

Technical Bulletin VAC 101965

OMNI-LAB Glovebox System and Accessories



Figure 1, OMNI-LAB

Description: The **OMNI-LAB** provides a complete glovebox system with integrated purifier, controls, display and stand. It provides Universities and commercial firms a cost-effective solution with full inert atmosphere performance and a user friendly control system.

VAC designed the **OMNI-LAB** with simplicity in mind for decades of trouble free performance and low cost of ownership. The manual isolation, antechamber, and purge valves provide easy one hand reliable operation. The PLC tests the system so that incorrect valve positions do not damage the system.

Available in one or two workstation single sided models (see VAC 102282 for two workstations).

Glovebox: Single Sided and Single Length (2 Port). 45" width X 30" deep X 36" height (1143 X 762 X 914 mm), stainless steel construction with removable end panels. Full view ¼" thick LEXAN® front panels, with aluminum glove ports. Standard interface penetrations on end panel opposite antechamber include two 1/4-inch NPT female feedthrus. One dual electrical junction box inside of glovebox. Two-workstation system is comprised of two gloveboxes joined together.

Stand: Welded steel construction; supporting the glovebox, gas purification, instrumentation and controls. Stand has height levelers and casters. System can be ordered without stand.

Antechamber: 15" diameter X 24" long (380 X 610 mm), aluminum, mounted on right end panel. Manual antechamber ball valves for evacuation and refill. Stainless steel domed doors with an over center clamping handle and counterweighted balance for easy yet reliable operation.

Antechamber, Mini: 6" dia. X 12" long (152 X 305 mm), stainless steel, welded to right panel. Standard feature.



Figure 2, Mini-Antechamber

VAC 101965

Gas Purification System: Single Purifier with a single speed blower and manual isolation valves mounted on top of glovebox. 20 liters of O₂ and 2.3 Kg of H₂O absorption capacity (per mfg. specs). Purification system offers equivalent performance to larger systems. Will achieve less than 1-PPM O₂ & H₂O equilibrium. Includes standard 0.3-micron outlet filter on purification system.

Instrumentation and Control: Industrial PLC that monitors and controls the complete **OMNI-LAB** system through an easy to use menu driven interface controlled via an operator touch screen graphical display. Built-in programmed control of purifier regeneration, and lab pressure. Built in system diagnostics. Safety relay for vacuum pump shutdown. Blower will not overheat if isolation valves are closed. PLC will prevent the regeneration cycle from starting if isolation valves are open.

Glovebox Purge: Manual 1 1/2" ball valve. Standard feature.

Fluorescent Light: 30 watts with reflector, fixed over the LEXAN window.

Shelves: One set of three adjustable shelves, 8 inches deep X 24 inches wide (203 X 610 mm). Standard feature.

Glove Port Cover: Protects atmosphere during glove replacement. One cover standard.

Gloves: One pair included with each system, see options for selection.

Power: 115 or 230VAC, 50/60 Hz Operation. See **ORDERING** for part numbers

Safety Certification: Conforms to UL61010A and certified to CSA C22.2 No. 1010.1. Certified for CE conformity.

VACUUM ATMOSPHERES COMPANY

Vacuum Pump: 4.1-CFM pump included with each system, see options for other choices.

System Weight: 1,100 lbs.

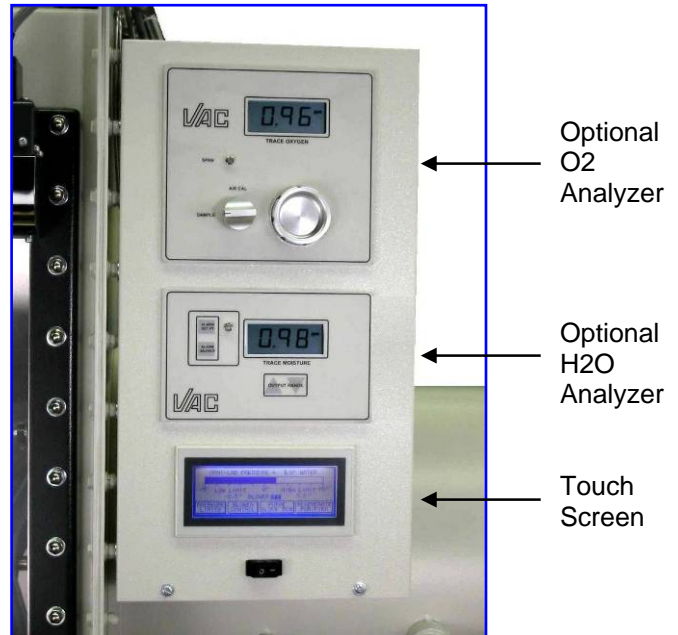


Figure 3, Controls and Analyzers

OPTIONS

Glove Options:

