



VIGOR GLOVEBOXES Battery Cell Station



The Battery Cell Station has been developed specifically around R&D and Quality Control battery applications.

Providing the user with

- A safe and comfortable working environment
- Fully integrated storage features to maximise the work space
- <1ppm O₂ and H₂O atmosphere

Optional upgrades :

Optional Items			
Purification System	Pictures	Feedthrough	Pictures
Upgrade to Dual Column Gas Purification System		Electrochemical Feedthrough	
Upgrade to Regenerable Solvent Vapor Removal		Electrochemical Feedthrough with Alligator Clips or Banana Connector	
Large capacity regenerable solvent removal (Molecular sieve)	—	BNC Feedthrough	
Integrated Secondary loop solvent extraction hood (at source solvent vapour removal)	—	Electrical Power Feedthrough (Single phase 220-230 VAC, 50 Hz, 230 VA max)	
Vigor Smart Box		Fiber Optics Feedthrough	
Heated Antechamber with PLC Integrated Control		USB Feedthrough(Micro USB)	
heated mini antechamber 150 C		USB Feedthrough(Type-C)	
Freezer with PLC Integrated Control		Gas/Liquid/Vacuum Feedthrough	
Battery oven (Rectangular Oven with integrated Pouch cell holders)		Feed through plate allowing for connection to external testing and measuring equipment	
Box Cooling System with PLC Integrated Control & Heat Exchanger		Process Equipment	
Box Cooling System (Between 22-25 C)		Manual button battery curling machine	
Heat Exchanger on Circulation (Water Chiller required)		Automatic button battery curling machine	
Analyzer		Vacuum sealing machine	
Moisture Analyzer (-100 to 20 C)		Electrolyte coating equipment	
O ₂ Analyzer with sensor cell for acid environment (0-10, 100, 1000 ppm)		Function	
VOC PID 1000 solvent analyser		Protective film	—
CO ₂ analyser integrated to the HMI 0-1000 ppm		Overpressure burst disc	—
		Additional safety of an Integrated sand well in case of thermal runaway	—

Please refer to individual leaflets for details

Battery Cell Station

Battery Cell Station is available in 1200, 1500, 1800, 2000, 2400mm as standard customized dimensions are available upon request

Description	Material	Dimensions	Specification
I. Glove Box			
1) Box enclosure	Stainless steel (US 304; EU 1.4301) Thickness 3mm	Please see page 2 for all available dimensions	Inside surface brushed, outside surface white painted
2) Extension modules	Stainless steel (US 304; EU 1.4301) Thickness 3mm	Please see page 2 for all available dimensions	Inside surface brushed, outside surface white painted
3) Detachable front window(s)	Safety glass	Thickness 8mm	Patented vacuum gasket (no-leak seal) for the interface with the box body
4) Glove ports	Anodised aluminium alloy	Φ8" / 203mm	Patented vacuum gasket (no-leak seal) for the interface with the window and the glove
5) Gloves	Butyl rubber	Φ200mm, Length 810mm	Ambidextrous (both hand use) gloves
6) Supporting frame(s)	Square steel tubing, height: 900mm, 4 castors for easy moving and 4 leveling feet for placing and leveling the box		Complete frame painted in white
7) Integrated KF-flanges for feedthroughs	Stainless steel (US 304; EU 1.4301)	KF40, outside length 20mm	Welded on the box body, single sided to the outside, blind flanged (including flange and clamp)
8) 1 Pneumatic purge valve		DN25	Outside connection, open KF40 on the top of the valve (possibility to connect to exhaust)
9) Telescopic shelving	Stainless steel (US 304; EU 1.4301)	950mm(W)X170mm(D)	Adjustable or fix installed on demand
10) Feedthrough plate containing	Stainless steel (US 304; EU 1.4301)	9 x KF40	
11) Foil pouch storage drawer	Stainless steel (US 304; EU 1.4301)	400mmD x 300H x 300W containing an internal drawer of 350Dx250Hx250W	located on the opposite side of the antechambers
12) Reinforced floor			allow for heavy vacuum sealers and presses Extra cross beams to be implemented on the frame of the floor of the system to allow for 150KG plus equipment
13) Pipet hanger rail			Located across the top of the window inside the enclosure to free up valuable floor space
14) Anti-corrosion mat	silicone rubber	Size: It needs to cover the bottom of the box Thickness 3mm	The anti-corrosion pad is made of silicone rubber and has the properties of anti-slip, anti-corrosion, and acid and alkali resistance.
15) Rotating Storage Cabinet in glove box bottom	Stainless steel (US 304; EU 1.4301)	Size: 320mm x 320mm x 320mm.	The glove box bottom has an extra storage space for bottles with a rotating function and the scope of supply includes one cover plate.
II. Technical Specification			
1) Leak Rate			< 0.001 %vol/hr
2) Purity Level of the Atmosphere			O ₂ < 1 ppm, H ₂ O < 1 ppm
3) Working Gases			Nitrogen, Argon, Special gas on request
III. Antechambers			
1) 1 Heated Large Antechambe	Stainless steel (US 304; EU 1.4301),	Φ370X600mm	Welded on the side panel of the box enclosure, leak free, auto-evacuation function controlled by the PLC, 2 removable sliding tray. 3层加热板
2) Antechamber	Stainless steel (US 304; EU 1.4301),	Φ150X300mm	Welded on the side panel of the box body, leak free, manually operated by 3-way valve, 1 removable tray
IV. Gas Purification System			
1) 1 Gas purification column, containing copper catalyst and molecular sieve			Absorption capacity: O ₂ = 60 liter and H ₂ O = 2 kg The column is regenerable and the regeneration is automatically controlled by the PLC When doing the solvent adsorber regeneration, no need to stop the circulation of purifier.
2) Bypass function			
3) 1 Organic solvent adsorber			Activated carbon, pre-dried
4) 1 Gas tight circulation blower			Flow rate 60 m ³ /h, (110V: 45 m ³ /h)
5) Valves for circulation, regeneration and box pressure control			PLC controlled valves, enabling automatic control of the circulation, regeneration, and box pressure
6) 1 Vacuum Pump: RV 12 (Edwards)			Pumping speed 12 m ³ /h (Including oil mist filter)

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Description	Material	Dimensions	Specification
1) Power supply			Single phase 100-110 or 220-230 VAC, 50/60 Hz
2) 1 Foot-switch			For individual adjustment of the box pressure by the user
3) Touch screen panel, color, 7"			Interface language: English or Chinese
4) 1 Electrical feedthrough and power strip installed in one of the KF40 fanges of the enclosure			Inside / outside connection with country specific plugs
5) Programmable logic controller			
6) Automatic evacuation of the large antechamber			Unattended operation, number of cycles settable by the user
7) Gas purification system works on demand controlled by oxygen and/or moisture analyzer			It typically works 5 minutes every hour. Save energy and extend the blower lifetime
8) Fully integrated control of heated antechamber, freezer and box cooling (optional)			User settable target values
9) Automatic leak rate testing			Alerting users of damaged gloves or gaskets
10) Automatic box pressure control, working pressure user settable, range +10 to -10mbar			The PLC will automatically control the box pressure within the set range
11) Automatic purge			Activate the purge valve
12) Display of warning messages, alarms and error messages			Active messages and message log available
13) Recording and displaying of historical data			On screen for visual inspection, data export possibility

*The upgrade table information is for reference only, please see the related specific datasheets or contact your Vigor representative.



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