MAGUIRE

ULTRA-600 & ULTRA-1000 Start-Up Guide (Touchscreen Controller)

Unpacking the ULTRA Dryer

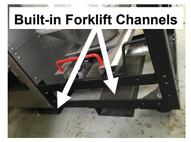
1. Depalletizing the ULTRA-600 / 1000

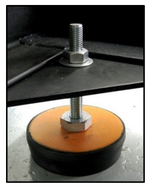
The following instructions pertain to both the ULTRA-600 and ULTRA-1000, unless otherwise noted.

The ULTRA-600/1000 is shipped on two pallets. The larger pallet contains the main unit. The smaller pallet contains the heating hopper. Miscellaneous components are packaged inside the retention hopper.

The ULTRA-600 has built-in forklift channels. This is available as an option for the ULTRA-1000.

DO NOT LIFT MANUALLY
Ensure that the lifting equipment is rated to lift the weight of the individual sections of the ULTRA, which are stated in the "Component Weights" table below. The built-in forklift channels allow for safe and efficient relocation.





Once the ULTRA is positioned onto a level surface, begin disassembly of the pallet. *A Phillips screwdriver, and a 3/4" socket and wrench combination is required for removal of wood screws and bolts from pallet.*

If planning on using the (optional) levelling feet, make sure the surface can support the weight at all four corners. When adjusting the feet, keep the frame as close to the floor as possible. Over-extending the threads is not recommended.

The heating hopper is secured to the pallet using four bolts (1/2"-13 x 2.5").

Support the heating hopper when removing the bolts.

A forklift is recommended for repositioning the heating hopper.

Component Weights

	ULTRA-600	ULTRA-1000
Complete Unit	1824 lbs. (827 kg.)	2950 lbs. (1338 kg.)
Heating Hopper	349 lbs. (158 kg.)	509 lbs. (231 kg.)
Vacuum Chamber	217 lbs. (98 kg.)	311 lbs. (141 kg.)
Retention Hopper	77 lbs. (35 kg.)	95 lbs. (43 kg.)
Sub Frame*	N/A	309 lbs. (140 kg.)

**sub frame is not included in ULTRA-1000 'Complete Unit' weight*

Electrical - Branch Circuit Protection

When wiring the dryer to the plant, be sure the service is sized to suit the current (amps) shown in the table.

Voltage	ULTRA-600	ULTRA-1000
400 3Ø	60	100
480 3Ø	60	100
575 3Ø	30	60

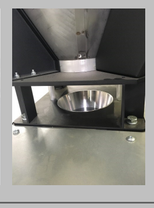
ULTRA Component Installation / Connections

2. Heating Hopper Section - Installation

Lift the **heating hopper** onto the ULTRA by positioning the forks beneath the black structural ring, as shown. The front access hatch is to face the front of the machine.

Using the supplied hardware (1/2"-13 x 1-1/4" hex bolts), securely fasten down the heating hopper.

ULTRA-600 Only. *Not applicable for ULTRA-1000. Proceed to install level sensor.*

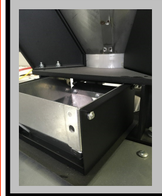


ULTRA-600 only: Insert the supplied **drop-tube** into the circular cut-out in the base of the heating hopper subframe, by feeding it in between the frame legs, as shown. It will sit flush with the base plate.

If the vacuum chamber fill valve is attached, it must first be removed by loosening the (2) 3/8"-16 x 1" flanged bolts and dropped though the key hole. Refer to next step for clarification.

ULTRA-600 only: Install the **vacuum chamber fill valve** to the underside of the heating hopper using the supplied hardware (3/8"-16 x 1" flanged hex bolts). The air cylinder must be on the BACK SIDE of the machine.

The vacuum chamber fill valve utilizes key slots to allow for proper line -up and ease of installation.



ULTRA-600 only: With the drop tube and vacuum chamber fill valve securely in place, slide the **recollector** between the frame legs and install onto the threaded rods of the fill valve, located underneath the heating hopper.

Secure the recollector with the supplied wing nuts (or locknuts).

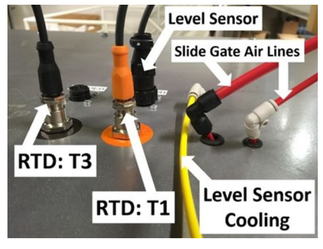
If equipped with the (optional) **level sensor,** attach it to the level sensor column mount at the top of the heating hopper, as shown.

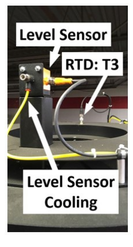
Ensure that the clear sensing window is facing DOWNWARD into the heating hopper.

Connect airline and sensor cable.

EXTERNAL CONNECTIONS:

- Connect the **red air lines** to the corresponding fittings on the air cylinder of the vacuum chamber fill valve.
- Connect the **yellow air line** to the fitting behind the level sensor.
- Install the **insulated heater tubing** and tighten the hose clamps.
- Connect and tighten the **RTD cables** (color-coded) to the machine.





