



### Amitec Chemical Vapour Deposition CVD16

Amitec model CVD16 is a low cost, high performance chemical vapour deposition system. It consists of a precision bench-top furnace using MoSi<sub>2</sub> as heating elements. It is widely used for materials or chemical lab to sinter all types of new materials samples under vacuum or other gases condition. The temperature of furnace is controlled by high precision controller with accuracy +/- 1 °C and 51 segments programmable up to 1600°C. Vacuum pump is used for pumping atmospheric and inert gasses. It uses hydrocarbon pump oil and the pump must be filled with oil to the indicated level before operation. The pump comes with a 1 liter container of oil. This pump is not suitable for corrosive gasses as they will degrade the internal parts, and it is not suitable for pumping high concentrations of Oxygen (above 20%) as there is danger of the Oxygen reacting with the hydrocarbon pump oil. Gas control Mass flow meter system is designed for precision control of one or more kinds of gases flowing through vacuum sealed furnaces. The gas control system is installed in heavy duty mobile cart where tube furnace can be placed on the top. The front panels in the system will display gas pressure and flux accurately with adjust valves. The pressure limit valves are installed in each tube to ensure gas flow safely. It is lowest priced CVD system in the world so it can be purchased for educational institutes for research in nanotechnology.

### Amitec CVD16 Applications:

- \* Carbon nanotubes
- \* Thin film growth on substrate
- \* Optoelectronics devices
- \* Biotechnology
- \* Microfabrication
- \* MEMS,
- \* Fiber optics & DWDM components
- \* Semiconductor device fabrication
- \* Thin film growth
- \* Ceramic powder
- \* Artificial diamonds

Specifications are subject to upgrade due to constant innovation in technology. Accessories shown in the photograph are not part of standard equipment.

### Amitec CVD16 Technical Specifications

Chamber	High purity ceramic Alumina (Al <sub>2</sub> O <sub>3</sub> )
Size	70mm ID X 1000mm length standard
Max temperature	1600 °C
Normal temperature	1500 °C
Controller	IC with 51 segments programmable and LED display
Max. Heating Rate	10 °C/min
Constant T Zone	150mm
Temperature Accuracy	+/- 1 °C
Power	5kW
Nominal speed	5m <sup>3</sup> /hr (300lit/min)
Partial pressure	10E-4 mbar
Working temperature	20-45 °C
Pumping Power	450W
Mass flow controller	1 - 6 Channels
Standard Scale (N <sub>2</sub> )	5, 10, 20, 30, 50, 100, 200, 500, SCCM; 1, 2, 3, 5, 10 SLM
Precision	+/- 1.5 %
Linearity	+/- 0.5 - 1.5 %
Repeatability	+/- 0.2 %
Response Time	Gas Characteristic: 1 - 4 Sec; Electric Characteristic: 10 Sec
Pressure Diff. Range	0.1 - 0.5 Mpa
Max Pressure	3 Mpa
Display	4 digits
Power supply	Single Phase 220V AC 50 Hz
Standard Accessories	Vacuum Meter: - 0.1- 0.15 Mpa, 0.01 MPa/grid, SS Pipe for Gas: D6 (out) x D4 (in) Inlet and outlet pipe: D3 X L Cut Valve: D6 Gas Mixed Room: Depend on the channel number of the gas flow. MOSi <sub>2</sub> Heating elements 6 nos Vacuum Guage with flanges 1 pc Pt-Rh Thermal Couples 1pc (B Type) with alumina protective tube Al <sub>2</sub> O <sub>3</sub> Furnace 1pc Foam Al <sub>2</sub> O <sub>3</sub> Block 4 pcs SS furnace Protecting Cover 1 pc High Temperature Vacuum Gasket 4pc

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