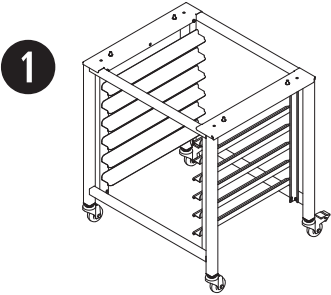
## Supplied parts (optional)

These accessories may be optionally supplied, unfitted, with your oven.

	Part No.	Description	Quantity
	233567	Rack	4

# Accessories

## Accessories (add-on)



	Part No.	Description
1	SK2731N	SK Stand 810 mm (32 inches) (W) x 650 mm (25½ inches) (D) x 900mm (35½ inches) (H) Accepts EN 600 x 400 or GN 1/1 pans
2	SK2731U	SK Stand 810 mm (32 inches) (W) x 650 mm (25½ inches) (D) x 900mm (35½ inches) (H) Accepts US half pan and US full pan
Not shown	—	Ventless Hood <div><b>ⓘ IMPORTANT</b> The ventless hood cannot be installed on double-stacked units.</div>
Not shown	DSK272831C	DSK Double Stacking Kits - Fitted With Castors
Not shown	DSK272831	DSK Double Stacking Kits - Fitted With Adjustable Feet

# COMMISSIONING

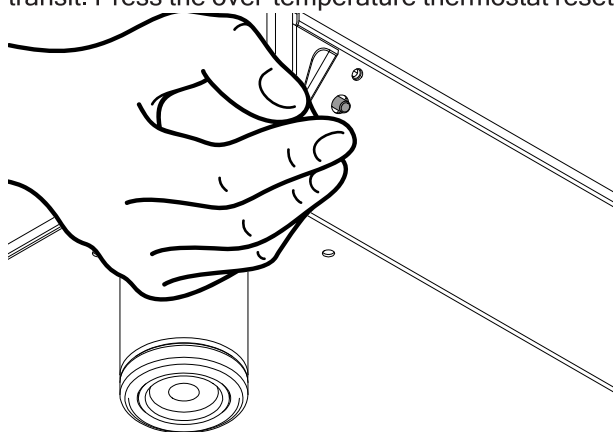
## First use

### ⚠ CAUTION

Ensure that all packaging material has been removed from inside the Convection Ovenoven before using it for the first time.

Before using your new oven, operate the oven for about one hour at 200 °C (400 °F) to remove any fumes or odours which may be present.

- ☑ If the oven does not start on initial start-up, check that the over-temperature thermostat has not tripped during transit. Press the over-temperature thermostat reset button at the rear of the oven.



# Commissioning checklist

Before leaving the new installation, check that the oven functions in accordance with the operating instructions specified in the Use and Care manual. Complete the following checklist.

☑ If the oven does not operate correctly, turn off the oven, disconnect the power supply at the mains and contact the supplier of this oven.

Date \_\_\_\_\_

Installer \_\_\_\_\_

## Pre-installation

- ☐ Delivered intact with all parts and accessories.
- ☐ No noticeable damage to the interior or exterior of the oven.

## Installation

- Positioning and fitting
  - ☐ Adequate separation and/or isolation from other appliances and/or heat sources.
  - ☐ Adequate ventilation in installation area.
  - ☐ Correct door alignment including seals and hinges.
  - ☐ The oven is level with respect to the floor.
- Electrical connection
  - ☐ Adequate supply voltage.
  - ☐ Correctly grounded outlet.
  - ☐ Correct current draw and loading.

## Operation

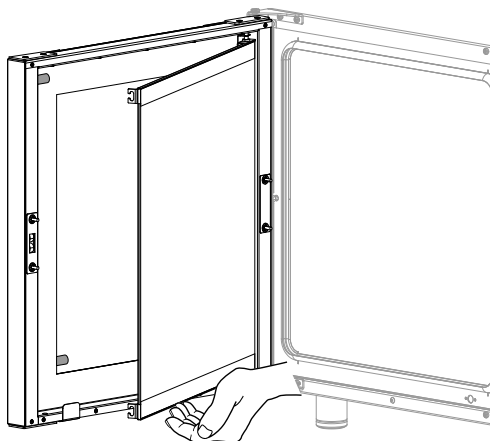
- Functionality
  - ☐ The oven lights work.
  - ☐ Thermostat functions correctly.
    - ☐ Check that the oven stops heating when it reaches the set temperature.
  - ☐ The oven controller operates correctly.
  - ☐ The door sensors function correctly.
    - ☐ Open the oven door and ensure that the controller displays *door*; close the door and ensure that the controller returns to normal operation.
    - ☐ With the oven operating at a set temperature, open the door and check that the oven stops heating and the heating fan is off.
  - ☐ The oven heats to the set temperature.
    - ☐ Check that the oven set temperature matches the actual temperature.
  - ☐ The heating fan operates correctly.
  - ☐ The oven door seals correctly.
  - ☐ The oven door is correctly aligned.
- Operator training
  - ☐ The operator has been instructed in correct operation and safe shutdown of the oven.

