C-series: Chemical Vapor Deposition Furnace(CVD/CVI)

C系列：气相沉积炉(CVD/CVI)

设备稳定性高 / 温度均匀性好 / 升温速度快 / 控制精度高 / 安全性能好

High Equipment Stability / Good Temperature Uniformity / Fast Heating Speed / High Control Accuracy / Good Safety Performance

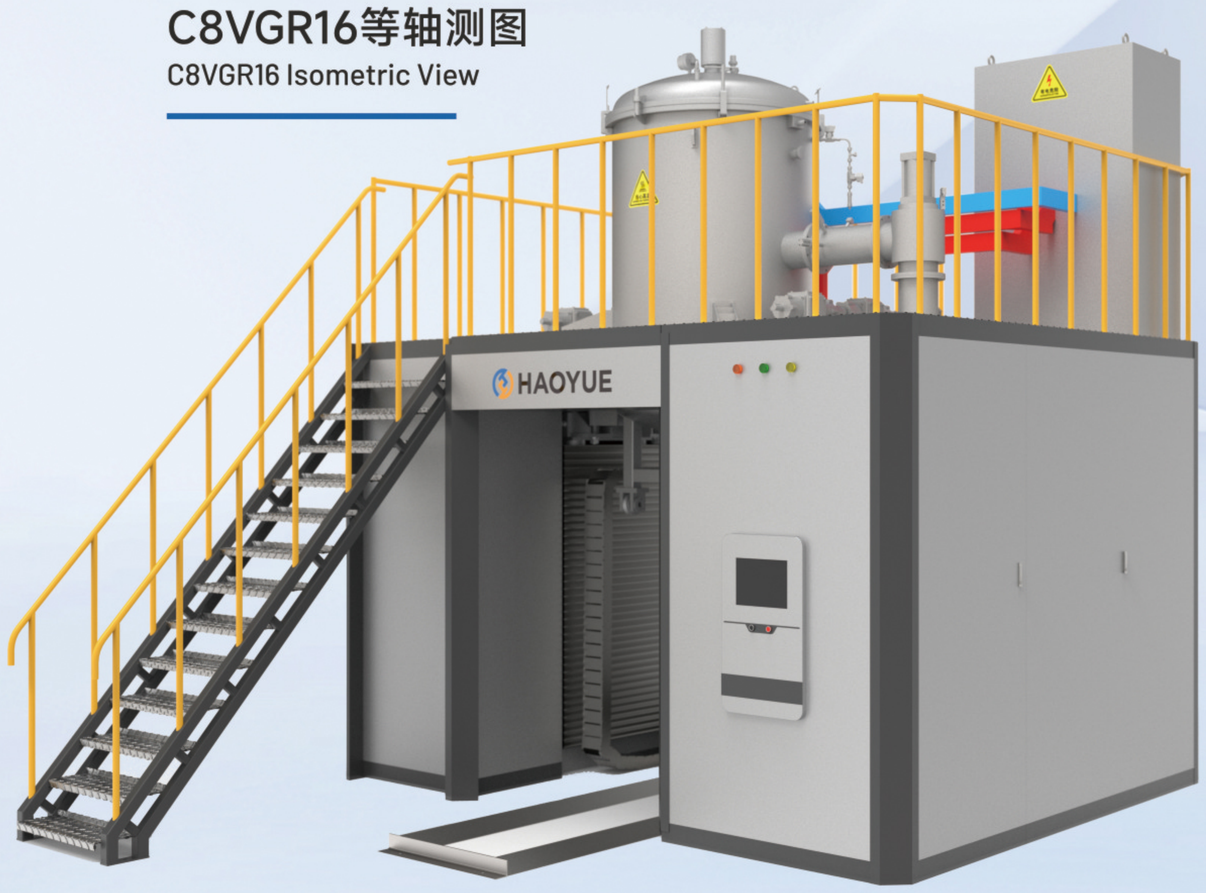
简介 / BRIEF INTRODUCTION

热诱导化学气相沉积 (英语:chemical vapor deposition ,CVD)是用于各种电介质,半导体和金属材料的保护涂层的沉积的有力方式，无论是单晶，多晶，无定形或外延状态上或大或小的形态。典型的涂层材料包括热解碳，碳化硅，氮化硼。通过使用合成前体，涂层非常纯净并目满足半导体工业的典型要求，根据工艺参数，可以有多种层厚度，从单个或几个原子层到厚度从10纳米到数百微米的固体保护层或功能层，以及厚度达100微米的单片部件，甚至高达数毫米。

热诱导的化学气相渗透(英语:chemical vaporinfiltration ,CVI)是一个与CVD有关的技术，以在基体材料渗入多孔或纤维预成型件以制备由复合材料制成的部件具有改善的机械性能，耐腐蚀性，耐热冲击性和低残余应力。