Type	Part Number	Note
Gloves, Butyl Rubber, Ambidextrous 0.030"	VAC 2682	Choose one type
Gloves, Butyl Rubber, L & R, 0.030"	VAC 2682-2	"
Gloves, Butyl Rubber, Ambidextrous 0.015",	VAC 2681	"
Gloves, Butyl Rubber, L & R, 0.015"	VAC 2681-2	"
Special gloves quoted upon request	call Factory	

Vacuum Pump Options

Type	Part Number	Note
Vacuum Pump Assy, 4.1 CFM (7.0 m ³ /h)	VAC 100617	Included in std price
Vacuum Pump Assy, 6.9 CFM (11.7 m ³ /h)	VAC 100618	See quote for price
Vacuum Pump Assy, 10 CFM (17.0 m ³ /h)	VAC 100619	See quote for price
Vacuum Pump Assy, Dry Scroll, 6.5 CFM (11.0 m ³ /h)	VAC 400711	See quote for price
Vacuum Pump Assy, Dry Scroll, 8.8 CFM (15.0 m ³ /h)	VAC 400006	See quote for price
No Vacuum Pump	N/A	See quote for credit
4.1 CFM, 6.8 CFM & 10 CFM pumps include outlet mist filter and gravity oil return kit		

Optional Accessories for OMNI-LAB System

Analyzer Assy, Oxygen: with LCD display, calibration system and electrolytic fuel cell. Monitors and displays the glovebox levels from 0.1 PPM to 25% oxygen.

P/N VAC 102237

P/N VAC 102238 (with alarm)

Analyzer Assy, Moisture: with Aluminum oxide probe and NIST traceable calibration. Monitors and displays the glovebox levels to 0.5-ppm moisture (-80°C dew point).

P/N VAC 108669

P/N VAC 108670 (with alarm)

Cold Storage Assy: Refrigerator, to -35°C. Mounted to glovebox on left end panel and provides immediate access from the inside of the glovebox. Separate condensing unit installed on a stand. Includes extension module to mount refrigerator outside of glove box for increased space savings.

P/N VAC 100595

Cold Well: Stainless steel well, 6 ½" I.D. by 7 ½" deep (165 X 190mm). Dewar is filled with LN₂ coolant for low temperature work in glovebox.

P/N VAC 019333



Cold Well

Glove Port Cover: Installs over each glove to secure glovebox during tests. Either internal or external models. One internal cover provided with each OMNI-LAB.

P/N VAC 019281 (Ext. LEXAN)

P/N VAC 019282 (Internal)

Glove Port Cover, Evacuatable: Allows evacuation after a glove change to minimize O₂ influx.

P/N VAC 020321

Interface Assy, NW40KF:

Welded feedthru penetration into a glovebox

P/N VAC 102833



NW40KF

Interface Assy, NPT: Welded feed thru penetrations into a glovebox. Also Vacuum feedthru with 1/4" valves on interior and exterior of glove box.

Size	Part Number
1/4"	VAC 100171
3/8"	VAC 100172
1/2"	VAC 100173
3/4"	VAC 100174
1"	VAC 100175
1 ½"	VAC 100176
1/4 w valves	VAC 100594

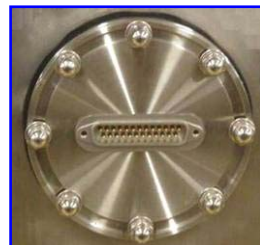


← 5-way binding posts

← ¼" NPT with valves

← Fiber Optic

← 1/4" NPT



25-Pin, D



BNC

Interface Assy, 20 amp: 5-way binding posts feedthru for electrical signals.

P/N VAC 100626

Interface Assy, 25-Pin D, Data or RJ-45: Electrically connects instruments into a glovebox.

P/N VAC 100593, 25 Pin, D

P/N VAC 100593, 9 Pin, D

P/N VAC 102704, 15 Pin, D

P/N VAC 100592, RJ-45

Interface Assy, BNC: Feed thru electrically connects instruments into a glovebox with BNC connector.

