



915 MHz LAB MICROWAVE OVEN WITH TURN TABLE

LABOTRON 915 AMW 100



The Labotron 915 AMW 100 is a 915 MHz, 5 kW, laboratory batch oven using microwave heating with main applications in food processing, e.g. thawing, pre-cooking, cooking, drying, pasteurization, disinfestation, etc. It can also be used for other materials such as wood, rubber, textile, composite materials...

A pneumatic door and a trolley supporting the in- and out-coming product are making easier the use of the machine, particularly for heavy loads.

The interest of the 915 MHz microwave frequency is to treat thin products as well as thick products (approximately 25 cm).

The 915 MHz frequency has a penetration depth around 3 times higher than at 2450 MHz.

Consequently there are great advantages to use the Labotron 915 AMW 100: homogeneous distribution of microwaves above and below the product, rotation of the turn table, free space around the product, hot air (option)...

The association with hot air (option 60°C or 110°C) allows for some processes to get a much better homogeneity of treatment and hence a better appearance of the product.

TECHNICAL SPECIFICATIONS

Reference	Labotron 915 AMW 100
Construction	Batch, 304 L stainless steel, microwave door with $\frac{1}{4} \lambda$ choke, sliding door pneumatically driven, turn table with automatic stop, loading & unloading via a trolley, controlled extraction of oven vapours, water-proof IP64 on side electrical cabinet, interchangeable microwave power supply with quick connectors for easy maintenance.
Turn table	1 off, polyethylene, with usable surface 610 x 410 mm, sliding mechanism consists of rollers with position locking, automatic stop with door alignment.
Maximum size of the products	600 x 400 x 250 (height) mm, 30 kg maximum
Microwave frequency	915 MHz. On request 922 MHz (Australia, New Zealand) or 896 MHz (United Kingdom).
Microwave power	5 kW maximum, adjustable from 1 kW to 5 kW, set point, display of real forward and reflected powers on HMI.
HMI (Human Machine interface)	7.5" digital touch screen, control of microwave power and time, 20 programmable recipes, hot air (options), oven status, faults history etc. Microwave start, door opening/closing push buttons installed on each side of the sliding table, emergency stop etc. Data transfer to a PC via USB and Ethernet connections.
Option hot air 60°C	This option integrated a hot air generator with variable temperature and a control system for temperature. The oven is not insulated. Temperature adjustable up to 60 °C via the HMI, the air is not recycled, the air intake (~20°C) from atmosphere is filtered before heating, fixed air speed, max. hot air power 2 kW, 140 m ³ / hour.
Option hot air 110°C	This option integrates a hot air generator with variable air flow and variable temperature and a control system for air flow and temperature, as well as a double envelope for insulation of the oven and of the door. Temperature adjustable up to 110 °C via the HMI, the air is not recycled, the air intake (~20°C) from atmosphere is filtered before heating. Air speed is adjustable (%) via the HMI, max. hot air power 8 kW, 200 m ³ / hour.
Option temperature measurement by infra-red	An infra-red pyrometer is located on a tube placed on the top centre of the oven. The surface temperature of the product is displayed on the HMI screen.
Option: thermometer with max. 4 optical fibers	4-channel thermometer with 4 off x 2 m long optical fibers, allowing product measurement during treatment up to 4 points; the temperature values are displayed on the HMI. The turn tables rotates alternatively to avoid breaking the fibers.
Option control camera	Control of the product inside the oven and follow up during microwave treatment, display on HMI (window or full screen), lighting system with LED, anti-fogging system via compressed air.
Voltage & consumption	3 x 400 V + earth, no neutral, 50/60 Hz, 10 kVA at max. power. Consumption 13 kVA with option hot air 60°C. Consumption 19 kVA with option hot air 110°C.
Cooling water	Consumption min. 12 L/min, max. input pressure 4 bar (min. differential pressure 3 bar), temperature 18 – 22 °C, power to dissipate 4 kW ; $\frac{1}{2}$ " GF. Optional: air/water chiller unit.
Compressed air	Min. 6 bar, consumption 20 L/min during 5 s (pneumatic mechanism for door opening/closing). Average 0.7 L/min.
Cleaning	Pressurized water inside the oven, evacuation under the oven
EC standards	89/392, 91/368, 73/23, 89/336, 92/31, 519-6 CEE/EWG EN55011 (specific)
Size, weight	See drawings below, weight 680 kg. The system can be moved using a pallet truck. The Labotron 915 AMW 100 is delivered with electrical wire, water and air pipes (5 m).