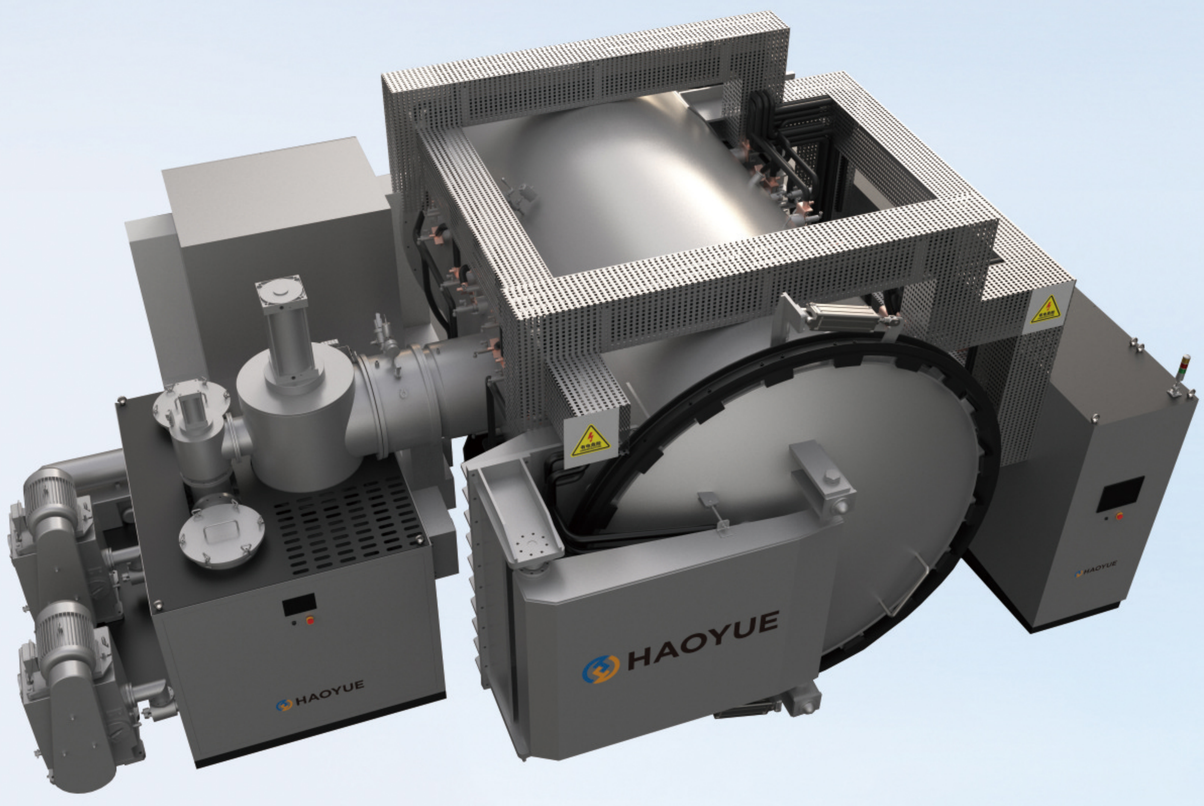
C8VGR16等轴测图

C8VGR16 Isometric View



Thermal induced chemical vapor deposition (CVD) is a powerful method for depositing protective coatings on various dielectrics, semiconductors, and metal materials, whether in single crystal, polycrystalline, amorphous, or epitaxial states, in large or small forms. Typical coating materials include pyrolytic carbon, silicon carbide, and boron nitride. By using synthetic precursors, the coating is very pure and meets the typical requirements of the semiconductor industry. Depending on process parameters, there can be multiple layers, ranging from single or several atomic layers to solid protective or functional layers with thicknesses ranging from 10 nanometers to hundreds of micrometers, as well as single chip components with thicknesses up to 100 micrometers, and even up to several millimeters.

Thermal induced chemical vapor infiltration (CVI) is a technique related to CVD, which involves infiltrating porous or fiber preforms into a matrix material to prepare components made of composite materials with improved mechanical properties, corrosion resistance, heat resistance to impact, and low residual stress.



应用领域 / APPLICATIONS

化学气相沉积炉（碳化硅）可用于以硅烷为气源的材料表面抗氧化涂层、基体改性等。立式化学气相沉积炉（沉积炭）可用于以碳氢气体（如C3H8、CH4等）为碳源的材料表面或基体等温CVD/CVI处理。

卧式化学气相沉积炉（SiC、BN）可用于材料的表面涂层、基体改性、复合材料制备等外延片基座、晶体炉高温耐材、热弯模具、半导体坩埚、陶瓷基复合材料等。

产品规格及技术指标 / SPECIFICATIONS & PARAMETERS

产品编号 Numbering	产品型号 Model	有效工作区(mm) Chamber Size (mm)	极限真空度(Pa) Ultimate Vacuum (Pa)	工作温度(°C) Operating Temperature (°C)	适用工艺 Applications
C4VGR16	VVCgr-56/60-1600	Φ560×600	1	1600	CVD/CVI
C6VGR16	VVCgr-84/90-1600	Φ840×900	1	1600	CVD/CVI
C8VGR16	VVCgr-110/120-1600	Φ1100×1200	1	1600	CVD/CVI
C10VGR16	VVCgr-140/200-1600	Φ1400×2000	1	1600	CVD/CVI