MPCNT-Professional

Using the theory of desk-top CVD system MPCNT-160 Basic, MPCNT-Professional added some features, such as a large-size heater, a continuous catalyst and carrier supply system, and a nanotubes collection mechanism for the cointiuous synthesis and mass production of CNTs. Although it is very compact in size, it produces high quality and long-length CNTs 10-50grams/day.

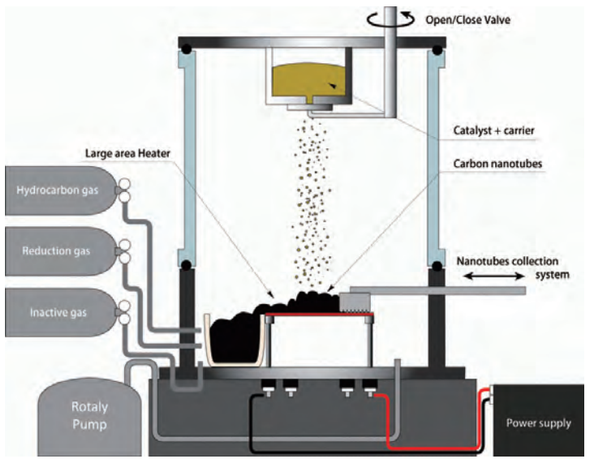
CNTs can be synthesized directly on the compound materials.

MPCNT-Professional

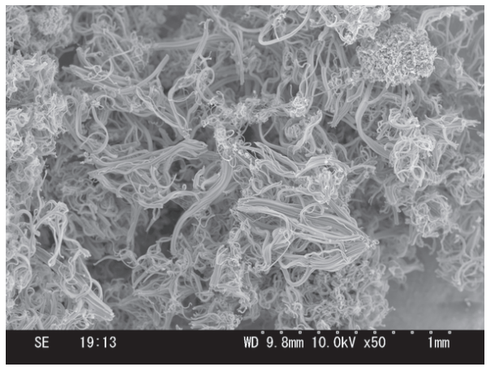
■ Specifications ■

MPCNT-Premium plus:		
Large size heater		60mm×80mm
	operation temperature	400 ～ 800℃
Power supply for a large-size heater	output power	1600W
		AC90-250 1φ 50-60Hz
	dimension	W430mm×H130mm×D405mm
Vacuum pump	oil-sealed rotary pump	
Catalyst + Carrier supply system		
Nanotubes collection system		
Pyrometer		

* Detailed specifications will be determined after consultation with the user.



Long length CNTs (500μm ~ 1mm; φ10nm)



MPCNT series

Desktop CVD Systems for Carbon Nanotube Synthesis

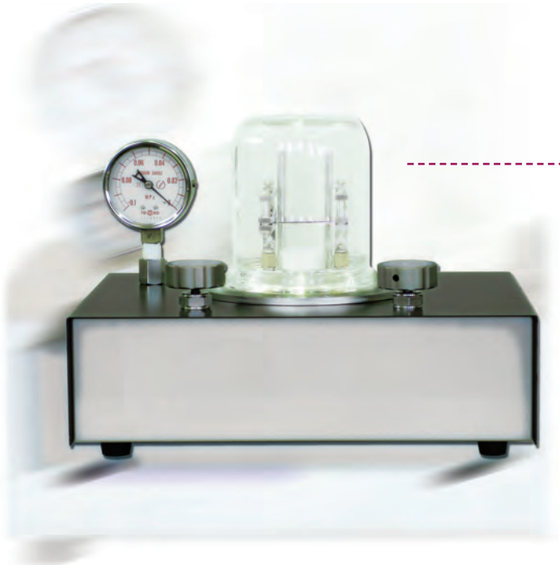
Models

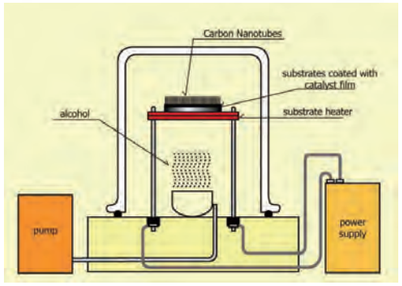
- Basic
- Premium
- Professional

R-DEC Co., Ltd.
1-16-10 Ninomiya, Tsukuba, Ibaraki 305-0051 Japan
Phone : +81-29-858-0211 Fax : +81-29-855-9877
URL : www.rdec.co.jp/e/

MPCNT-160 BASIC

Carbon Nanotubes (CNTs) can be synthesized in a few minutes very easily using MPCNT-160 Basic.
Alcohol, gasoline or fuel biomass can be used as source of carbon.





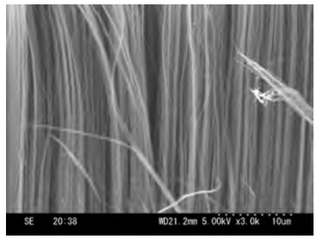
CVD system for producing CNTs by heating up the substrate prepared with catalyst inside the depressurized chamber. Ethanol, a source of carbon, can be either pre-installed or can be added later on.

