

PATOR



ABOUT US

Beijing Pator Vacuum Technology Co., Ltd. is a comprehensive company integrating R&D, production, sales and service. It is a comprehensive company that produces vacuum coating machines, molecular pumps, sales of auxiliary materials, coating materials, accessories, and equipment technical services. The company is mainly engaged in the technical services of various vacuum coating machines. It also provides customers with various coating materials and accessories, and acts as an agent for filaments and other optical materials imported from Japan.

Beijing Pator Vacuum Technology Co., Ltd. is mainly engaged in the production and technical services of vacuum acquisition equipment and vacuum coating equipment, providing chambers, molecular pumps and other components required by vacuum equipment, design and processing of vacuum systems; vacuum coating equipment spare parts and vacuum pump oil, We provide design, processing and debugging of electrical control products; research and development, production and sales of high-end coating materials; and provide services such as repair, maintenance and technical support for imported coating equipment.

Beijing Pator Vacuum Technology Co., Ltd. has a very professional technical service team. The customer service staff have been engaged in technical services for many years in well-known brand coating equipment companies and have accumulated rich experience. They can effectively and accurately determine and deal with equipment failures. In terms of service management, Beijing Pator Vacuum Technology Co., Ltd. has perfect and standardized operating procedures for different projects to live up to the commission and trust of customers.

Beijing Pator Vacuum Technology Co., Ltd. attaches great importance to technological innovation, based on the purpose of serving customers, and meeting customers' needs with high-quality services. The company adheres to the business philosophy of "customers first, excellence" and the principle of "customer first" to provide our customers with quality services.

Equipment Production Division

Our equipment production and processing department specializes in providing the best solution for your thin film deposition process. We provide standardized PVD and ALD vacuum thin film deposition system platforms, and can tailor vacuum equipment to meet customers' needs according to their needs. We have a patented brand of magnetron sputtering target gun, which can be used in R&D and production fields. In addition, we can also provide deposition sources for thermal evaporation, electron beam evaporation and OLED organic evaporation. At the same time, we also provide various power supplies, film thickness controllers and other related equipment required for deposition.

Molecular Pump Division

Our molecular pump division has a complete turbo molecular pump product line with pumping speeds ranging from 80 to 2,700 liters/sec. The product has a high price-performance ratio and flexible installation methods. The proven bearing system provides more optimized reliability. Thanks to the precise rotor design, the product has a better pumping speed, better compatibility of the foreline pump and a larger gas flow rate, and a higher compression ratio for small molecular gases.

Vacuum Parts Division

Our vacuum parts department has a stock of up to 14,000 standard vacuum products, which can be shipped on the same day according to customer needs. In addition to accepting phone orders at any time, you can also log on to our business website (www.labideal.com) to order online. In addition, we also provide free CAD engineering data download service. Based on ERP inventory system and efficient global distribution center, we will become your best vacuum equipment supplier.

Patent Certificate



Design and Processing Capabilities

Our engineering production department designs and manufactures various vacuum chambers for HV or UHV applications, including small vacuum chambers for research and development and large vacuum chambers for production, which can meet your various needs.



Helium Mass Spectrometer Leak Detection



Robot Automatic Welding

ATTO³ Universal Sputtering and Thermal Evaporation Deposition Platform

ATTO³ is a proven, robust and versatile design standard solution. The system can be operated manually and automatically, and has a wide range of deposition instrument options, including: RF and DC sputtering sources, low-temperature organic evaporators and metal evaporators. There are also many system options available, such as quartz crystal monitoring, high vacuum load lock and heating, cooling, rotating or static sample stages.



304L stainless steel chamber or glass chamber: e 300mm x 400mm high (internal dimensions). The chamber is equipped with up to five spare ports as standard according to the system configuration. Vacuum test runs to 10⁻⁸ Torr

- ◆ Thermal evaporation (up to 2 pcs, independent metal evaporator temperature)
- ◆ Magnetron sputtering source (up to 2 pcs, 2", 3" sources)
- ◆ Organic deposition source (up to 2 pcs)
- ◆ The above configuration can be installed in combination.
- ◆ Customized configuration can be provided according to requirements

ATTO¹⁰ Universal Sputtering, Electron Beam and Thermal Evaporation Deposition Platform

