

Vigor Gas Purification Technologies (Europe) GmbH
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University of Chemistry and Technology
Prague

XXXXX

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Document No.: AN2025-21673

Project No.: 2025001557: PROLAB_Glovebox -
controlled atmosphere dry box

Date: 05/02/2025

Processor: xxxxxx

VAT no: CZ60461373

Proposal / Angebot

Dear Customer, thank you for your enquiry. Please find the attached proposal from Vigor Europe, we hope that this is to your requirements.

| Pos | Qty | Description | U Price € | Price € |
|-----|------|--|-----------|-----------|
| 1 | 1 pc | V_0000002_M SG1500/750TS 20% Discount I. Box 1) One stainless steel (SUS304/EU 1.4301) Box: 1500mm(L)X750mm(D)X900mm(H), Thickness, 3mm 2) Detachable front view window: Safety glass, thickness 8 mm, patented no-leak seal for the interface with the box 3) Three aluminum alloy glove ports, patented no-leak seals for glove ports 4) Three butyl rubber gloves 5) Supporting frame: square steel tubing, height: 900mm, 4 castors for easy moving and 4 levelers for placing and leveling the box 6) Six spare KF40 fittings 7) Three height adjustable shelves 8) Upright pneumatic purge valve providing auto purge function and pressure relief 9) External LED lighting II. Technical Specification 1) Leak rate: < 0.001 %vol/hr 2) O2 < 1 ppm, H2O < 1 ppm | 28,000.00 | 28,000.00 |
| | | | | -5,600.00 |
| 2 | 1 pc | V_0001001_ACr Antechambers for Workstation right side III. Antechamber 1) One large antechamber: Welded on the right side panel of the box, leak free, size: Φ370X600mm, material SUS304/EU 1.4301, thickness 3mm, auto-evacuation. One readily removable sliding tray. 2) One mini-antechamber: Welded on the right side panel of the box, leak free, size Φ150X300mm, material SUS304/EU 1.4301, thickness 3mm. | 0.00 | 0.00 |
| 3 | 1 pc | V_0001014 Upgrade to Bolted on type main AC Change of large antechamber from welded to bolted on type for SG and LG workstations | 880.00 | 880.00 |

Continuation on page 2 23,280.00



| Pos | Qty | Description | U Price € | Price € |
|-----|------|--|------------------------|-----------------------------|
| | | | Continuation of page 1 | 23,280.00 |
| 4 | 1 pc | V_0001206 Heating for large Antechamber 20% Discount Upgrade to heated large antechamber, 200 deg C, Infrared heater | 3,700.00 | 3,700.00 -740.00 |
| 5 | 1 pc | V_0001003_TS Gas Purification Unit TS for SG, LG and FG Workstation IV. Gas Purification System 1) One gas purification column, containing copper catalyst and molecular sieve. Oxygen and moisture capacities are 60 liter and 2 kg, respectively. The column is regenerable and the regeneration is automatically controlled by the PLC. 2) One organic solvent adsorber: Adsorbs organic solvents 3) One gas tight circulation blower, flow rate 60 m³/h. 4) Valves are controlled by PLC, enabling automatic control of the circulation, regeneration, and box pressure control. | 0.00 | 0.00 |
| 6 | 1 pc | V_0002006 Upgrade regenerable solvent removal column (only valid for TS) 20% Discount Option for SG and LG work stations and for stand alone purifier 1) One regenerable organic solvent adsorber 2) Filling with Molecular Sieve 13X 3) With Bypass and automated regeneration cycle. | 2,100.00 | 2,100.00 -420.00 |
| 7 | 1 pc | V_0001005_VP Vacuum Pump RV12 5) Vacuum Pump: RV 12 (Edwards), for SG & LG systems and for stand alone purifiers. Pumping speed 12 m3/h (Including Oil mist filter) | 0.00 | 0.00 |
| 8 | 1 pc | V_0001006_SC_WS System Control for SG, LG and FG Workstations TS/TD V. System Control 1) Touch screen panel: color, 7"; Interface language: English or Chinese 2) One foot-switch, used to adjust box pressure 3) Power Supply, Single phase 220-230 VAC, 50 Hz, 230 VA max 4) Programmable Logic Controller 5) Automatic evacuation of the large antechamber, saving time and increasing productivity 6) 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 life. 7) Automatic leak rate testing, promptly alerting users to damaged gloves or seals 8) Automatic box pressure control, user can set the work pressure range from +10 to -10 mbar, and the PLC will automatically control the box pressure within the set range.The work pressure range is 0 to +5 mbar. 9) Automatic purge 10) Display warning message and errors of the system 11) Automatic alarm system 12) Recording and displaying historical data 13) All operations are conditional, preventing hazardous actions from damaging the glovebox 14) Display messages for operation error and faulty components. | 0.00 | 0.00 |
| | | | Continuation on page 3 | 27,920.00 |