## REVERSING THE DOOR

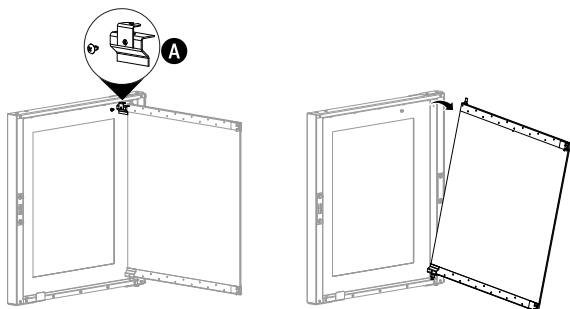
You can reverse the door orientation so that it opens from the right-hand side instead of the left-hand side of the oven.

Remove the door inner glass.

1. Open the inner glass door.



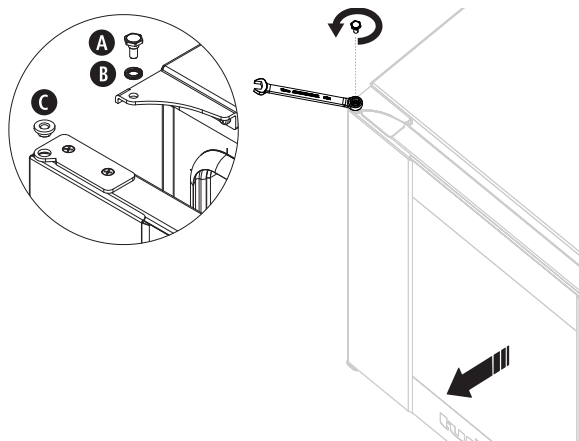
2. Remove the screw securing the inner glass retaining clip and remove the clip (A).



3. Tilt back and remove the inner glass door.

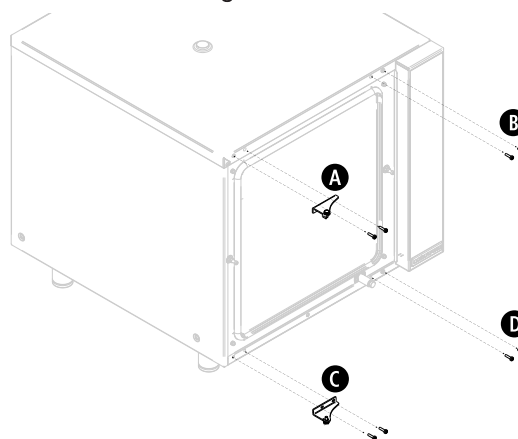
Remove the door.

1. Support the door and use a wrench to unfasten and remove the bolts from the top and bottom hinges. Retaining the pivot bolt (A), washer (B), and pivot brush (C).



2. Lift the door off the bottom hinge.
3. Gently tap the hinge pivot bushes (C) from the top and bottom of the door to remove them.
4. Remove the door and lay it on a flat surface or workbench.

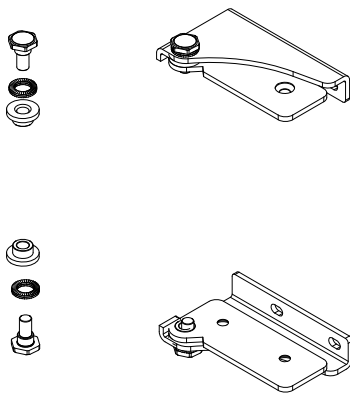
Remove the door hinges.



