LABmaster^{pro} GLOVEBOX

Final configuration may differ from picture

PRODUCT INFO

- **Modular & Compact**
  Scalable design for flexible configurations
- **High Purity**
  Removes oxygen, moisture and optional nitrogen to <1 ppm, with DP version for simultaneous purification and regeneration
- **Smart Control**
  PLC-based Siemens controller with large touch panel
- **Flexible Pressure Management**
  Negative / positive pressure operation with foot switch adjustment
- **Efficient Material Transfer**
  Small and large antechambers with sliding trays
- **Optimized Gas Management**
  Closed-loop recirculation and optional ECO-Mode for energy-efficient operation
- **Unlimited Variety of Options**
  Designed for adaptability to individual customer processes

GLOVEBOX

Type of construction	Modular box with bolted in flanged side panels
Size	Varies by configuration (see page 3)
Inside height	900 mm
Material	Stainless steel (US 304, 1.4301)
Leak rate	< 0.05 Vol%/h
Inside surface	Brushed finish Ra 1.2 µm
Outside surface	Coated, white (RAL 9003)
Window	Scratch and chemical resistant window
Glove ports	220 mm diameter, O-ring sealed
Gloves	Butyl
Light	LED
Feedthroughs	5 DN40KF flanges on the rear wall and 2 on the roof
Electrical feedthrough	1 (incl. 1 power cord Type B 6 Outlet power strip)
Dust filter	HEPA H13 in/out
Shelves	3 adjustable shelves rear side (single sided) or hanging (double sided)

BENEFITS

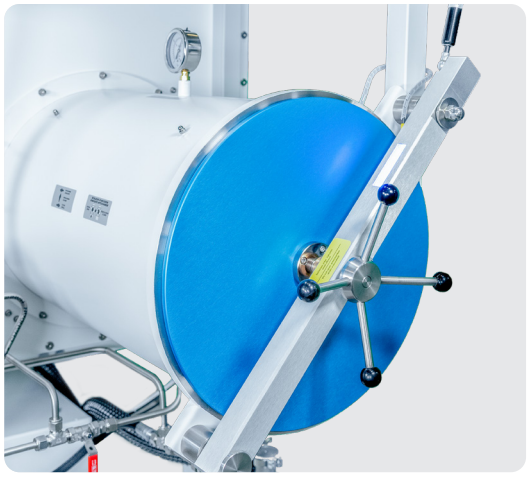
- Versatile sizes and configurations
- Intuitive Siemens touch panel
- Seamless process integration
- Precise atmosphere control
- Robust & durable design

UTILITIES

	Medium (or type)	Pressure	Flow rate	Connection
Working gas	Nitrogen, Argon, Helium or mixtures of those	5 - 6 bar	250 l/min	Ø 10 mm cutting ring-screw connection
Regeneration gas	N_2/H_2 mix. or Ar/H_2 mix. (H_2 2-5 %, optional H_2>5%)	0.3 - 0.4 bar	15-20 l/min	Ø 10 mm cutting ring-screw connection
Regeneration gas exhaust	Flexible hose, 9 × 3 mm			
Vacuum pump exhaust	Depressurized flexible hose, diameter not less than 25 mm (to be supplied by customer)			
Electrical power (FLA) for dp version	230 V / 50 - 60 Hz / 6.4 - 8 A 115 V / 50 - 60 Hz / 13 - 16 A 100 V / 50 - 60 Hz / 15 - 18.5 A			

MAIN ANTECHAMBER

Type	Cylindrical
Size	390 × 600 mm (D x L)
Size of sliding tray	575 × 290 mm (L x W)
Material	Stainless steel
Inside surface	Brushed finish
Outside surface	Coated, white (RAL 9003)
Leak rate	< 10E-4 mbar l/s
Sliding tray	Stainless steel
Doors	Aluminum, anodized, thickness 10 mm
Door lock	Door closing mechanism with spindle handle for one hand operation
Pressure gauge	Analog
Vacuum / Refill process	Time controlled via PLC, optional: vacuum refill management



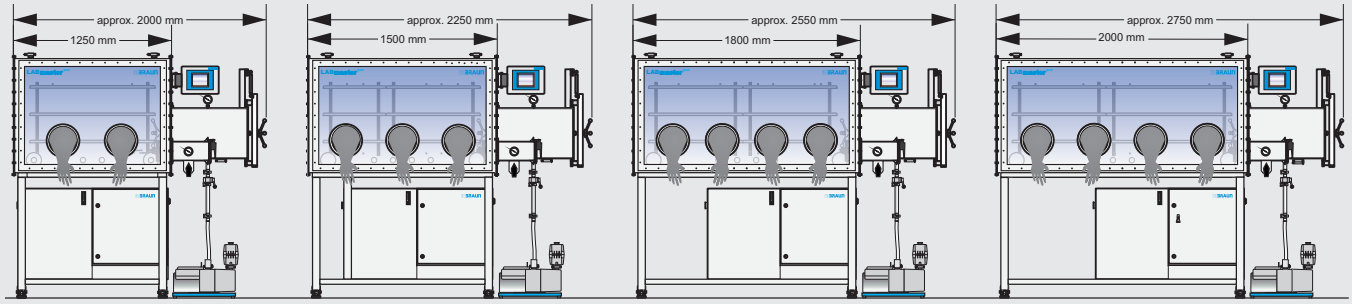
MINI ANTECHAMBER

Type	Cylindrical
Size	150 × 400 mm (D x L)
Size of sliding tray	387 × 120 mm (L x W)
Material	Stainless steel
Leak rate	< 10E-4 mbar l/s
Sliding tray	Stainless steel
Doors	Aluminum, anodized, thickness 12 mm
Door lock	Hinged doors attached to the antechamber body to prevent door from falling out
Pressure gauge	Analog
Vacuum / Refill process	Manual operation via hand valves, optionally via PLC

