

— turning ideas into solutions

BRAUN

LABstar

INERT GAS GLOVEBOX WORKSTATION

ECO



INERTGAS TECHNOLOGY

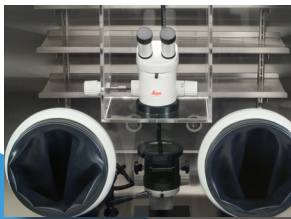
- Compact design with integrated purifier unit
- Stainless steel enclosure with polycarbonate window
- Removal of oxygen and moisture, <1 ppm
- PLC-M. Braun controller with large color touch panel
- Large antechamber with sliding tray
- Closed loop recirculation
- Negative and/or positive pressure operation
- Foot pedal switch for temporary pressure adjustment
- ECO Mode operation feature available
- Optional control and safety features available



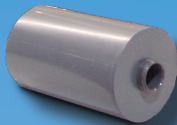
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Freezer



Microscopes



Internal solvent vapor removal



Additional accessories available



Feedthroughs



Oxygen, moisture, and solvent sensor



External solvent vapor removal



Mini-antechamber

GLOVEBOX TECHNICAL DATA:

| | |
|-----------------------------|---|
| Type of construction..... | Side panels bolted on the box body |
| Material..... | Stainless steel (US 304, 1.4301) |
| Inside lengths..... | 1200 / 1450 / 1950 mm |
| Inside depth..... | 780 mm |
| Inside height..... | 920 mm |
| Leak rate..... | < 0.05 Vol%/h |
| Inside surface..... | Brushed finish Ra < 1µm |
| Outside surface..... | Coated, white (RAL 9003) |
| Window..... | Scratch resistant polycarbonate window |
| Glove ports..... | POM, 220 mm diameter, O-ring sealed |
| Gloves..... | Butyl, thickness 0.4 mm |
| Light..... | Fluorescent lamp |
| Feedthroughs..... | 2 / 3 / 4 DN40KF flanges (depending on box length) |
| Electrical feedthrough..... | 1 |
| Dust filter..... | HEPA H13 in/out |
| Shelves..... | 3 modular shelves (length: depending on box length) |

Optional:

- Cold well
- Safety glass window
- Large choice of feedthroughs for signals, gas, liquids
- A variety of gloves (Hypalon, Neoprene and Butyl) and thickness sizes are available
- Specific shelves and storage arrangements....

MAIN ANTECHAMBER TECHNICAL DATA:

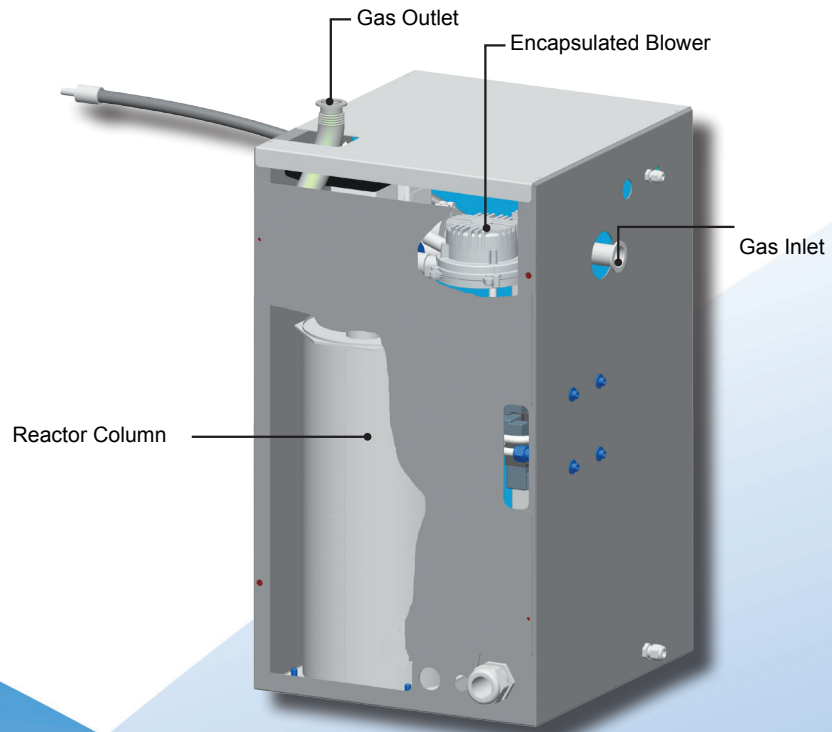
| | |
|---------------------------------|---|
| Type..... | Cylindrical |
| Material..... | Stainless steel |
| Dimensions..... | 390 x 600 mm (D x L) |
| Inside surface..... | Brushed finish |
| Outside surface..... | Coated, white (RAL 9003) |
| Leak rate..... | < 10E-5 mbar l/s |
| Sliding tray..... | Stainless steel |
| Dimensions of sliding tray..... | 575 x 290 mm (L x W) |
| Doors..... | Aluminum, anodized, thickness 10 mm |
| Door lock..... | Door closing mechanism with spindle handle for one hand operation |
| Pressure gauge..... | Analog display |
| Vacuum / Refill process..... | Manual operation via hand valves |
| Valves..... | Hand valves (DN40 vacuum line / DN8 refill line) |

