

PECVD Tube Furnace with 4 Channels Gas Delivery & Vacuum System

OTF-1200X-50-4CLV-PE



Introduction

OTF-1200X-50-4CLV-PE is a **CE certified** compact PE-CVD tube furnace system (Plasma Enhanced Chemical Vapor Deposition), which consists of 500W RF plasma source, 2" O.D split tube furnace, 4 channels precision mass flow meter with gas mixing tank, and high quality mechanical pump.

The PE-CVD furnace is an ideal and affordable tool to deposit thin films or grow nano-wire from a gas state (vapor) to a solid state, and benefits:

- Lower temperature processing compared to conventional CVD.
- Film stress can be controlled by high/low frequency mixing techniques.
- Control over stoichiometry via process conditions.
- Offers a wide range of material deposition, including SiO_x, SiN_x, SiO_xN_y and Amorphous silicon (a-Si:H) deposition.

Specification

Split Tube furnace	<ul style="list-style-type: none">● 1200°C max. working temperature.● 30 segments programmable precision digital temperature controller.● 440 mm length single heating zone and 150 mm length constant temperate zone● 2"ODx1.7"IDx48" Length quartz tube.● One pair of vacuum sealed flange with valves.● Input power: 208 – 240V AC input, single phase at max. 4KW
Plasma RF Power Supply	<ul style="list-style-type: none">● Output Power: 5 -500W adjustable with $\pm 1\%$ stability.● RF frequency: 13.56 MHz $\pm 0.005\%$ stability.● Reflection Power: 200W max.● Matching: Automatic● RF Output Port: 50 Ω, N-type, female● Noise: < 50dB.● Cooling: Air cooling.● Power : 208-240VAC, 50/60Hz
Vacuum Pump and valve	<ul style="list-style-type: none">● Two stage mechanical vacuum pump installed with max. vacuum pressure 10^{-3} torr.● KFD25 adaptor and stainless steel pipe are connected between pump and tube flange with precision ball valve.● Digital vacuum pressure gauge and display are installed with the furnace.● Optional: You choose a molecular pump from MTI to reach high vacuum upto 10^{-5} torr at extra cost
Mass Flow meters	<ul style="list-style-type: none">● Four precision mass flow meters (0.02% accuracy) with digital display are installed on the bottom case to control gas flow rate automatically.● MFC 1: Control range from 0~100 SCCM● MFC 2&3: Control range from 0~200 SCCM● MFC 4: Control range from 0~500 SCCM

	<ul style="list-style-type: none"> ● One gas mixing tank is installed on bottom case with liquid release valve. ● 4 stainless steel needle valves is installed on left side of bottom case to control 4 type gases mixing manually. ● Gas inlet fitting: four 1/4NPS. ● Gas outlet fitting: four 1/4NPS.
Overall dimensions	<ul style="list-style-type: none"> ● Furnace: 550 x 380 x 520mm ● 2 Bottom Mobile case: 1200 x 1200 x 1200 mm. ● Net weight: 220 Lbs. ● Shipping weight: 350 lbs.
Warranty & Certificate	<ul style="list-style-type: none"> ● One year limited warranty (Consumable parts such as processing tubes, o-rings and heating elements are not covered by the warranty, please order the replacement at related products below.) ● CE Certificate



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