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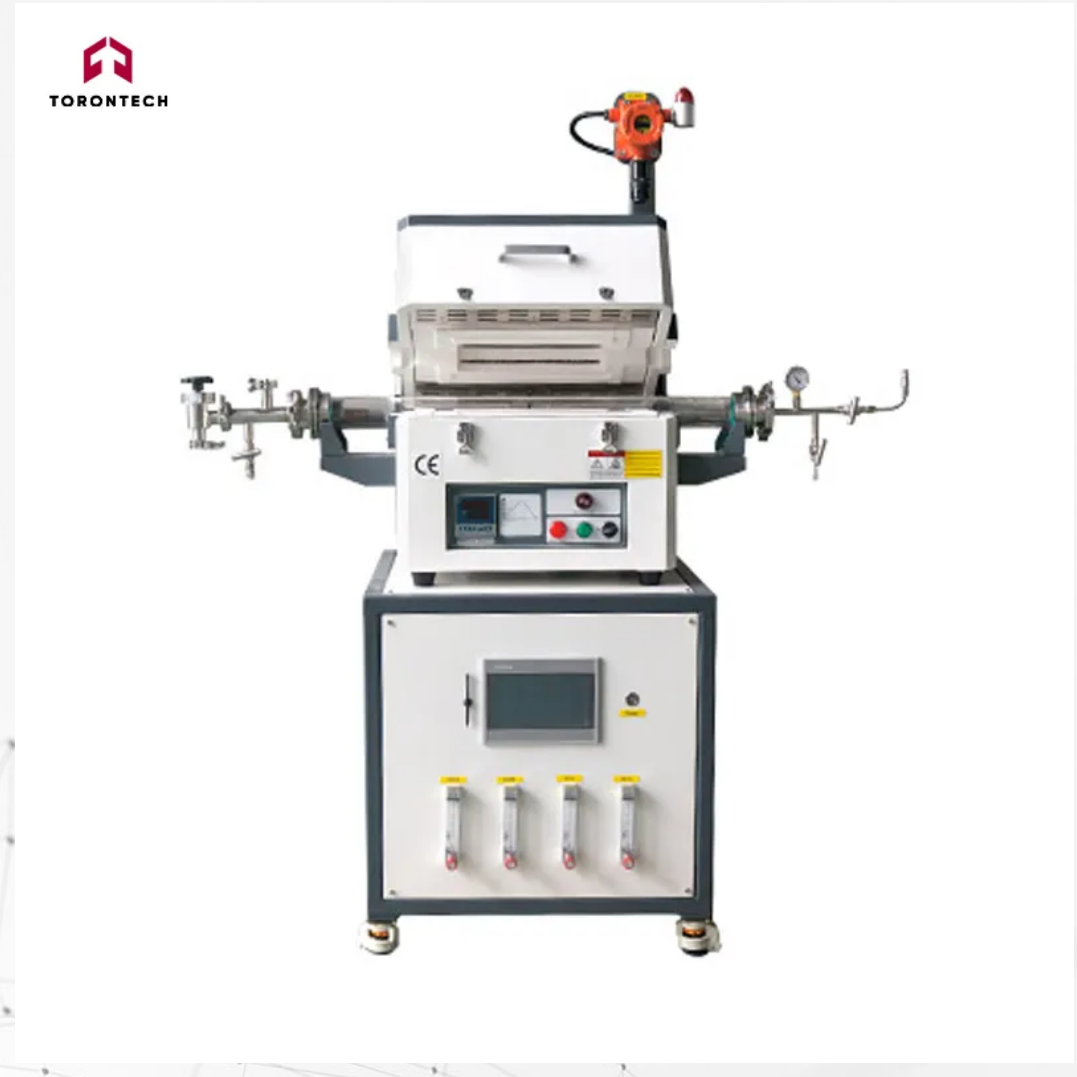

SPLIT CVD TUBE FURNACE – TT-CVDTF-80-1200

TT-CVDTF-80-1200 is a 1200°C split tube furnace designed for Chemical Vapor Deposition (CVD). This process involves chemical gases or vapors reacting on the surface of a substrate to form coatings or nanomaterials. CVD is widely used in the semiconductor industry for depositing various materials, including many types of insulating layers, metals, and metal alloys.

APPLICATIONS

Split CVD Tube Furnace – TT-CVDTF-80-1200

Split CVD Tube Furnace – TT-CVDTF-80-1200

- **Semiconductor Industry** – Ideal for CVD processes in semiconductor fabrication, enabling precise deposition of insulating layers, metals, and metal alloys on wafers and substrates. Ensures excellent uniformity and reproducibility for advanced device manufacturing.
- **Nanomaterials Research** – Supports the synthesis of nanostructures, thin films, and carbon-based materials such as CNTs and graphene through chemical vapor deposition. Provides precise temperature and atmosphere control critical for advanced materials R&D.
- **Coating & Surface Engineering** – Enables deposition of protective, functional, and catalytic coatings on metals, ceramics, and composites. Widely applied in aerospace, automotive, and energy industries for enhanced surface performance.

- **Advanced Ceramics Processing** – Facilitates the fabrication of high-purity ceramic coatings and composites with controlled microstructures. Ensures excellent thermal resistance and mechanical properties for industrial and research applications.

- **Petrochemical & Catalysis Studies** – Suitable for catalyst preparation, activation, and testing under controlled atmospheres. Enables accurate simulation of industrial reaction conditions at high temperatures.