Optional:

- Time controlled antechamber operation
- Round large main antechambers
- Round mini antechambers (side or bottom mounted)
- Rectangular square antechamber
- L-shaped square antechamber
- Round T-shaped antechamber
- Square T-shaped antechamber...



PLC-M. Braun controller with large color touch screen



GAS PURIFIER UNIT TECHNICAL DATA:

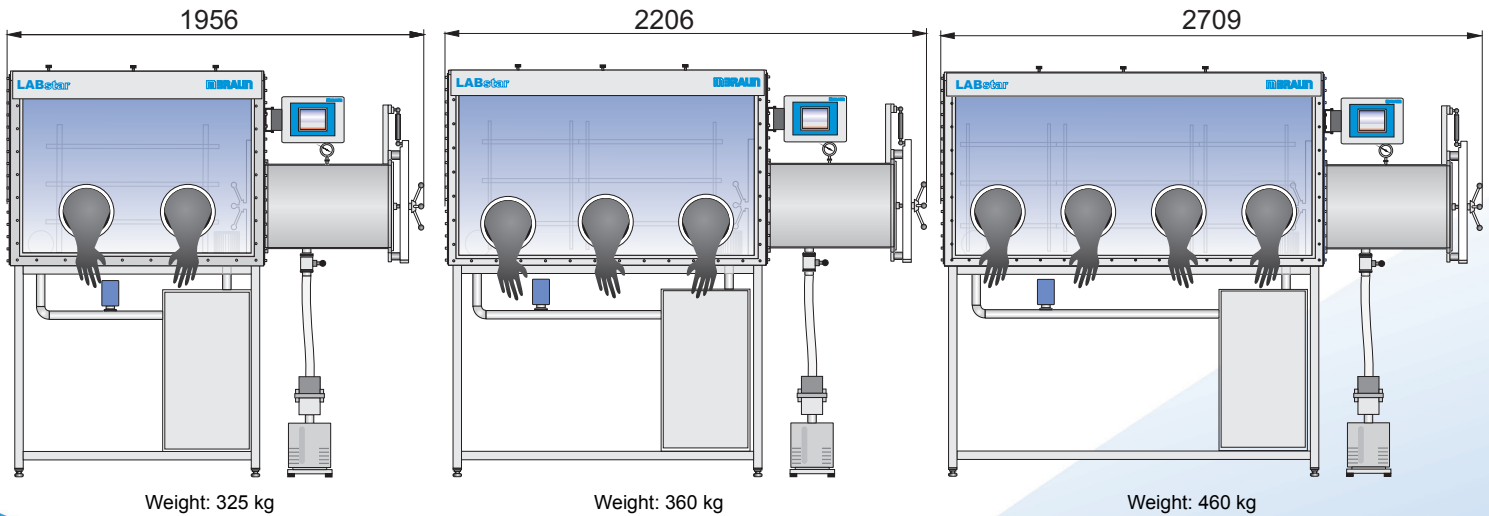
| | |
|--|---|
| Operation principle..... | Closed loop recirculation |
| Attainable purity level..... | Moisture < 1 ppm, Oxygen < 1 ppm |
| Recommended enclosure volume..... | Up to 2 m ³ |
| Number of purification lines per purifier..... | 1 |
| Number of reactor columns per line..... | 1 |
| Number of reactor columns per purifier..... | 1 |
| Reactor capacity per purification line* | |
| (O ₂) Oxygen..... | 20 l |
| (H ₂ O) Moisture..... | 900 g |
| Regeneration..... | Automatic regeneration sequence |
| Control unit..... | PLC - M. Braun |
| Display..... | Large color touch panel |
| Box pressure control..... | Automatic pressure control with foot switch (± 15mbar) |
| Vacuum pump*..... | Rotary vane pump with 17 m ³ /h (10 CFM) |
| Blower (50 Hz / 60 Hz)*..... | Variable speed up to 22 m ³ /h |
| Main and side piping..... | Stainless steel 1.4301 (SUS 304) |
| Main and control valves..... | Electro-pneumatic |
| Regeneration gas..... | N ₂ /H ₂ mix. or Ar/H ₂ mix. (H ₂ 2-10 %) |
| Working gas..... | Nitrogen, Argon or Helium |
| Size..... | 472 mm x 459 mm x 705 mm (L x W x H) |
