

LABmaster^{pro} sp/dp

INERT GAS GLOVEBOX WORKSTATION



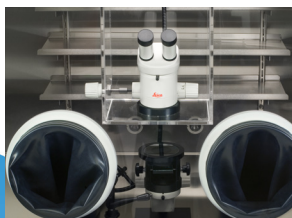
INERTGAS TECHNOLOGY

- Compact design with integrated purifier unit
- Stainless steel enclosure with polycarbonate window
- Modular box design for easy extension
- Oxygen, moisture sensors and purge function included
- Removal of oxygen and moisture, <1 ppm
- PLC controlled with Siemens color touch panel
- Simultaneous purification and regeneration with DP version
- Closed loop recirculation
- Negative and/or positive pressure operation
- ECO Mode operation feature available
- Optional control and safety features available

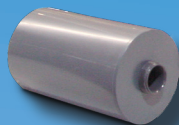




Freezer



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.....	Modular box with screwed in flanged side panels
Material.....	Stainless steel (US 304, 1.4301)
Inside lengths.....	1250 / 1500 / 1800 / 2000 mm
Inside depth.....	Single sided: 780mm, Double sided: 1000 or 1200 mm
Inside height.....	900 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.....	4 / 5 DN40KF flanges (depending on the box depth)
Electrical feedthrough.....	1
Dust filter.....	HEPA H13 in/out
Shelves.....	3 modular shelves rear side or hanged (length: depending on box length)

Optional:

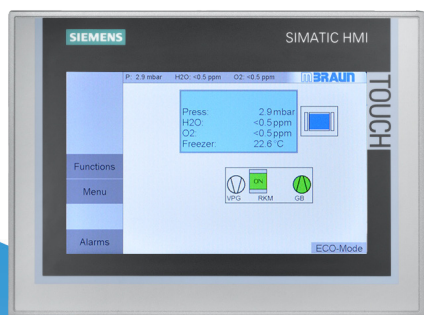
- Safety glass window
- Large choice of feedthroughs for signals, gas, liquids
- A variety of gloves (Hypalon, Neoprene and Butyl) and thickness sizes are available
- Specific shelves and storage arrangements....

MAIN ANTECHAMBER TECHNICAL DATA:

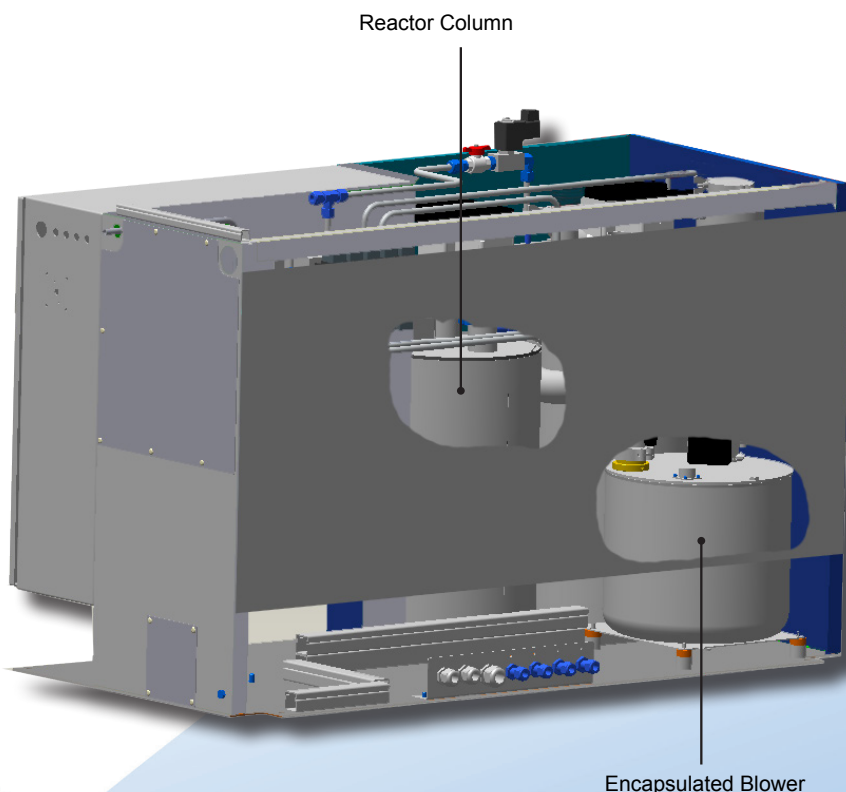
Type.....	Cylindrical
Material.....	Stainless steel
Dimensions.....	390 x 600 mm (D x L)
Inside surface.....	Brushed finish
Outside surface.....	Coated, white (RAL 9003)
Leak rate.....	< 10E-5 mbar l/s
Sliding tray.....	Stainless steel
Dimensions of sliding tray.....	575 x 290 mm (L x W)
Doors.....	Aluminum, anodized, thickness 10 mm
Door lock.....	Door closing mechanism with spindle handle for one hand operation
Pressure gauge.....	Analog display
Vacuum / Refill process.....	PLC operated
Valves.....	Electro-pneum. valve DN 40, evacuation line PLC-controlled, solenoid valve DN 10 refill line PLC-controlled