- **Energy & Battery Research** – Used for thin-film deposition of solid electrolytes, electrodes, and protective coatings for next-generation lithium-ion and solid-state batteries. Supports consistency and reliability in energy materials development.

- **Universities & Research Institutes** – An advanced tool for experimental research in physics, chemistry, and materials science. Offers versatile functionality for both academic studies and industrial collaborations.

- **Industrial Quality Control & Certification** – Provides reliable high-temperature testing and CVD processing for product validation, compliance, and certification. Meets ISO, CE, SGS, and TÜV standards for regulated industries.

FEATURES

Furnace Shell

- The shell is constructed from Q235 low-carbon steel with a corrosion-resistant, electrostatically applied coating.
- A durable, double-layer metal frame is integrated with a heat-insulating fan structure to maintain a low external surface temperature.
- Designed for horizontal use, the furnace features a top-opening lid for easy access and operation.

Refractory Material

- The insulation system consists of multiple layers, including lightweight alumina ceramic fiber and premium insulation boards.
- It is completely free of asbestos and engineered for minimal heat loss and reduced energy consumption.

Heating System

- The furnace uses high-quality HRE spiral resistance wire heating elements, securely embedded along the chamber surface.
- These elements deliver efficient, radiant heat for consistent performance and extended service life.
- The resistance wire ring layout ensures excellent temperature uniformity throughout the chamber.

Temperature Control Panel

- Features PID and SSR control technology for precise temperature regulation.
- Equipped with an internationally standardized N-type nickel-chromium-silicon thermocouple, it supports a wide measurement range of 0–1300°C and ensures durability.
- The furnace door includes a safety switch that automatically cuts power when opened.

Program Controller

- User-friendly controller designed to handle complex thermal processes.
- Offers intuitive operation with flexible programming capabilities.
- Supports up to 30 programmable segments per curve.
- Includes over-temperature protection, fault alarms, and automatic safety features.

Vacuum & Atmosphere Capability

- Comes with a 304 stainless steel sealing flange, allowing operation under vacuum or controlled atmosphere conditions.
- Standard configuration includes a high-quality quartz glass working tube, with optional metal or corundum tubes available for specialized applications.

- A high-performance dual-stage rotary vane vacuum pump achieves vacuum levels down to 5 Pa, displayed on a digital vacuum gauge.
- Includes an air circuit control unit with optional 1–3 channel MFC (Mass Flow Controller) systems for automatic gas flow management.

TECHNICAL SPECIFICATIONS

Item	TT-CVDTF-25-12	TT-CVDTF-40-1200	TT-CVDTF-60-1200	TT-CVDTF-80-1200	TT-CVDTF-100-1200	TT-CVDTF-120-1200
Tube Size	Φ25 x 800mm	Φ40 x 1000mm	Φ60 x 1000mm	Φ80 x 1000mm	Φ100 x 1000mm	Φ120 x 1000mm
Max Temperature	1200℃					
Work Temperature	1100℃					
Heating Zone	440mm					
Voltage/Power	220V/1.8KW (110V is also available)	220V/1.8KW (110V is also available)	220V/2.6KW (110V is also available)	220V/2.6KW (110V is also available)	220V/2.6KW (110V is also available)	220V/5KW (110V is also available)
Heating Element	HRE alloy resistance wire					
Chamber Material	Polycrystalline inorganic alumina ceramic fiber material prepared by wet vacuum filtration					
Tube Material	Quartz Tube					
Temperature Accuracy	±1℃					
Thermocouple	N type thermocuple					
Temperature Controller	Intelligent microcomputer PID temperature control instrument, SCR/SSR control, PID parameter self-tuning function; programmable 4 groups of 8 program segments, program heating, program heat preservation, program cooling					

Heating Rate	1-25℃/min freely set
Furnace Structure	Furnace temperature control integrated structure, furnace opening and closing; double-layer shell, air circulation and heat insulation
Sealing Function	Both ends of the furnace tube are equipped with stainless steel metal flanges, matched with high-temperature PTFE gaskets, which can work under vacuum with a vacuum degree of ≤5pa (rotary vane vacuum pump)
Atmosphere Performance	There are air inlets and outlets at both ends of the flange. The pressure gauge is installed on the metal flange. The precision needle valve can adjust the air intake and output, and can be fed with protective gases such as nitrogen, argon, and hydrogen.
Equipment Safety	Modular control, sound and light alarm signal will be sent out for over temperature and broken coupler in the working process, and the protection action will be completed automatically
Safety Protection	The equipment is equipped with a circuit breaker, which will automatically pop open in case of short circuit leakage, which can protect the safety of equipment and operators
Furnace Shell	High-quality cold-rolled steel plate CNC machine tool blanking processing, after welding, grinding, polishing, phosphating, pickling, surface electrostatic spraying plastic powder
Quality Certificate	ISO9001 CE SGS TUV
Standard Accessroies	1. Furnace Body 2. Temperature Controller 3. Power Cable 3 meters 4.Thermocouple 5.Manual 6. Furnace Hook 7. One pair of high temperature gloves 8. Two pipe plugs 9. One set of sealing flange
Optional Accessories	1. Optional rotary vane vacuum pump (vacuum degree ≤ 5pa 2. Optional digital vacuum gauge (1.0×105-1.0×10-1pa) 3. Optional float flowmeter (range 60-600ml/min) 4. Optional with quartz boat

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