



## **RF LABORATORY APPLICATOR** **LABOTRON RF 2400 50 Ohm**



The Labotron RF 2400 is a laboratory batch equipment using RF heating with main applications in food processing, e.g. thawing, cooking, disinfestation, etc. It can also be used for polymerization, pre-heating before pressing or heating of plastic material (thermoset or thermoplastic).

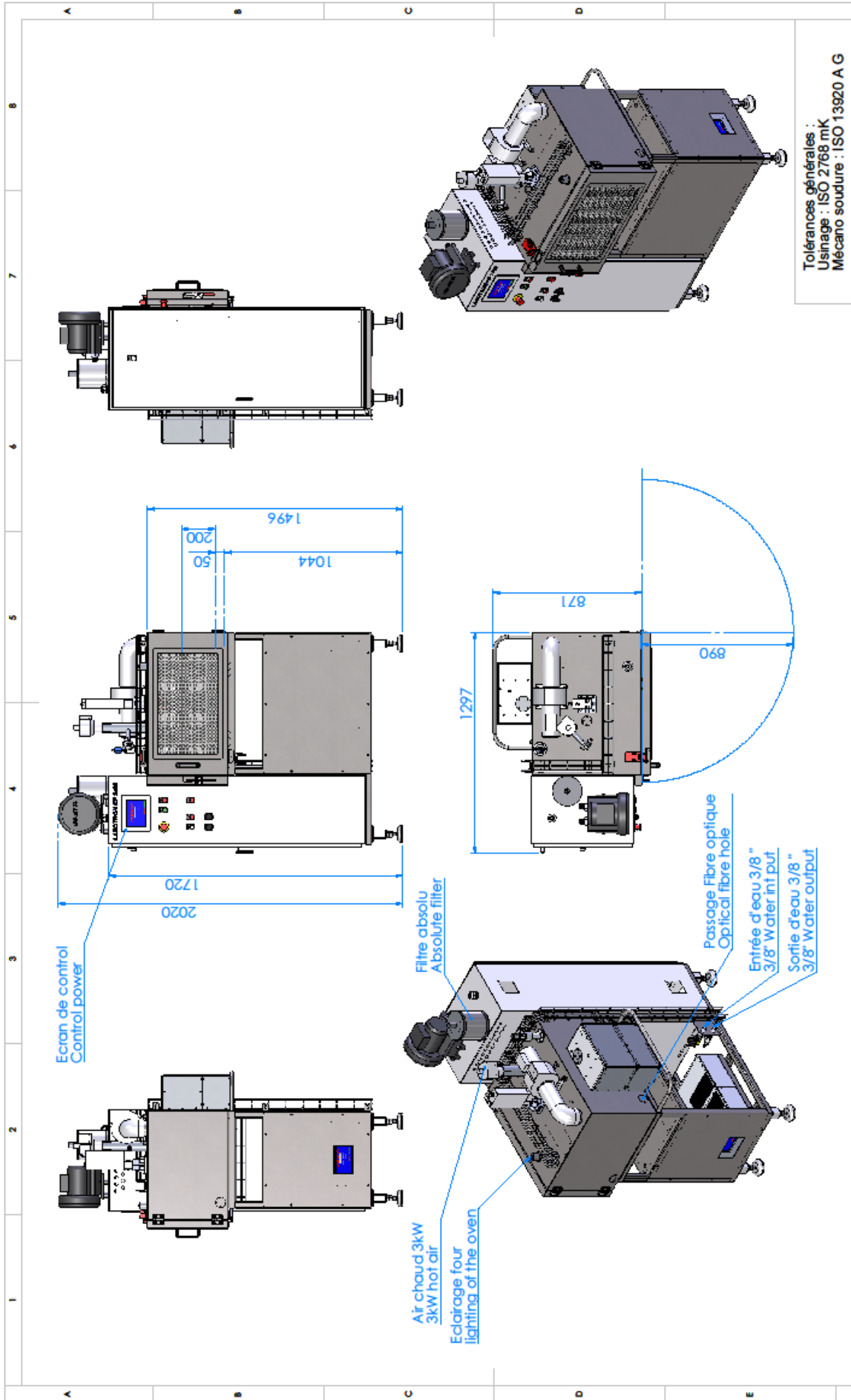
The equipment uses Sairem's 50 Ohm technology, this enabling the exact measurement and display of power transferred between generator and product. With its automatic impedance tuning and its user-friendly interface, the Labotron RF achieves very precise power outputs, measures the evolution of the dielectric characteristics of the heated product, measures & displays the product's temperature (via fibre-optics), electrode height, RF voltage, RF field, etc., as well as recording all the parameters during the process and enabling easy "copy and paste" transfer of the recorded data to a PC.

The other distinctive features of this oven are its one-block design (a compact footprint), hot air with adjustable flow and temperature, centralized control on a touch screen HMI, precise positioning of the electrode via an electric actuator.

The RF LAB is equipped with a 50 ohm automatic matching box installed at the rear of the applicator.

## Technical specifications

<b>REF</b>	LABOTRON RF 2400 50 Ohm
<b>Design</b>	One-block oven with integrated RF generator and matching box, RF cavity in insulated stainless steel, hot air, motorized upper electrode (mobile), centralized control on PLC and HMI, water cooling
<b>Frequency</b>	27.12 MHz +/- 0.01%, quartz driven
<b>Output power</b>	Adjustable from 0 to 2400 W
<b>HMI (human-machine interface)</b>	7.5" (IP65) colour touch screen HMI & PLC. Data transfer by CSV files, via USB or LAN (RJ45) connection. Adjustable settings: forward power, reflected power limit, maximum RF voltage, temperature, time, steps, matching box control...
<b>Matching box</b>	<i>Tune &amp; Load</i> motorized capacitor, manual or automatic control, display of capacitor position, pre-positioning for short processes. Matching box located at the rear of the system.
<b>RF coupling</b>	On the upper electrode (hot electrode).
<b>RF electrode</b>	600 x 400 mm, electrode height adjustable from 50 to 200 mm. For the treatment of very thin products it is necessary to use wedges (spacers) of insulating material (e.g. PTFE) or specially shaped electrodes suited to the product. These spacers or special shaped electrodes can be screwed directly onto the standard electrodes.
<b>Hot air</b>	Power: 3 kW, temperature adjustable up to 60 °C, adjustable air flow, air distribution via the upper perforated electrode.
<b>Operator safety</b>	Limit switch and safety switch connected to the generator's safety interlock in case of door opening during RF operation.
<b>Temperature measurement by infrared sensor</b>	Measurement on the side. Temperature display on the HMI.
<b>Mains, consumption</b>	3 x 400 V+ earth, 5 kVA at full power.
<b>Cooling by water</b>	Flow 5 L/min, 2-3 bar differential pressure, temperature 18°C to 22°C, max. power to dissipate 3 kW.
<b>Size / weight</b>	RF generator only 483 x 560 x 270 (w x l x h), weight 20 kg Overall dimensions of Labotron: see drawing on following page, weight 280 kg.
<b>Option: temperature measurement by optical fibre</b>	On request



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