GAS PURIFIER

Operation principle	Closed loop recirculation
Size	Rack integrated: 1176 × 525 × 720 (W x D x H) Below antechamber: 600 × 820 × 848 (W x D x H)
Attainable purity level	Moisture < 1 ppm, Oxygen < 1 ppm
Recommended enclosure volume	Up to 5 m^3
Number of filters per purifier	1 for SP / 2 for DP
Filter capacity per purification line	
(O_2) Oxygen	36 l per filter
(H_2O) Moisture	1350 g per filter
Regeneration	Automatic regeneration sequence
Control unit	PLC - Siemens
Display	Large Color touch panel
Box pressure control	Automatic pressure control with foot switch (± 15mbar)
Vacuum pump	Rotary vane pump including oil mist filter and oil return kit
Blower (50 Hz / 60 Hz)	Frequency controlled up to 88 m^3/h
Main and side piping	Stainless steel 1.4301 (US 304)
Main and control valves	Electro-pneumatic
Regeneration gas	N_2/H_2 mix. or Ar/H_2 mix. (H_2 2-5 %)
Working gas	Nitrogen, Argon, Helium or mixtures of those

DIFFERENT SIZES

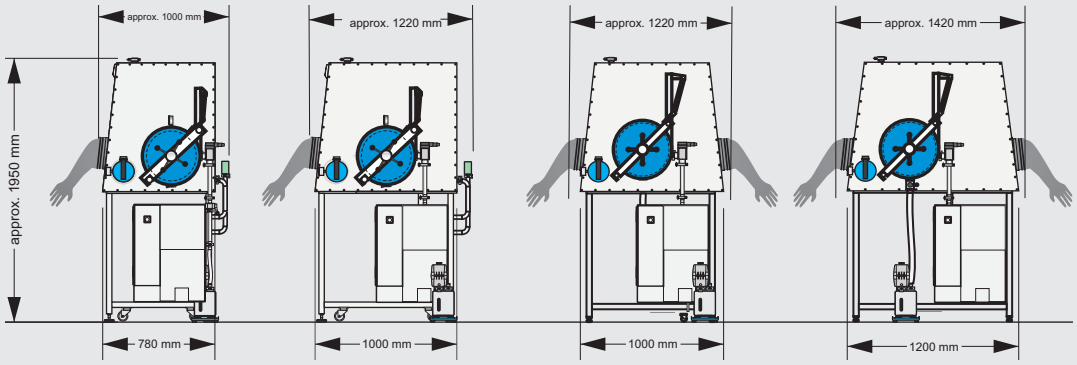


Weight: approx. 500 - 550 kg

Weight: approx. 540 - 590 kg

Weight: approx. 590 - 640 kg

Weight: approx. 610 - 660 kg



GLOVEBOX VOLUMES

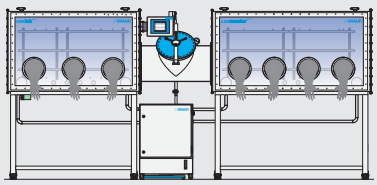
Box length / depth	780 mm	1000 mm	1200 mm
1250 mm	0.8 m³	1.1 m³	1.3 m³
1500 mm	1.0 m³	1.3 m³	1.6 m³
1800 mm	1.3 m³	1.6 m³	1.9 m³
2000 mm	1.4 m³	1.8 m³	2.1 m³

POWER CONSUMPTION

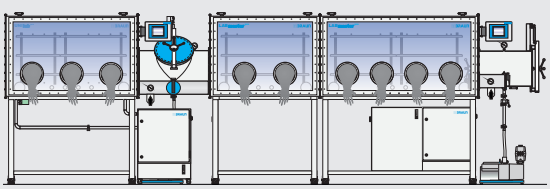
Normal = 116 kWh*

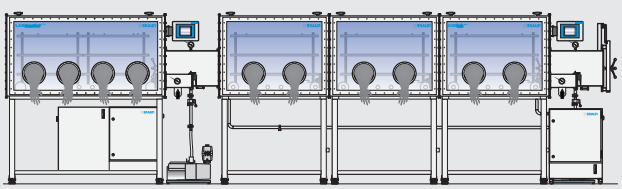
ECO-Mode = 47 kWh*

CONFIGURATION EXAMPLES



- **Variety of Options** – Optimize workflow with a range of additional equipment
- **Customizable Configurations** – Build single-box setups, interconnected clusters, or large-scale environments
- **Scalable System Expansion** – Add gloveboxes via antechambers or connect multiple units seamlessly
- **Integrated Transport Tunnels** – Enable efficient material transfer across multi-box systems
- **Cost-Effective & Future-Proof** – Modular design adapts to evolving process and budget requirements





Configuration may vary by region. Contact our sales team for a customized quote and optional features.
*Note: The MB-ECO-Mode is an additional function suitable for this glovebox system. The power consumption is based on standard operation for 40 hours (8 hours per day, 5 days a week).