

Vacuum


Solution

Htc leading the new future for vacuum

2020

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VACUUM CHAMBER & SYSTEM

Vacuum Chambers

Htc vacuum provided to customized vacuum chamber device by you need. Standard vacuum chamber or vacuum device comes with the accompanying cost benefits and fast delivery. The Ultra high vacuum(UHV) system (base pressure 10^{-10} torr) for surface analysis science to the university laboratory, and we also designed a special cooling system for the process chambers device of thin film equipment which the temperature of substrate comes near to 600°C

Vacuum environment is an essential ingredient in thin film coating process and surface analysis science. A high quality customized vacuum chamber device is very important to the performance of equipment. Htc Vacuum has the extensive experience of designing and manufacturing various customized high vacuum(HV) and Ultra high vacuum(UHV) vacuum chamber devices.

The most commonly used material for vacuum chambers is stainless steel, aluminum, or carbon steel. The shape of customized vacuum chambers can be rectangle, cylinder, box, D-shape, spherical, Polygon, Bell jar and multi-edge.

Htc vacuum can provide several kinds of surface treatment of the vacuum chambers, such as sandblast, polished, and electro polished. We also provide the vacuum chamber stress relief process via heat treatment or vibration method. Furthermore, modules or systems can be assembled and tested in Htcvacuum's working shop to reduce the lead time and logistic cost.

The advantages of Htc for vacuum chambers :

- 1 Htc vacuum has the custom chamber extensive experience in high vacuum(HV) and Ultra high vacuum(UHV) industry.
- 2 Stock vacuum components, such as vacuum flanges, fittings and valves, are ready for vacuum chamber designing and manufacturing
- 3 Excellent machining ability and enough space for vacuum chamber manufacturing. Plate cutting, machining, welding, cleaning, assembly, and leak test all can be done in house.
- 4 Pumping system is all set for chamber pumping and leak testing, and Htc's own pump service teams can offer any assist in case.

Htc vacuum provides various high vacuum(HV) and Ultra high vacuum(UHV) chambers to Europe, North America, and Japan, and established an excellent reputation for high quality. Htc vacuum will continue the improvement and development of vacuum chambers to satisfy our customers and their needs.



➤ Vacuum Chambers

Cylindrical vacuum chamber

Application for Optical Technology
Research (Ø 1.8m x L 5.23m)



Box vacuum chamber



D Shape vacuum chamber



Spherical vacuum chamber



Polygon vacuum chamber



Bell jar vacuum chamber



Largest vacuum chamber



Aluminum vacuum chamber



➤ UHV Chambers

Ultra-high vacuum (UHV) is the art of precise vacuum technology, all kinds of vacuum coating, testing, analysis, measurement, and other experiments are integrated in one or more UHV vacuum chambers per customer's demand. And we can use ultra-high vacuum transmission system and degassing vacuum chamber in UHV vacuum pump to make linkage. Htc vacuum has the rich experience and vacuum technology in UHV chamber and UHV component fabrication.

Htc vacuum make the precise design of UHV vacuum chamber according to different experimental demand and guarantee to meet customer's experiment on a variety of quality and performance requirements.

Htc vacuum is an expert in manufacture ultra-high vacuum (UHV) chamber and UHV vacuum component, is a leading global supplier and manufacturer. Product categories are as follows:

- Synchrotron Radiation Research UHV Chamber
- Institutions for academic research UHV Chamber
- Standardized design UHV Chamber
- Customized UHV Chamber
- Oil free machining

Htc vacuum ultra-high vacuum (UHV) chambers are applicable for many kinds of application and configuration including synchrotron radiation, the requirement for scientific research, various of special customer's specifications and equipment of the functional requirements and also provide standard ultra-high vacuum (UHV) degassing chamber.

Acceptance criteria of Ultrahigh vacuum (UHV) chamber

- Material : 304S.S., 304LS.S., 316S.S.
- Surface treatment : Electrolytic polishing
- Leak Rate $< 2 \times 10^{-10}$ mbar · l/sec
- 120°C Vacuum baking 24 hours after the warmed working pressure $< 7.5 \times 10^{-10}$ torr
- RGA total pressure $< 1 \times 10^{-9}$ torr, 45 amu more substances out of pressure $< 0.3\%$

Standard cleaning and inspection procedure



Acceptance criteria of special ultra-high vacuum (UHV) chamber will be manufactured according to customer requirements.

➔ UHV Chambers

Synchrotron Radiation Research
UHV Chamber



Institutions for academic research
UHV Chamber



Standardized design UHV Chamber



Customized UHV Chamber



➔ Vacuum Module & System

The vacuum module and its variants for some materials in some vacuum-deposited on an area of the substrate, the substrate comprises three dimensional pieces, with the aim of its front surface a multilayer coating film, and the vacuum module can be used in vacuum systems.

Htc vacuum complies with the customer's requirements to proceed the design of the customized modules. The module will be assembled and tested by Htc.

The customized modules usually integrate the vacuum chamber, frame, vacuum pump, vacuum piping, and control system. The function of modules could be vacuum exhaust, substrate degassing, or products inspection in vacuum environment etc. Htc vacuum is able to supply a module tailored to customer's specifications.

Vacuum Evaporation and Polymerization System



Cluster Transfer System for Flexible Substrate Coating



Thin Film Solar Cell Sputtering PVD System



Cutting Tool PVD Coating System



UHV System for Surface Analysis