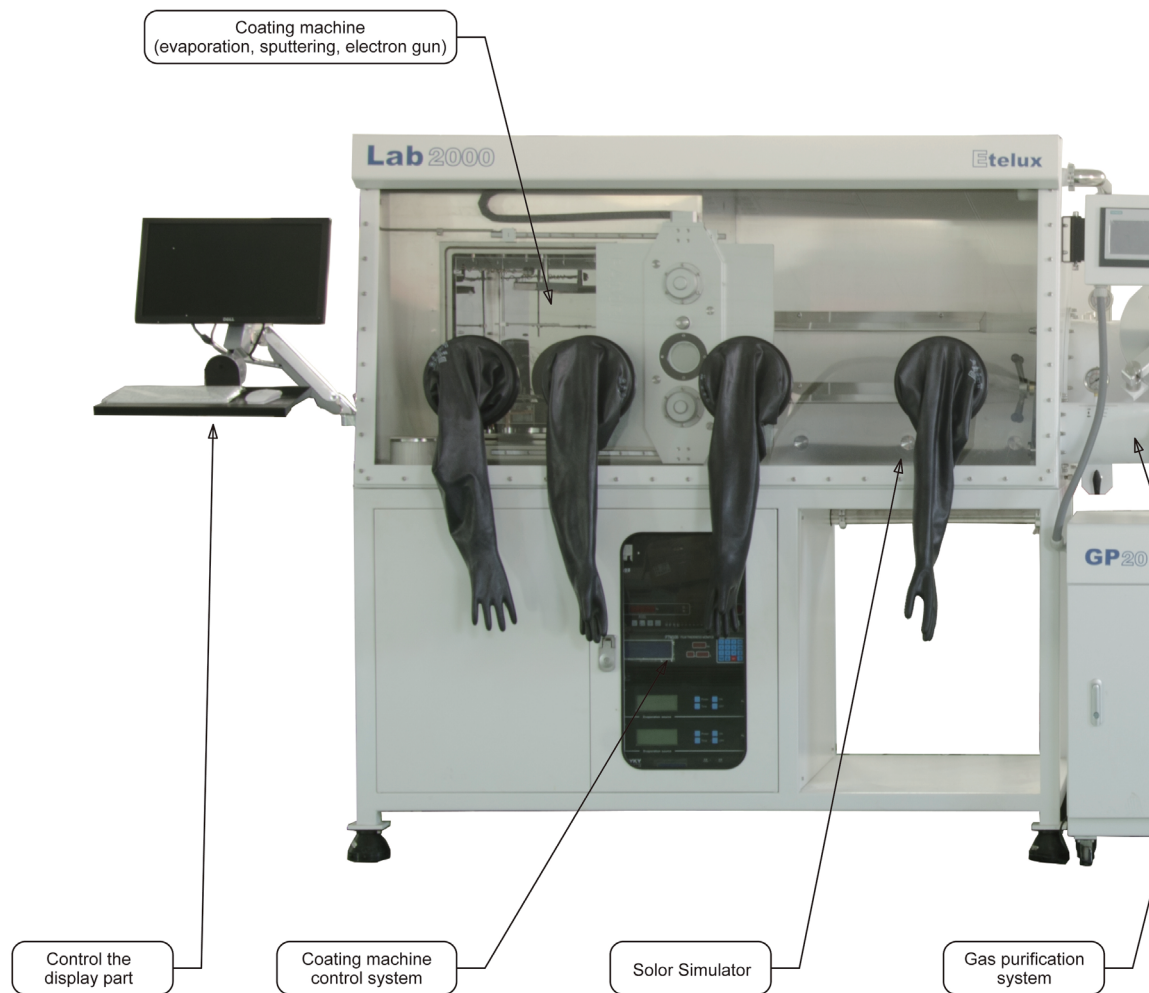
ATTO¹⁰ is a proven, robust and versatile design standard solution. The system can be operated manually and automatically, and has a wide range of deposition instrument options, including: electron beam evaporator, RF and DC sputtering sources, low temperature organic evaporator and metal evaporator. There are also many system options available, such as quartz crystal monitoring, high vacuum load lock and heating, cooling, rotating or static sample stages.