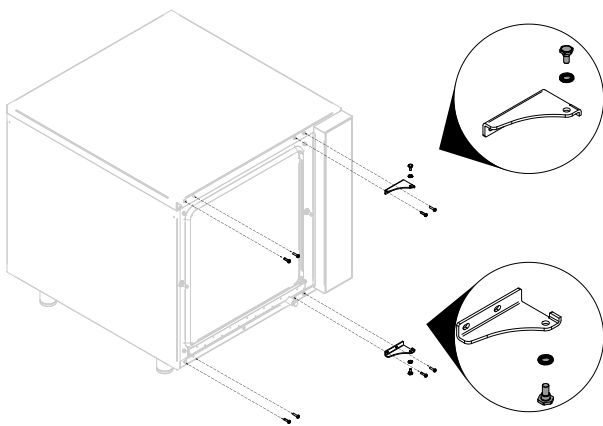
1. Remove the two screws that secure the top hinge bracket (A) to the oven.
2. Remove the top hinge.
3. Remove the two screws that secure the bottom bracket (C) and remove the bracket.
4. Remove the blanking screws (B, D) from the opposite side of the door opening.

☑ The door hinge assembly is available as complete door hinge replacement kit or as

bolt, washer, and pivot bush.

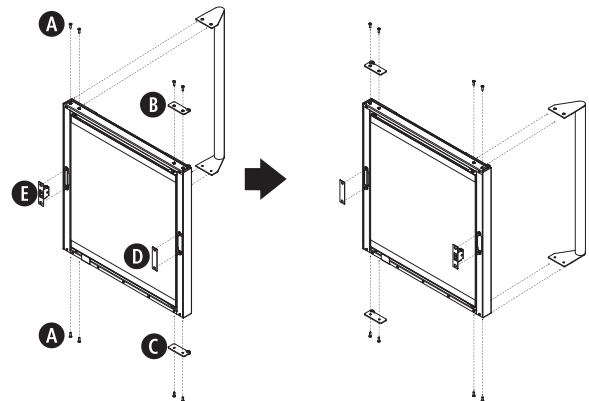


Fit the door hinges to the opposite side.



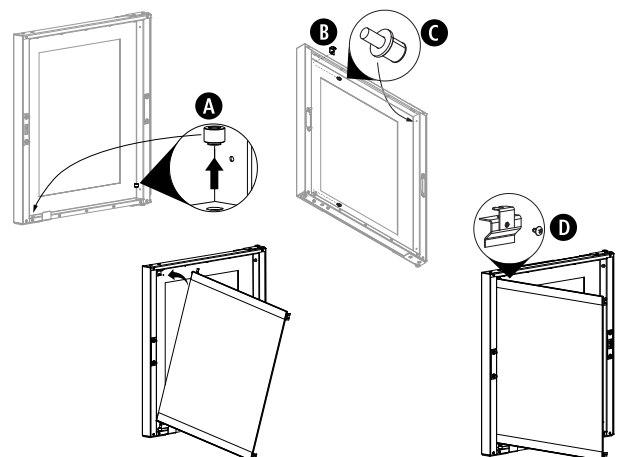
1. Fit the blanking screws from the opposite side of the door opening to where the hinge brackets were removed.
2. Turn the top hinge bracket over 180°.
3. Fit the top hinge bracket to the bottom right-hand side of the door opening and secure it with the two screws and washers.
4. Turn the bottom hinge bracket over 180°.
5. Fit the bottom hinge bracket to the top right-hand-side of the door opening and secure it with the two screws and washers.

Reverse the door parts.



1. Unfasten the screws securing the door handle (A) at the top and bottom of the door and remove the door handle.
2. Unfasten the screws securing the top (B) and bottom (C) hinge mounting plates and remove them.
3. Fit the bottom hinge mounting plate (C) to the top corner of the door where the door handle was removed.
4. Fit the top hinge mounting plate (B) to the bottom corner of the door where the door handle was removed.
5. Remove the door roller catch (E) and blanking plate (D) from the inside of the door and swap their positions.
6. Fit the door handle to the side where the door hinges were removed with the screws (A).

Reverse the orientation of the door's inner glass.



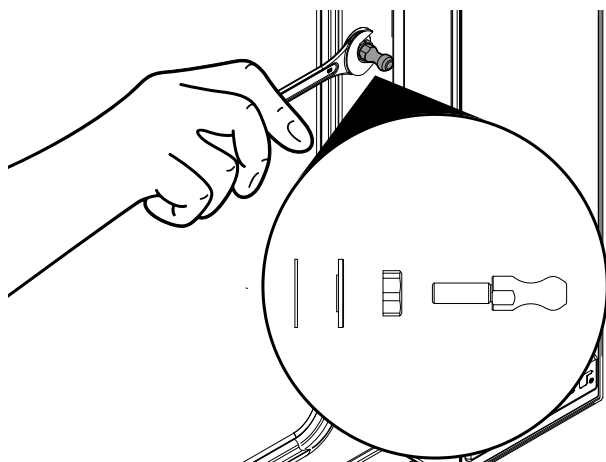
1. Remove the lower pivot spacer (A) and fit it to the hole on the opposite side.