Optional:

- Antechamber automatic pressure controlled
- Round mini antechambers (side or bottom mounted)
- Rectangular square antechamber
- L-shaped square antechamber
- Round T-shaped antechamber
- Square T-shaped antechamber...



PLC-Siemens
with 7" color touch screen



Reactor Column

Encapsulated Blower

GAS PURIFIER UNIT TECHNICAL DATA:

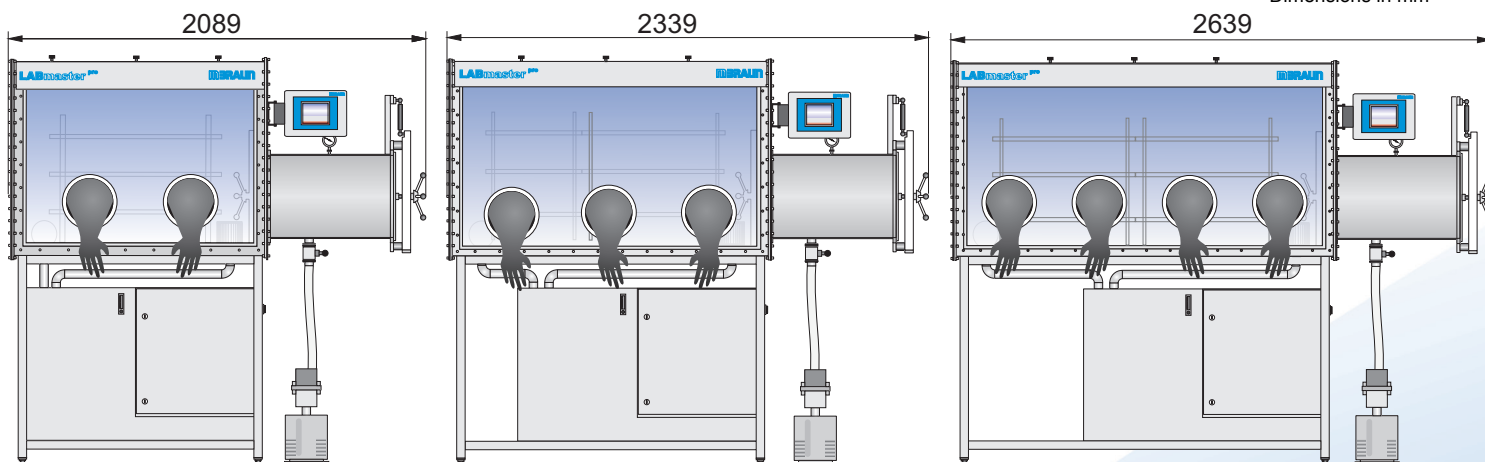
Operation principle	Closed loop recirculation
Attainable purity level	Moisture < 1 ppm, Oxygen < 1 ppm
Recommended enclosure volume	Up to 5 m ³
Number of purification lines per purifier	1 for sp / 2 for dp
Number of reactor columns per line	1
Number of reactor columns per purifier	1 for sp / 2 for dp
Reactor capacity per purification line*	
(O ₂) Oxygen	36 l
(H ₂ O) Moisture	1350 g
Regeneration	Automatic regeneration sequence
Control unit	PLC - Siemens
Display	7" 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)*	Frequency controlled up to 88 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
Heat exchanger.....	Included
Size	1176 x 525 x 720 mm (W x D x H)
Sensors included.....	Moisture and oxygen analyzer
Purge function.....	200 l/min, included
Optional feature	ECO Mode
Optional feature	Solvent vapor removal
Optional feature	Regenerable solvent vapor removal
Optional feature	2-box operation
Optional feature w/ MBRAUN glovebox	Recirculation chiller for optimal working environment (RCC)
Optional feature w/ MBRAUN glovebox	Dry pump upgrade
Optional feature w/ MBRAUN glovebox	Antechamber automatic pressure controlled
Optional feature w/ MBRAUN glovebox	Freezer and box cooling