| Pos | Qty | Description | U Price € | Price € |
|------------------------|------|--|----------------|------------------|
| Continuation of page 2 | | | | 27,920.00 |
| 9 | 1 pc | V_1000078 Analyzers package O2/H2O (only for new system) 20% Discount 1. O2 Analyzer (GE, fuel cell), 0-10, 100, 1000 ppm, accuracy 0.2 ppm or 1%; PLC integrated, enabling auto-circulation of the purifier; Continuously monitor O2 inside the box, even when the purifier is turned off. 2. Moisture Analyzer(Michell), dew point -100 to 20 °C, +/-2 °C; 0-1000 ppm; PLC integrated, enabling auto-circulation of the purifier; Continuously monitor moisture inside the box,even when the purifier is turned off. | 3,600.00 | 3,600.00 |
| | | | | -720.00 |
| 10 | 1 pc | V_100003 Glove Changing System 20% Discount Leak-free glove changing system (O2 inside the box increases < 1 ppm during glove exchange). One internal glove port cover included. | 280.00 | 280.00 |
| | | | | -56.00 |
| 11 | 1 pc | V_0001010_OP Other Parts (EU) VI) Other parts 1) One power strip installed in glove box (EU) | 0.00 | 0.00 |
| 12 | 1 pc | V-S-01-1500 Packaging SG/LG/FG1500 Packaging crate for SG/LG/FG1500 | 350.00 | 350.00 |
| 13 | 1 pc | V-S-02 Shipping 1) Delivery date approximate DDP (Delivered Duties Paid) 12 weeks After Order and Drawing Approval (AODA) 2) University of Chemistry and Technology Prague, A, Technická 5, Dejvice, 166 28 Prague 6, , Czech Republic Incoterms 2020 <i>*Shipping does not include inside delivery to the lab, Customer will un-crate the system and bring to the lab*</i> | 3,800.00 | 3,800.00 |
| 14 | 1 pc | V-S-04 Travel expenses Travel expenses (flights, accommodation, car rental, meals) for Installation and Service | 1,200.00 | 1,200.00 |
| 15 | 12 h | V-S-03 Installation On-site installation and training | 185.00 | 2,220.00 |
| 16 | 1 pc | V-S-05 Warranty Glovebox 3 Years manufacture warranty covering the original Vigor equipment only. Excludes consumable items such as gloves, adsorber material, catalyst, molecular sieve, pump oil and filters. Edwards vacuum pumps carries the original warranty direct from Edwards (12 months). | 0.00 | 0.00 |
| | | | Net amount € | 38,594.00 |
| | | | Total € | 38,594.00 |

This is an intra-Community supply. Delivery according to §6a UStG, which is tax-exempt according to §4 No.1b.

Terms of payment: Payment is due 30 days after receipt of invoice.



VIGOR GLOVEBOXES

Workstation SG1500/750TS



- Ultra-low leak rate by patented leak free gaskets
- Fully equipped workstations, plug and work
- Wide range of options to be selected from our "toolbox"
- Vigor Smart Box APP: Remote control of the glovebox