- ☑ Remove the black plastic plugs before inserting the pivot spacers and fit them into the holes where the pivot spacers were removed from.
- 2. Remove the two inner glass latches (B) and fit them to the opposite side of the door.
- 3. Remove the two inner glass latching studs (C) and fit them to the opposite side of door.
  - ☑ Apply a medium-strength threadlocking adhesive (for example, Loctite 243) to secure the studs.
- 4. Fit the inner glass door into the pivot spacer and tilt it into the inner door frame.
- 5. Locate the top pivot of inner glass door into the top of the inner door and secure it in position with inner glass retaining clip (D).
- 6. Lift the inner glass up onto the locking catch to lock glass into position.

### ❗ IMPORTANT

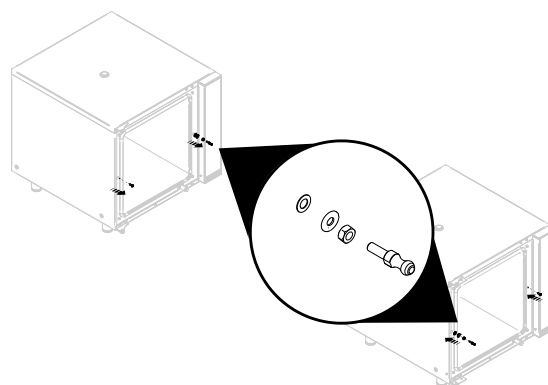
Ensure that the inner glass door is fitted correctly and that the glass pivots at the hinge-end of the door and not the handle end.

#### Remove the door catch



1. Unfasten the locking nut.
2. Unscrew the locking dog.
3. Remove the locking dog, locking nut, and washers.

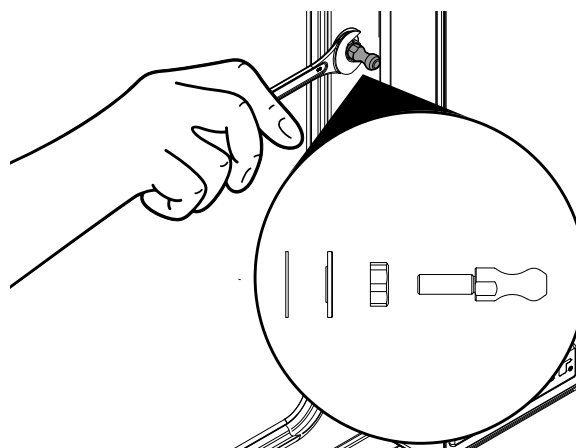
#### Reverse the door catch



1. From the opposite side of the oven door frame, remove the centre cap screw.
2. Fit the locking dog, nut, and washer to the opposite side of the door frame. See [Fit the door catch below](#).
3. Fit the cap screw that was removed in Step 1 to cover the slot where the door catch was removed.

#### Fit the door catch

1. Fit the locking dog, nut, and washer to the door frame.
  - ☑ Apply a suitable metal adhesive (for example, Permabond 1042) to the threads of the locking dog.
2. Screw the locking dog into the door frame and hand-tighten it as far as it will go.
  - ☑ Ensure that the fibre washer is seated against the door frame and the stepped washer is seated over the fibre washer.

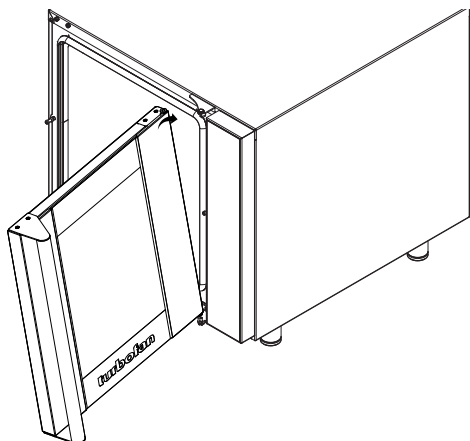


3. Slam the door shut and ensure that the door is not loosely sealed around the door frame. Adjust the locking dog if required. See [Adjustment and calibration on page 11](#).
4. Tighten the lock nut.

5. Ensure that the door micro-switch operates correctly. See [Adjustment and calibration on page 11](#).

Fit the reversed door to the oven

1. Fit the bottom of the door to the bottom pivot bolt.
2. Fit the top of door into the top hinge plate and secure it with the top pivot bolt.







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