

# 915Mhz Mpcvd Diamond Machine Microwave Plasma Chemical Vapor Deposition System Reactor

Item Number: MP-CVD-101



## Introduction

KINTEK MPCVD Diamond Machine: High-quality diamond synthesis with advanced MPCVD technology. Faster growth, superior purity, customizable options. Boost production now!

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Microwave system (according to optional power supply)	<ul style="list-style-type: none"> <li>Operating frequency:915±15MHz</li> <li>Output power:3-75kW continuously adjustable</li> <li>Cooling water flow:120/min</li> <li>System standing wave coefficient:VSWR≤1.5</li> <li>Microwave leakage:</li> </ul>
Vacuum system and reaction chamber	<ul style="list-style-type: none"> <li>Leakage rate</li> <li>The ultimate pressure is less than 0.7Pa (this machine comes with imported Pirani vacuum gauge)</li> <li>The pressure rise in the cavity shall not exceed 50Pa after 12 hours of maintaining pressure.</li> <li>Reaction chamber working mode: TM021 or TM023 mode</li> <li>Cavity type: cooled cylindrical cavity, can carry power up to 75KW, high purity ,Stone ring seal.</li> <li>Inlet method: Top sprinkler head inlet.</li> <li>Observation temperature measurement window: 8 observation holes, evenly distributed horizontally.</li> <li>Sampling port: bottom lifting sampling port</li> </ul>
Sample holder system	<ul style="list-style-type: none"> <li>Sample stage diameter ≥200mm, single crystal effective use area ≥130mm,The effective use area of polycrystalline is ≥200mm. Substrate platform water-cooled sandwich structure, vertical straight up and down.</li> </ul>
Gas system	<ul style="list-style-type: none"> <li>Full metal welded gas plate 5-7 gas lines</li> <li>All internal air circuits of the equipment use welding or VCR connectors.</li> </ul>
System cooling	<ul style="list-style-type: none"> <li>3-way water cooling, real-time monitoring of temperature and flow.</li> <li>System cooling water flow 120L/min, cooling water pressure</li> </ul>
Temperature measurement method	<ul style="list-style-type: none"> <li>External infrared thermometer, temperature range 3001400 M</li> </ul>

serial number	Module name	Remark
1	Microwave power supply	Standard domestic magnetron: Yingjie Electric / Distinguish power supply Domestic solid-state source: Watson (+30,000) Imported magnetron: MKS/ pastoral (+100, 000)
2	Waveguide, three pins, mode converter, upper resonator	Self made

3	Vacuum reaction chamber (upper chamber, lower chamber, connectors)	Self made
4	Infrared thermometers, optical displacement components, brackets	Infrared thermometers, optical displacement components, Fuji Gold Siemens + Schneider brackets
5	Water-cooling table motion components (cylinders, workpieces, etc.)	
6	Ceramic thin film vacuum gauge, Pirani vacuum gauge	Inficon
7	Vacuum valve components (ultra-high vacuum gate valve, precision pneumatic valve*2, electromagnetic vacuum charging differential valve)	Fujikin + Zhongke + Himat
8	Vacuum pump and connecting pipe fittings, tee, KF25 bellows*2, adapter	Pump: Flyover 16L
9	Metal microwave sealing ring*2; metal vacuum sealing ring*1; Quartz plate	Quartz: Shanghai Feilihua Semiconductor Grade High Purity Quartz
10	Circulating water components (joints, diverter blocks, flow detectors)	Japanese SMC/CKD
11	Pneumatic part (CKD filter, airtac multi-way solenoid valve, pipe fittings and adapters)	
12	Gas connector, EP gas pipe, VCR connector, filter 0.0023μm *1, filter 10μm*2	Fujikin
13	Machine casing, stainless steel table, universal wheels, feet, bracket fastening screws, etc	custom processing
14	Gas flow meter*6 (including one pressure control)	Standard seven-star , optional Fuji Gold ( +34,000 ) / Alicat (42,000)
15	Gas plate processing (5-way gas, filter*5, pneumatic valve*5, manual valve*6, pipeline welding)	Fuji Gold
16	PLC automatic control	Siemens + Schneider
17	Molybdenum table	