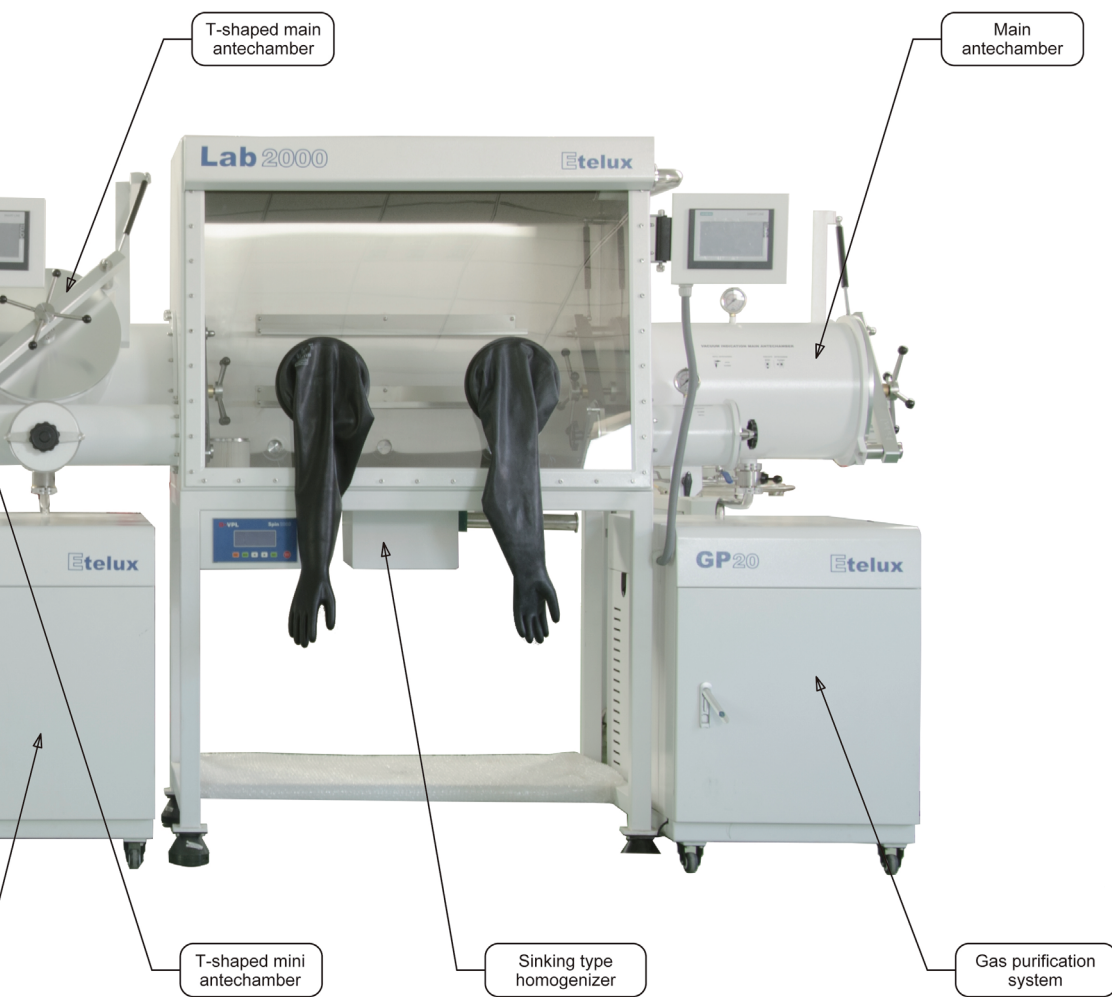


Cabinet 304L stainless steel chamber: 400mm wide x 400mm deep x 450mm high (internal dimensions) . The chamber is equipped with up to ten spare ports according to the system configuration. The vacuum test runs to 10^{-8} Torr.

- ◆ Thermal evaporation (up to 4 pcs of independent metal evaporator temperature)
- ◆ Magnetron sputtering source (up to 4 pcs, 2", 3" sources)
- ◆ Electron beam evaporation source (4 crucible 8cc, 8 crucible 12cc, 6 crucible 20cc)
- ◆ Organic deposition sources (up to 4)
- ◆ The above configuration can be installed in combination.
- ◆ Customized configuration can be provided according to requirements.

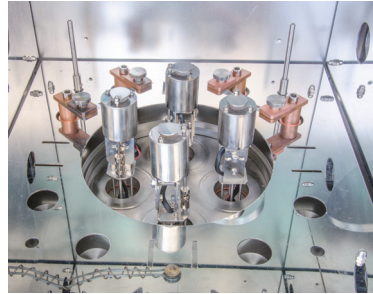
Glove Box Application





T-shaped mini antechamber

Used to produce organic light-emitting devices (OLED), photovoltaic cells and other organic material-based devices required for thin film formation of volatile organic materials.

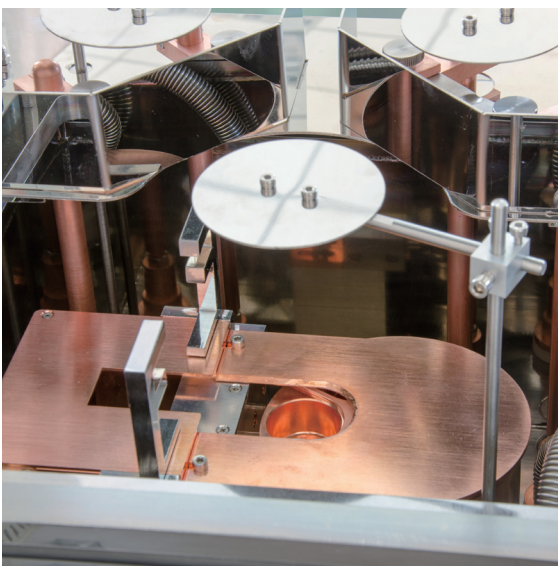


Our PID temperature control and uniform SCR-based power output power supply achieve precise deposition rate control and ensure a high-quality and uniform film.