Workstation SG1500/750TS

| Description | Material | Dimensions | Specification |
|---|--|--|---|
| I. Glove Box | | | |
| 1) Box enclosure | Stainless steel (US 304; EU 1.4301) | 1500mm(L)X750mm(D)X900mm(H) Thickness 3mm | Inside surface brushed; Outside surface white painted |
| 2) 1 Detachable front window | Safety glass | Thickness 8mm | Patented vacuum gasket (no-leak seal) for the interface with the box body |
| 3) 3 Glove ports | Anodised aluminium alloy | Φ 8" / 203mm | Patented vacuum gasket (no-leak seal) for the interface with the window and the glove |
| 4) 3 Gloves | Butyl rubber | Φ200mm, length 810mm | Ambidextrous (both hand use) gloves |
| 5) 1 Supporting frame (pedestal) | 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 |
| 6) 6 Integrated 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) |
| 7) 3 Height adjustable shelves | Stainless steel (US 304; EU 1.4301) | 800mm(W)X170mm(D) | Adjustable or fix installed on demand |
| 8) Pneumatic purge valve | | DN25 | Outside connection, open KF40 on the top of the valve (possibility to connect to exhaust) |
| II. Technical Specification | | | |
| 1) Leak Rate | | | < 0.001 vol%/h |
| 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 Large antechamber | 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, 1 removable sliding tray |
| 2) 1 Mini 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 L and H ₂ O = 2 kg The column is regenerable and the regeneration is automatically controlled by the PLC |
| 2) 1 Organic solvent adsorber | | | Charcoal based |
| 3) 1 Gas tight circulation blower | | | Flow rate 60 m³/h, optional 90 m³ |
| 4) Valves for circulation, regeneration and box pressure control | | | PLC controlled valves, enabling automatic control of the circulation, regeneration, and box pressure |
| 5) 1 Vacuum Pump: RV 12 (Edwards) | | | Pumping speed 12 m³/h (Including oil mist filter) |
| V. System Control | | | |
| 1) Power supply | | | Single phase 220-230 VAC, 50 Hz, 230 VA max |
| 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 flanges of the enclosure | | | Inside / outside connection with country specific plugs |
| 5) Programmable logic controller | | | Siemens SIMATIC S7-200 SMART |
| 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. Saves energy and extend the blower lifetime |
| 8) Fully integrated control of heated antechamber, freezer and box cooling | | | 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 ~ +10mbar | | | The PLC will automatically control the box pressure within the set range |
| 11) Automatic purge | | | Activates 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 |
| 14) All operations are conditional | | | Preventing hazardous actions and damages on the glovebox |

Vigor Technologies(Suzhou) Co., Ltd

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Vigor Gas Purification Technologies (Europe) GmbH

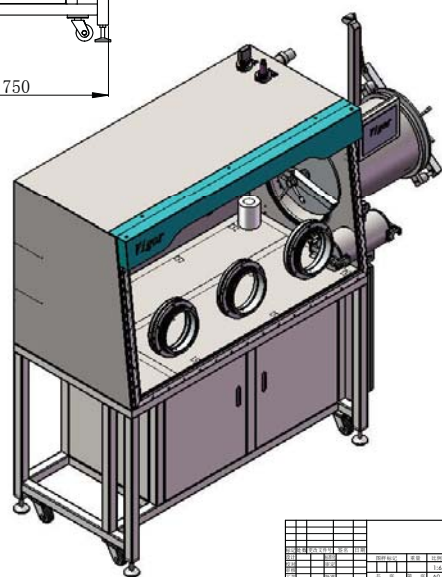
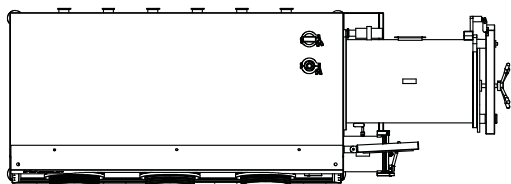
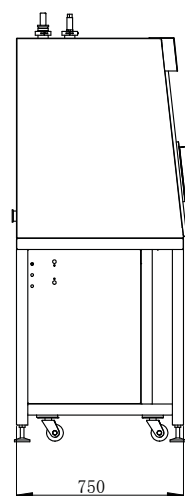
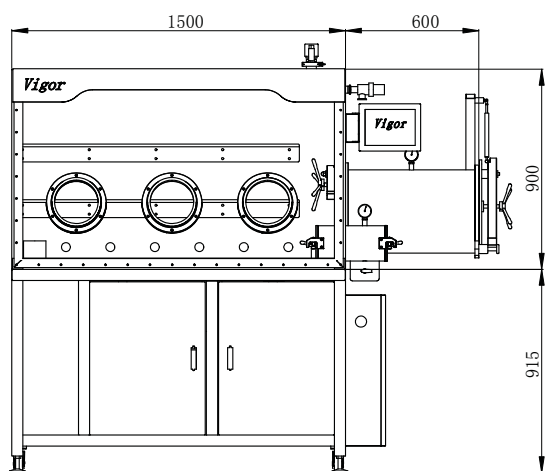
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