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

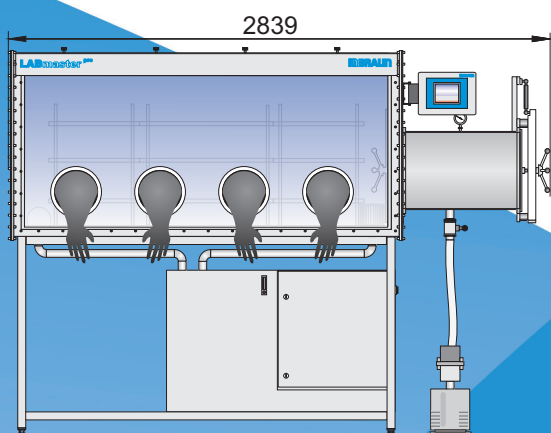
Dimensions in mm



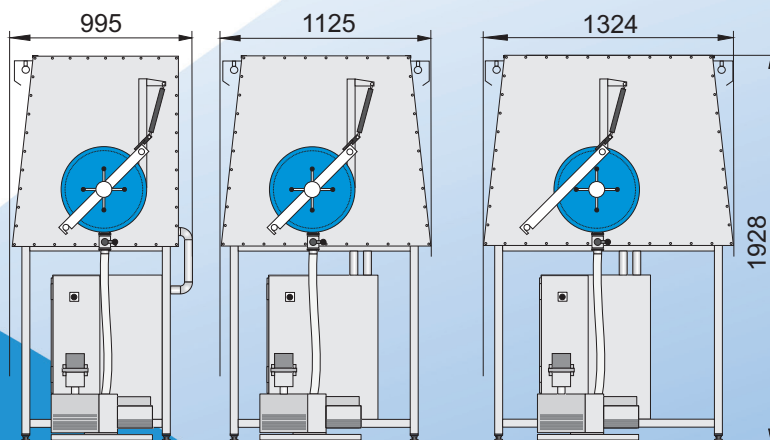
Weight: 430-530 kg

Weight: 465-560 kg

Weight: 510-615 kg
for version 1800 mm box length



Weight: 535-650 kg
for version 2000 mm box length



Side views

VOLUMES:

	Box depth: 780 mm	Box depth: 1000 mm	Box depth: 1200 mm
Box length: 1250 mm	0,8 m ³	1,1 m ³	1,3 m ³
Box length: 1500 mm	1,0 m ³	1,3 m ³	1,6 m ³
Box length: 1800 mm	1,3 m ³	1,6 m ³	1,9 m ³
Box length: 2000 mm	1,4 m ³	1,8 m ³	2,1 m ³

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) for dp version 230 V/50-60 Hz, 8 A or 115 V/50-60, 16 A or 100 V/50-60 Hz, 18.5 A

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