- ◆ Use PID controller for temperature control, control within $\pm 1^{\circ}\text{C}$
- ◆ Automatic adjustment mode
- ◆ Adjustable alarm conditions
- ◆ The rate control input is compatible with deposition control
- ◆ CE certification

Electron gun

The evaporation source is the crucible directly driven by the motor, and the electron beam deflection angle is 270° . It is a magnetic deflection type E electron beam evaporation device for evaporating various metal and non-metal materials.



- ◆ Cathode voltage 6KV-15KV, cathode heating power supply AC 3V+3V, 60A, adjustable
- ◆ Inter-beam cold crucible 0 ~ 500mA, direct cooling crucible 0 ~ 1A
- ◆ The crucible capacity is 4x17mL for 4-hole cooling, 4x22mL for 4-hole direct cooling, and 85mL for ring-shaped direct cooling
- ◆ Magnetic field power supply X deflection current $\pm 2\text{A}$ adjustable, scanning frequency 10 ~ 250Hz; Y deflection current $\pm 2\text{A}$ adjustable, scanning frequency 10 ~ 250Hz
- ◆ Starting vacuum degree $6.7 \times 10^{-3} \text{ Pa}$, grounding resistance $\leq 40\Omega$
- ◆ Crucible positioning (four-hole crucible) is electronically controlled, automatic or manual point control
- ◆ Inlet temperature of crucible cooling water $\leq 25^{\circ}$, inlet pressure $\geq 0.2\text{MPa}$, water flow $\geq 8\text{L/min}$

Magnetron Sputtering Target

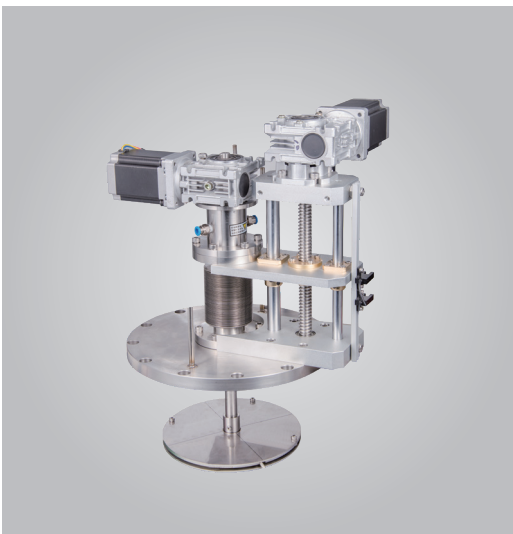
Suitable for magnetron sputtering sources for most R&D applications. Indirect cooling, clamping target design, integrated anode shielding components, self-adjustable height. Suitable for low and medium power, R&D and small-scale production applications. These sputtering cathodes range in size from one to four inches, can use any material, have excellent target utilization, and can be driven by RF, DC or pulsed DC power sources.



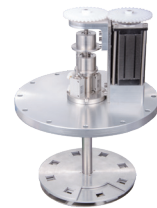
- ◆ Wide pressure range runs to 10^{-9} Torr, low exhaust
- ◆ Excellent film uniformity and deposition rate
- ◆ Efficient utilization rate of sputtering target
- ◆ Excellent target management mechanism eliminates dependence on managers, etc.
- ◆ Compact, modular magnet array
- ◆ The magnet is not exposed to vacuum and the magnet is not exposed to cooling water
- ◆ During target replacement, the cooling water will not be exposed to the vacuum chamber
- ◆ Unbalanced operation and compatibility with magnetic materials are available
- ◆ Full range of accessories (air supply, height adjustment, baffle, etc.)
- ◆ Customized sputtering source configuration is available

Sample substrate stage

The cutting-edge design provides high-temperature substrate heating and adjustment under true ultra-high vacuum conditions. This design is used for deposition applications such as evaporation, MBE (Molecular Beam Epitaxy), sputtering and CVD (Chemical Vapor Deposition). It is also possible to modify high-temperature materials such as substrate annealing and degassing. By ultra-high vacuum design unique hollow magnetic coupling technology, users can choose various applications and substrate sizes.



Substrate lifting and rotating automatic selection system



Substrate mask automatic matching and selection system

- ◆ Substrate heating up to 1200°C
- ◆ Continuous substrate rotation up to 60rpm
- ◆ Substrate lift/transfer, DC/RF substrate bias
- ◆ Automatic transfer and alignment of homing, adjustable deposition height
- ◆ SEMI standard 2 to 200mm diameter substrate processing