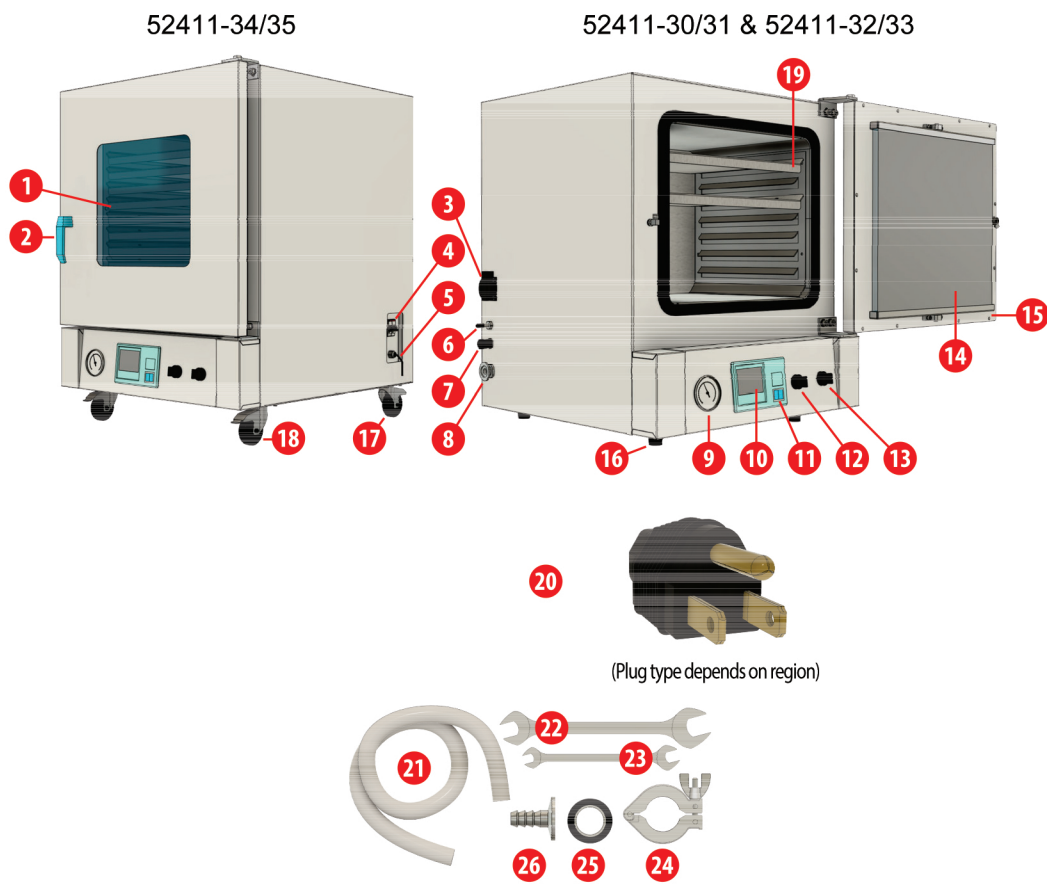


# Quick Start Guide

Vacuum Ovens - 52411-30/31, 52411-32/33, 52411-34/35

## Oven Components



- 1. Observation window
- 2. Door lock handle
- 3. Vacuum pump electrical outlet - **Not available on 52411-34/35**
- 4. Circuit breaker & Power switch
- 5. Power cord
- 6. Air (inert gas) inlet (3/8" ID hose barb)
- 7. Vacuum release vent
- 8. Vacuum KF-25 flange
- 9. Vacuum gauge
- 10. Controller
- 11. Observation light power switch (option)
- 12. Purge switch
- 13. Pump switch
- 14. Articulating glass door
- 15. Swinging metal door

- 16. Feet - Non-adjustable
- 17. Casters - Non-locking (52411-34/35 only)
- 18. Casters - Locking (52411-34/35 only)
- 19. Removable/adjustable shelves
- 20. Electric plug