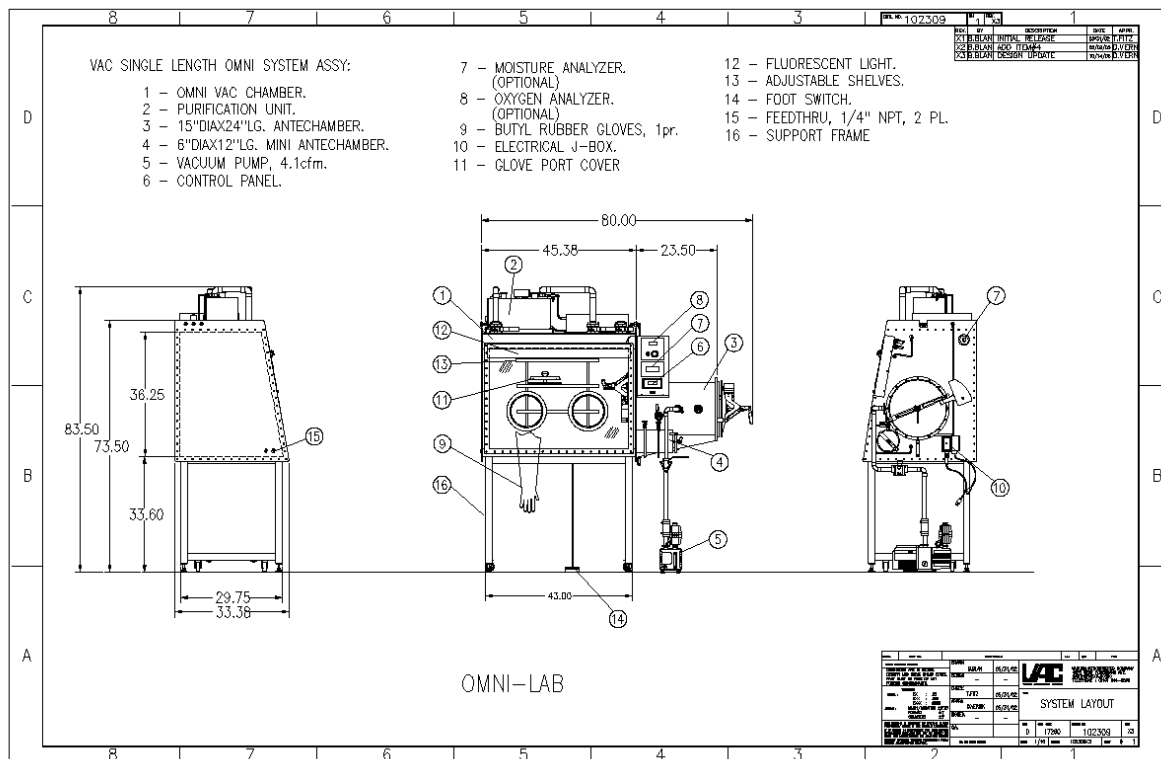
P/N VAC 100627

Trap Assy, Internal, OMNI: For solvent removal from inert gas atmosphere. Factory installed in place of purifier inlet filter. Filled with mol sieve (~3 lbs.) or activated carbon (~2.5 lbs.).
P/N VAC 102287

Workstation Ionizer, No Fan: Excellent static control for working with an analytical balance or powders. Free standing.
P/N VAC 101373, 110 Volt, 60 Hz
P/N VAC 101467, 220 Volt, 50 Hz

Workstation Ionizer, with Fan: for coverage of greater work area. Free standing.
P/N VAC 400259, (110 Volt, 50 Hz) P/N VAC 400260, 220 Volt, 50 Hz)

CALL FACTORY FOR OTHER ACCESSORIES AND OPTIONS



Ordering

- 1) **OMNI-LAB:** VAC 101965 for 110 VAC, 60 Hz or VAC 101975 for 220 VAC, 50 Hz.
- 2) Glove Style choice by part number
- 3) Vacuum Pump choice by part number
- 4) Accessory choice by part number

Shipping

Domestic Shipping Weight:	1,400 lbs. (single)
Export Shipping Weight:	1,700 lbs. (single)
Export Crate Dimensions:	88\"w X 40\"d X 98\"h



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