3. Engaging the Load Cells

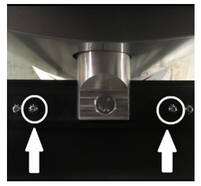
The ULTRA load cells are immobilized prior to shipping to prevent any possible damage from occurring. Proper engagement of all load cells is required in order to operate the ULTRA Dryer.

ULTRA-600: (4) total: (2) vacuum chamber, (2) retention hopper
ULTRA-1000: (3) total: (1) vacuum chamber, (2) retention hopper

Vacuum Chamber Load Cells

The ULTRA-600 utilizes a pair of load cells and the following steps must be performed on both sides of the vacuum chamber.
The ULTRA-1000 uses a single load cell, located on the left side of the vacuum chamber.

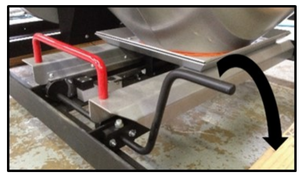
1. ULTRA-600 Only: Remove the (2) retaining bolts that secure the vacuum chamber to the frame. These are the inner 2 bolts, as shown.
2. Loosen the jam nut on the load cell transfer bolt. This bolt transfers the load of the vacuum chamber to the load cells.
3. To engage the load cell, tighten down the load cell transfer bolt until there is a gap of 1/4 inch (6mm.) between the hanger bumper stops and the frame.
4. Tighten down the jam nut to secure the position and ensure proper load cell engagement.
5. ULTRA-600 Only: Repeat steps 1-4 on the opposite side of the vacuum chamber

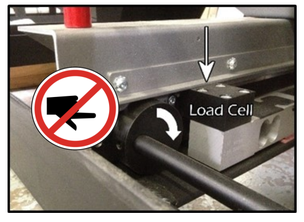


Retention Hopper Load Cells

To engage the retention hopper load cell pair, remove the packaging straps from the retention hopper lifting lever. Lower the retention hopper by pressing the lever back and down. This will engage the retention hopper lower frame onto the load cell pair.

When the lifting lever is in its upright position, the lever's cams remove the weight from the load cell pair and allow the retention hopper to be pulled out for servicing and cleaning.





Pinch Hazard - Keep fingers clear of the cam/frame when using the lifting lever.

4. Compressed Air Connection

Connect a **clean, oil free** air supply to the isolator IN port using a male 1/2" NPT pipe fitting, as shown in the picture to the right.

An air line with a minimum diameter of 1/2" (12mm) should be used to prevent excess pressure drop during operation.

An air pressure of 80 psi (5.5 bar) must be maintained while the vacuum generator is operating!

Operating the ULTRA / Controller

5. Confirm Correct Blower Rotation

INCORRECT 3-PHASE CONNECTION WILL RESULT IN REVERSED BLOWER ROTATION, CAUSING POTENTIAL DAMAGE

WARNING

Turn power on using main power switch.

Remove the blower intake air filter from the backside of the machine and manually activate the blower from the controller screen.

Home Screen -> Manual Operations -> Blower Test -> ON/OFF

There **MUST** be a negative pressure (suction) from the blower intake. **If there is positive pressure (blowing out), then the 3-phase rotation is NOT correct,** and two phases must be swapped to reverse blower direction. **Blower direction must be clockwise.**

If the phasing is switched, repeat the test to ensure correct rotation.

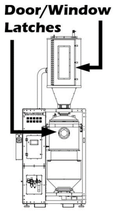
Note: Some ULTRAs are equipped with a 3-phase detection relay. If phasing is incorrect, an indicator LED will illuminate on the front panel and the controller will not be powered.

6. Dryer Start - Up

1. ENSURE HEATING HOPPER DOOR IS CLOSED. Check that all three latches on the heating hopper are locked. Ensure that the vacuum chamber is lifted and retention hopper is correctly in position.

2. Load material into the heating hopper. Wait for the heating hopper to fill with material before starting the dryer.

3. Turn on main power by rotating the red disconnect handle to the ON position. The touchscreen controller will automatically power on.



7. Home Screen Overview

Home: Returns user to home screen from any other screen

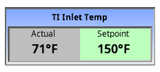
Alarms: displays history of alarms/ events, silence, etc.

Presets: input, edit, load material properties for quick setup

Print Center: print parameters, alarms, cycle history, etc.

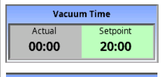
Setup/Settings: adjust dryer and system configuration (password protected)

CLICK: Interactive graphics allow user to view/edit additional parameters for operation the ULTRA

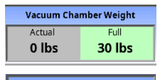


T1 Inlet Temp: Heating hopper inlet air temp set-point. All material will be heated to this temp.

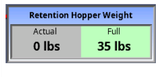
Preheat Time: Duration of heating from cold start. AUTO, preheats until exit air is w/in 30°F (16.7°C) of setpoint.



Vacuum Time: Minimum duration of vacuum cycle. Contact Maguire for info about mat'l drying times



Vacuum Chamber Wt: amount of matl dispensed into chamber. Bulk density can be set here as well



Retention Hopper Wt: amount of mat'l dispensed into hopper. Real-time weight is displayed here

Start Button: Initiates PREHEAT; drying cycle begins and shutdown options appear

Refer to the technical manual and quick-start card to learn more about operating the Maguire ULTRA Dryer

ULTRA® BY MAGUIRE®