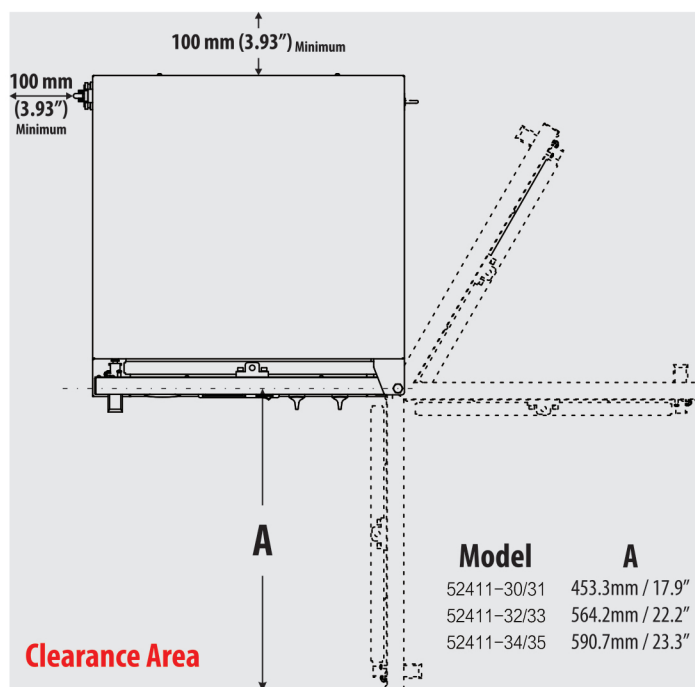
### Accessories

- 21. 13mm ID x 29mm OD x 925mm long vacuum hose
- 22. 14mm x 17mm open-end spanner wrench
- 23. 8mm x 10mm open-end spanner wrench
- 24. KF-25 clamp
- 25. KF-25 o-ring
- 26. KF-25 x 16mm hose barb

## Set Up

**STEP 1:** Remove protective covering(s).

**STEP 2:** Position unit for use.



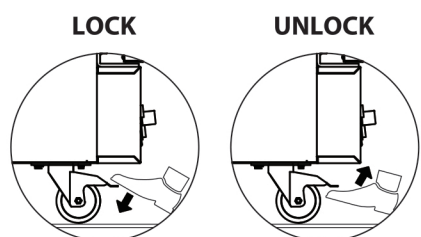
Position the vacuum oven on the floor or a work surface strong enough to carry the oven's weight.

Model	Weight
52411-30/31	60 KG / 132 LBS
52411-32/33	95 KG / 210 LBS
52411-34/35	145 KG / 320 LBS

Additionally, the oven requires a minimum clearance area as shown in the diagram (left).

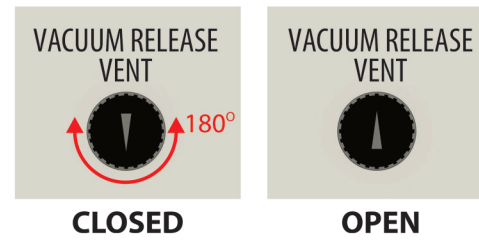


**STEP 2a:** Lock the front casters. (52411-34/35 only)



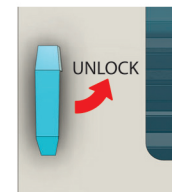
Using your foot, press down on the caster's pedal to lock the oven in place. Lift up on the bottom of the pedal to unlock the caster to reposition or move the oven.

**STEP 3:** Relieve oven chamber vacuum.



Rotate the vacuum release vent knob 180° to relieve the vacuum applied at the factory prior to shipping. Upon relieving the applied vacuum, close the vent.

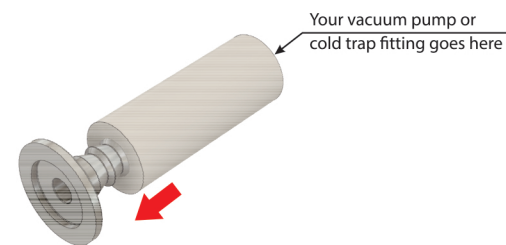
**STEP 4:** Unlock and open door. Remove supplied accessories.



Rotate the door handle counterclockwise 90° to unlock the door and **carefully pull the door open**. Remove the supplied accessories and shelves. Remove protective shelf covering.

**!** If the door does not move easily, **DO NOT TUG** on the door. Doing so can damage the door seal. Use your finger or a flat blade (standard) screwdriver to flick the door seal to release the seal from the glass door.

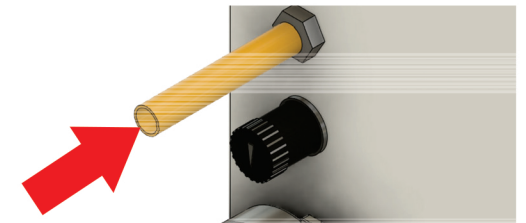
**STEP 5:** Push hose onto KF-25 hose barb and your vacuum pump or cold trap fitting.