MPCNT-160 BASIC

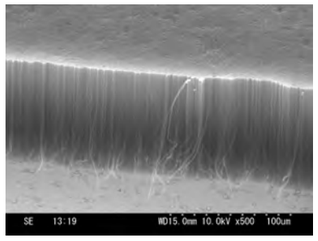
■ Specifications ■

Main Unit	pyrex chamber	φ160 x H125
	purge gas port	1
	vacuum pump port	1
	leak port	1
	vacuum gauge	1 (bourdon gauge)
	elec. feedthrough port	2pairs（1pair：spare)
	dimension	W400mm×H230mm×D265mm
Heater	size	25mm x 40mm
	operation temperature	400～750℃
Power Supply	output current	40A
	output power	400W
	input power	AC90-250 1φ 50-60Hz
	dimensions	W110mm×H130mm×D405mm
Vacuum pump	oil-sealed rotary pump	
Crucible for containing liquid fuel		
(Optional parts)		
Stainless-steel Chamber for	liquid fuel port	1
introducing of raw materials	hydrocarbon gas port	1
	reduction gas port	1
	spare port	1
	a container for liquid fuel	1
Additional Power Supply	power supply	1
	heater unit	1
Pyrometer		1

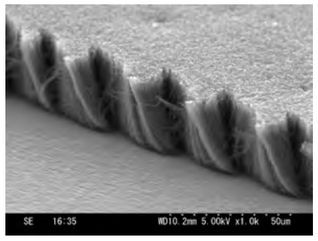
CNT



CNT/Si



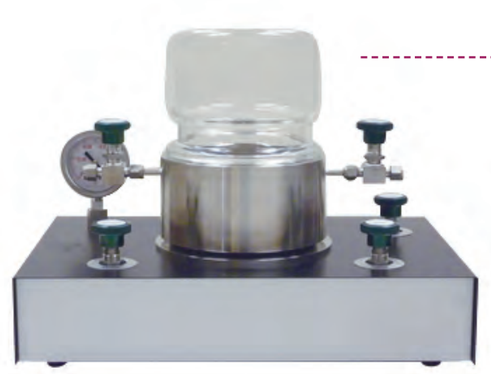
CNT/Si

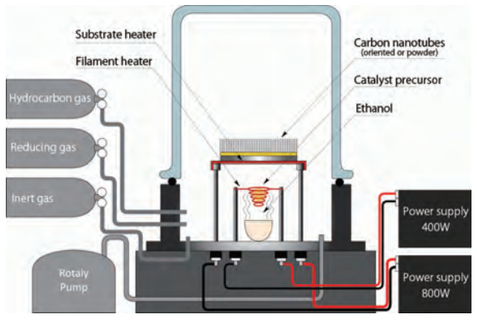


MPCNT-Premium

MPCNT-Premium added some excellent features to the MPCNT-160 Basic.
It is now equiped with multi-ports for the injection of various kinds of gases including hydrocarbon gas (e.g. acetylene, methane) , H_2 reduction gas, and inert gas.
Filament heater system decomposes the gases to stimulate synthesis of long-length and high quality CNTs. By using this system, the user can synthesize not only powder CNTs, but also carbon nano coils and/or carbon micro coils.

Filament heater system is a catalyst precursor which allows catalyst to support onto the substrate or carriers such as Si, silica, ceramics, etc. Therefore, it reduces time and effort of preparation process of the substrates coated with catalyst film. This feature makes this system a self-contained CNT growing system which allows synthesis of various types of CNTs.



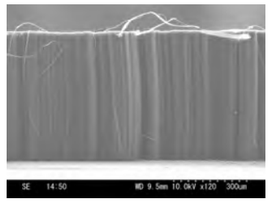


MPCNT-Premium

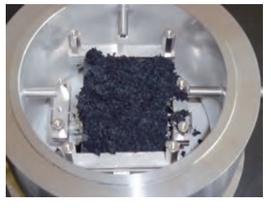
■ Specifications ■

Main Unit	glass chamber	
	purge gas port	
	vacuum pump port	
	leak port	
	vacuum gauge	
	feedthrough port	
	dimensions	W400mm×H330mm×D265mm
Multi ports	gas introduction lines	3
Substrate heater	size	40mm×60mm
	operation temperature	400 ～ 800℃
Power supply for substrate	output	80A
heater	output power	800W
		AC90-250 1φ 50-60Hz
	dimensions	W213mm×H130mm×D405mm
Filament heater	filament	
Power supply for filament heater	output current	40A
	output power	400W
		AC90-250 1φ 50-60Hz
	dimensions	W110mm×H130mm×D405mm
Vacuum pump	oil-sealed rotary pump	

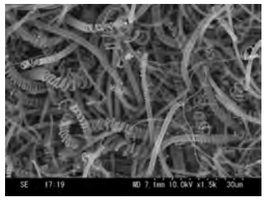
CNT/Si Substrate



Powder CNTs



Carbon micro coils



Powder CNTs