| Optional feature..... | Moisture and oxygen analyzer |
| Optional feature..... | ECO Mode |
| Optional feature..... | Solvent vapor removal |
| Optional feature..... | Dry pump upgrade |
| Optional feature w/ MBRAUN glovebox..... | Box Purge function |
| Optional feature w/ MBRAUN glovebox..... | Antechamber automatic (time controlled) |
| Optional feature w/ MBRAUN glovebox..... | Freezer |

ECO Mode operation

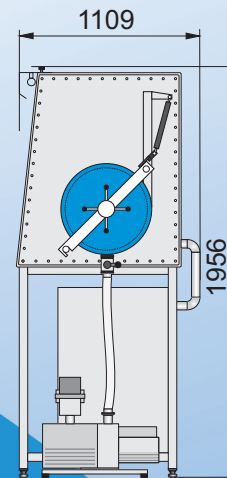
The ECO mode option is designed to reduce noise emission and reduce power consumption up to 90%*.

*Technical note: Depending upon operating conditions

Dimensions in mm



| VOLUMES: | |
|--------------------------|--------------------|
| Box length: 1200 mm..... | 0,8 m ³ |
| Box length: 1450 mm..... | 1,0 m ³ |
| Box length: 1950 mm..... | 1,3 m ³ |



Side view

UTILITIES:

| | Medium (or type) | Pressure | Flow rate | Connection |
|--------------------------|--|----------------|-------------|------------------|
| Working gas | Nitrogen, Argon or Helium | 6 bars | 250 l/min | Swagelok Ø 10 mm |
| Regeneration gas | N ₂ /H ₂ mix. or Ar/H ₂ mix. (H ₂ 2-10 %) | 0.3 - 0.4 bars | 10-20 l/min | Swagelok Ø 10 mm |
| Regeneration gas exhaust | Flexible hose, 9 x 3mm | | | |
| Vacuum pump exhaust | Depressurized flexible hose ,diameter not less than 25 mm (to be supplied by customer) | | | |
| Electrical power (FLA) | 230 V/50-60 Hz, 6 A or 115 V/50-60, 12 A or 100 V/50-60 Hz, 13 A | | | |

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