

**DLI**

# MC-050 DLI - SYSTEM

2-inch DLI-CVD / DLI-ALD system

From room temperature up to 1100°C

Direct Liquid Injection vaporizers

DLI-CVD, DLI-ALD, MOCVD, RTP, RTCVD in one chamber



## Applications

**Simple and multi-metallic oxides**

**Metals, nitrides and alloys**

**III-V, wide band gap semiconductors**

**2D and 3D materials**

**Etc.**

## Specifications

The Annealsys MC-050 system is a 2-inch DLI-CVD / DLI-ALD reactor developed to meet the requirements of research and development units.

The infrared lamp furnace in association with the direct liquid injection vaporizers provide unique multi process capabilities inside the same process chamber: CVD, ALD, MOCVD, RTP and RTCVD.

The Direct Liquid Injection (DLI) vaporizers provide perfect control of precursor flow and allow utilization of low vapor pressure and diluted chemical precursors. The fast switching of the precursor vapor flows associated with the by-pass valve provide perfect interface control for deposition of nanolaminates.

The MC-050 is the perfect machine for the development of new materials and nanolaminates using the widest range of solid and liquid organometallic precursors.

## Basic features

Substrate size	Up to 2-inch diameter
Process chamber	Quartz tube with water cooled stainless steel flanges Infrared lamp heating system Counter tube for easy cleaning of the process chamber
Temperature range	From room temperature up to 1100°C
Temperature control	Thermocouple and pyrometer temperature control Fast digital PID / RTP temperature controller
Vapors, gas and vacuum	Up to 6 direct liquid injection vaporizers State of the art liquid panels with full rising capability Up to 8 process gas lines with digital mass flow controllers Vacuum valve, vacuum gauge and automatic pressure control
Control	Full PC control, up to 400 operations or loops per recipe Human interface designed in respect of SEMI E95-0200 Full data logging and process historicals

## Optional features

Pyrometer temperature control  
Rough vacuum pump, Turbo pump  
Glove box interface and glove box  
Remote plasma  
Ozone generator

## Customer support

Outstanding customer support for hardware, software and process  
Efficient remote support using software diagnostic capabilities  
High expertise in CVD / ALD processes and of chemical precursors of our process engineers  
Capability to support customer for process optimization

## Physical specifications

Facilities	Voltage : 3x400V+N+Gr / 3x220V+Gr		
	Power : 21 kW		
Dimensions and weight	Water : 2 to 4 bars, pressure drop 1 bar, 8 l/mn		
	Compressed air : 6 bars (valve actuation)		
	Process gas fittings : VCR ¼		
	Width	955 mm	37.6"
	Depth	1,604 mm	63.2"
	Height	1,812 mm	71.4"
	Mass	400 kg	882 lbs



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