

# ETHOS X 2.0

Microwave Green Extraction of Natural Products

## TECHNICAL SPECIFICATIONS



**MILESTONE**  
H E L P I N G  
C H E M I S T S

### I HARDWARE

- › Microwave cavity: 18/8 stainless steel housing with multi-layer PTFE coating
- › Inlet/Outlet ports: upper flange 36 mm ID, lower 19 mm ID, plus additional ports on the side walls
- › Chassis: protected against acids and solvents with polymer coating on both inner and outer surfaces
- › Door construction: completely made of 18/8 stainless steel
- › Door safety: self-resealing pressure responsive door. Automatic door locking system
- › Safety features: four independent door safety interlocks to prevent microwave emission in case of improper door closure or misalignment
- › Exhaust system: built-in, located on the back of the microwave cavity and separated from the electronics to prevent corrosion. Max Flow rate 180 m<sup>3</sup>/h
- › Turnatable for uniform microwave absorption
- › Automatic lift mechanism of the reactor cover to expedite the reactor removal
- › Microwave emission: dual magnetron system with rotating diffuser for homogeneous microwave distribution in the cavity. Exclusive magnetron protection from reflected microwave power
- › Magnetron frequency: 2450 MHz
- › Magnetron output: 2 x 950 Watt
- › Magnetron control: continuous and PID-controlled microwave emission at all power levels
- › Internal cavity illumination: 6 high-intensity LED
- › Power supply: 220-240 V~ / 50 or 60Hz
- › Power supply safety device: 2 circuit breaker for equipment thermal, snap-in type
- › Emission and safety norms: EN 61010-1:2010, EN 61010-2-010:2014, UL 61010-1:2012/ R:2016-04, UL 61010-2-010:2015-01, CAN/CSA C22.2 No.61010-1:2012/U2:2016-04, CAN/CSA-C22.2 No.61010-2-010:2015-01

- › Microwave cavity volume: 70,5 L
- › Microwave cavity dimensions: 430 (w) x 400 (d) x 410 (h) mm
- › Patents EP 1 439 218, EP 1 618 798, EP 1 629 725 and EP 1 955 749

### I USER INTERFACE

- › Control terminal touch-screen 4,3" TFT display, 480x272 VGA resolution with 16M colors
- › Operating software: icon-driven multi-language software (Chinese, English, French, German, Italian, Japanese, Polish, Portuguese, Russian, Spanish, and Turkish), software with multilevel access allowing the user/administrator the edit, save and run a virtually unlimited number of methods

### I REACTION SENSORS

- › Direct temperature measurement of the steam via thermocouple, to control the distillation flow
- › Safety sensor: ensure and control the condensation efficiency of the steam via a dedicated thermocouple

### I FRAGRANCES EXTRACTION

- › 15 L glass reactor with cover
- › Two glass condensers
- › Dedicated burette for oil separation and water reflux into the reactor
- › Stainless steel table (optional)
- › Powerful water-chiller with 1000 or 2100 Watts depending on the reactor volume