**STEP 6:** Assemble the KF-25 hose barb, seal ring, and clamp to the oven's KF-25 flange. Attach your fitting to your vacuum pump or cold trap.

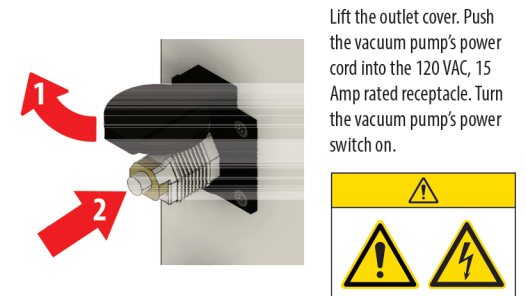


**STEP 7:** Attach your inert gas or air hose to the oven's air inlet hose barb.



Remove the black cap from the hose barb fitting.  
Option 1: Leave the barb fitting bare  
Option 2: Push a 3/8" ID hose onto barb fitting. Attach other end of hose to your inert gas or air supply, or if necessary, attach the hose to a cold trap.

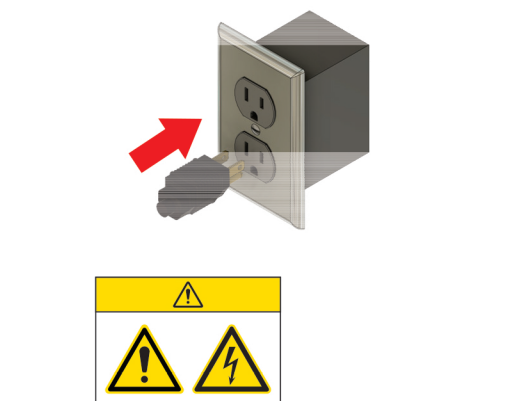
**STEP 8:** Plug your vacuum pump electrical cord into the outlet on the oven and turn the vacuum pump on. (52411-30/31 & 52411-32/33 only) For 52411-34/35 plug vacuum pump into nearest electrical outlet.



Lift the outlet cover. Push the vacuum pump's power cord into the 120 VAC, 15 Amp rated receptacle. Turn the vacuum pump's power switch on.

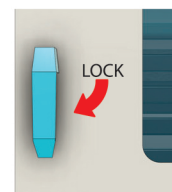
**!** Review the vacuum pump specifications to ensure it is a **two-stage pump** and has the following flow rate capacity.  
52411-30/31 and 52411-32/33 : 2 liters/second (4 CFM)  
52411-34/35 : 4 liters/second (8 CFM)

**STEP 9:** Plug the oven's electrical cord into appropriate outlet.



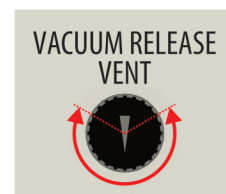
## Drawing Vacuum

**STEP 1:** Close and lock door.



After placing specimens on the oven shelves, close the door and turn the door handle clockwise 90°.

**STEP 2:** Ensure vacuum release vent is closed.

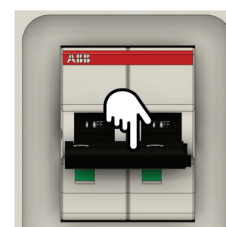


The vacuum release vent arrow must point between 2 and 10 o'clock for the vent to be fully closed.

Use the vent to control vacuum draw speed.

It must be fully closed to reach a -14.7 PSI / -1 bar.

**STEP 3:** Turn on unit power



Push the circuit breaker's lever down to turn on the power to the oven.

**52411-30/31 & 52411-32/33**

**STEP 4:** Turn the PUMP switch on.



Rotate the PUMP switch clockwise 90°.

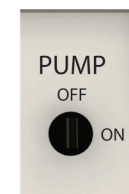
Vacuum pump will instantaneously turn on, solenoid valve will open, and vacuum will be applied to the chamber.

It will take approximately 3-4 minutes to reach -14.7 PSI / -1 bar. Use the vacuum release vent to lengthen the time to reach maximum applied vacuum.

**52411-34/35**

**STEP 4:** Turn your vacuum pump on.

**STEP 5:** Turn the PUMP switch on.



Rotate the PUMP switch clockwise 90°.

Solenoid valve will open and vacuum will be applied to the chamber.

It will take approximately 3-4 minutes to reach -14.7 PSI / -1 bar. Use the vacuum release vent to lengthen the time to reach maximum applied vacuum.

**!** It is not required to draw a vacuum to apply heat to the specimens in the oven. However, applying a vacuum first will reduce the humidity in the oven and increase the speed to reach desired temperature.