MAGUIRE® Intelligent Simplicity

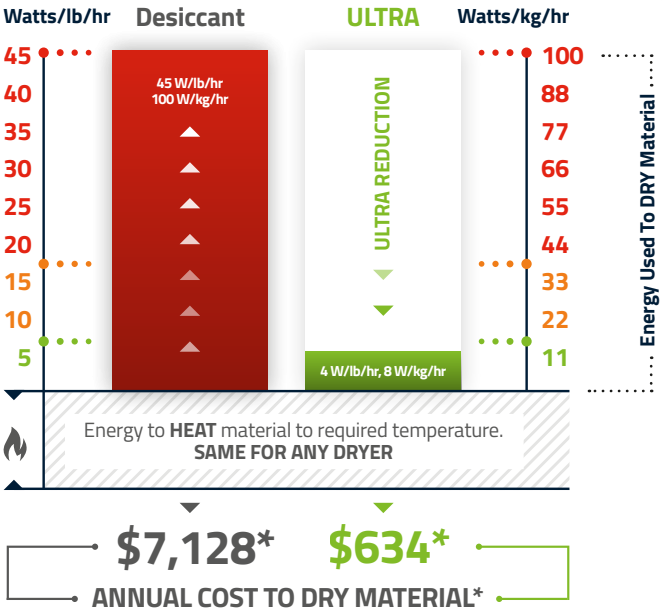
TECHNICAL DATA SHEET

ULTRA 150 Dryer

ULTRA® 150

The First ULTRA Low Energy Dryer

ULTRA dryers quickly pay-back in the short-term and continue to pay dividends through energy reduction in the long-term.



Subscribe to our ULTRA YouTube channel and watch a series of ULTRA animations. http://bit.ly/2S6Wghg

*Based on 220 lb/hr, 6000 hours per year, kW cost at national average of $0.12 per kW, measured at 80% of rated max throughput. This chart shows the **EXCESS ENERGY** required to **DRY** the material. **Savings calculated based on pounds/hr.**

ULTRA Energy Saving

The ULTRA low energy dryer is significantly more energy efficient than other energy efficient dryers available in the market.

ULTRA Low Energy Costs

There is real difference in energy usage to DRY a lb/kg of material with a generic desiccant dryer versus the Maguire ULTRA. Using an ULTRA dryer, you can save $6,494 annually doing the exact same job. ULTRA delivers savings year on year for its full life cycle.

ULTRA Green

ULTRA dryers provide further savings from reduced CO_2e - Global Warming Potential (GWP). Running 220 lb/hr (100 kg/hr) provides a saving of 54,120 kW a year. This equates to saving of 38.6 tons CO_2e per year.

ULTRA Quick Drying

ULTRA dryers use vacuum as the main method to dry versus air dew point and is typically 6 time faster than conventional desiccant dryers. This dramatically reduces energy required to DRY material and translates to more production time.

ULTRA Load Cells

The use of load cells in the vacuum chamber and retention hopper allow the drying rate to match the process rate to achieve ULTRA efficient production.

ULTRA Low Maintenance

No scheduled maintenance requirements. No desiccant beds to replace, simpler filter compared to process filters on a desiccant dryer, no regeneration cycles, no cooling requirements.

ULTRA Efficient Production

The vacuum drying process does not rely on hot air to extract the moisture from the pellet. The material is brought up to a set temperature and vacuum is applied to remove moisture. No additional energy used, no excessive material residence time which can effect additives in the material.

ULTRA Fast Material Changes & Simple Clean Out

The user-friendly touchscreen controls the available load cell data and allows the operator to set an Auto Stop. The dryer stops with minimal material left in the process to ensure a quick clean out, fast material changes and reduces the risk of material cross contamination.

ULTRA Smart Drying

- FlexBus Lite integrated to touchscreen to allow control directly of your loading system to and from the ULTRA dryer
- Load cells monitor process demand by live lb/hr (kg/hr) consumption
- Automatic adjustment of amount of material under vacuum and in retention hopper feeding the process
- ULTRA signals when to release next batch of material.

PLASTEC U.S.A.

ULTRA 3-Step Drying Process

The ULTRA low energy dryer operates in a **three-step process:**

Step 1 - Heating Hopper

In step one the material is first loaded into a heating hopper to come up to the normal desired drying temperature for that material – for PET typically 40 to 60 minutes at a drying temperature of 338°F / 170°C.

Step 2 - Vacuum Chamber

In step two the preheated material then feeds by gravity into the vacuum chamber.

The amount of material is monitored by a pair of load cells to know the amount of material and adjust if required.

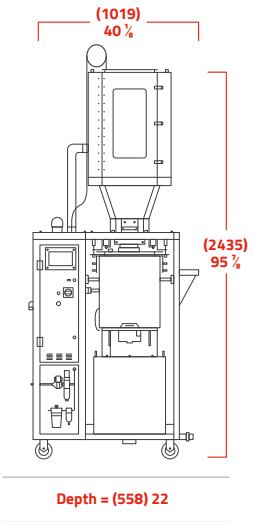
A high vacuum is applied to 700 mmHg (90% vacuum) and the material is held under vacuum for 20 to 30 minutes, depending on the material type, initial moisture and required throughput.

Step 3 - Retention Hopper

In step three the material is fed to the material retention hopper, which is also monitored by load cells. The load cells monitor usage and signal when to feed from the vacuum hopper.

The membrane dry air purge option provides a supply of -40°F / -40°C dew point air to purge the vacuum chamber and blanket the retention hopper.

ULTRA 150 Specifications



	US	Metric
Throughput	115 lb/hr	50 kg/hr
Practical Heating Hopper Volume	2.5 cu. ft.	70 L
Vacuum Chamber Volume	1 cu. ft.	28 L
Retention Hopper Volume	1.3 cu. ft.	37 L
Max. Temperature	350°F	176°C
Power Requirements	240V, 480V, 575V / 3Ph / 60Hz, 16A, 8A, 7A	400V / 3Ph / 50Hz 10A
Process Heater	10 kW	
Blower	1.1 HP, 105 scfm	0.75 kW, 2973 L/min
Compressed Air Pressure	85 psi	5.86 bar
Compressed Air Usage	5.2 scfm	2.4 N m^3/hr
Product Weight	501 lb	228 kg

Maguire reserves the right to cancel product or change product, product specifications and data without notice to improve reliability, function, design or otherwise.

PLASTEC U.S.A.