

ETHOS XL

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: 304 stainless steel housing waterproof welded
- › Microwave cavity size: 51 x 46 x 53.5 (H) cm (115 litres)
- › Rotating motor for drum
- › Inlet/Outlet ports: upper flange 36 mm ID; drain on the bottom of the cavity; back and side inlets for liquids
- › Chassis: stainless steel with polymeric coating
- › Door: Made of 304 stainless steel with sealing O-ring and automatic door locking system;
- › Safety features: safety interlocks to prevent microwave emission and vapour leakage composed; two clamps for safe and easy closing; four inductive safety switches
- › Drum: 45 L volume; made of microwave transparent polymers; drum designed to enhance the bags mixing; up to 110°C working temperature
- › Sample holder: 10 L; set of material bags (12 pieces) for easy material loading
- › Microwave emission: three waveguides with water proof sealing; exclusive magnetron protection from reflected microwave power
- › Magnetron frequency: 2450 MHz
- › Microwave power: three 1500 Watt rated magnetrons, for a total nominal power of 400 Watt
- › Magnetron control: continuous and PID-controlled microwave emission at all power levels
- › Cavity wall heating: nine heating pads (installed on top, right, left and bottom sides) controlled by three temperature sensors and nine thermal switches
- › Heating pads nominal power: 1800 Watt (200 Watt each)
- › Advanced sensors: two built-in PT1000 temperature sensors; water level sensor for loading and draining cavity control
- › Distillation module: complete distillation system with glass condensers and water soaked glass burette for water/oil separation with dedicated split
- › Condensation module: three glass condensers insulated and protected in a metal chassis plus a vertical glass condenser installed on the top of the glass burette
- › Dedicated connection to return the recondensed water into the cavity
- › ETHOS XL wheeled cart: dedicated stainless steel wheeled cart for ETHOS XL and for automatic pump station
- › Tray for material bags handling: made of stainless steel; fixable on the front of the system for easy loading/unloading of the drum to simplify this operations
- › Patents EP 1 439 218, EP 1 618 798, EP 1 629 725 and EP 1 955 749

I USER INTERFACE

- › Control terminal 660: touch screen, 6,5" TFT display 640x480 VGA resolution with 64K colors, 5 USB ports, 1 RS232 port, 1 LAN port, 2 video ports
- › Operating Software: Icon-driven multilanguage (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 on USB and/or internal LAN
- › Software features: built-in application library, control of the automatic pump station, 21 CFR part 11 compliant; auto-save of the runs
- › Powerful water-chiller with 7000 Watts to ensure full condensation of the steam

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GENERAL INFORMATION

- › Dimensions (including the cart): 1550 (w) x 950 (d) x 2245 (h) mm
- › Weight: 300 Kg
- › Power supply: 400 (380-415) V AC, 50-60 Hz, 3p+N+E

MATERIAL BAGS LOADING CART (OPTION)

- › Dedicated stainless steel table for material handling and loading
- › Equipped with wheels and two stainless steel shelves

AUTOMATIC PUMP STATION (OPTION)

- › Membrane Pump with two reagent tanks
- › Water tank volume: 50 L
- › Cleaning solution tank: 5 L Nalgene tank
- › Reagents loading: directly controlled by the user interface and connected to tap water
- › Installation: integrated on the ETHOS XL wheeled cart

COOLING SYSTEM

- › Powerful water-chiller with 7000 Watts to ensure full condensation of the steam
- › Power: 400V, 50-60 Hz, 3p+N+E
- › Dimensions: 690 (w) x 640 (d) x 1100 (h) mm
- › Weight: 170 Kg