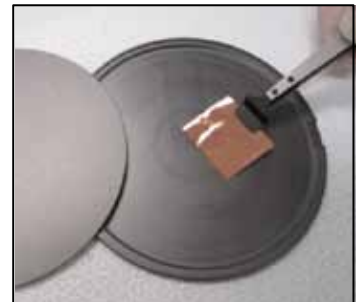


Graphene and Boron Nitride

Process solutions

Benefits

- q **High graphene quality:** Single and multi-layers
- q **Process capability:**
 - § Investigation of early stage growth
 - § Synthesis on metallic foils: Cu, Ni...
 - § Single or batch samples
 - § Continuous layer on wafers and foils.
- q **Flexible processing for different applications**
- q **Fast growth and throughput**



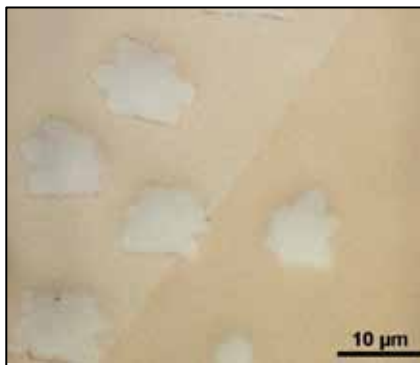
Copper foil on susceptor



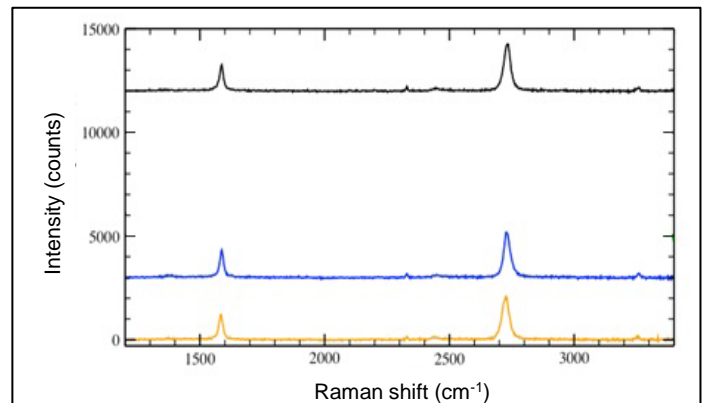
Copper coated silicon wafer



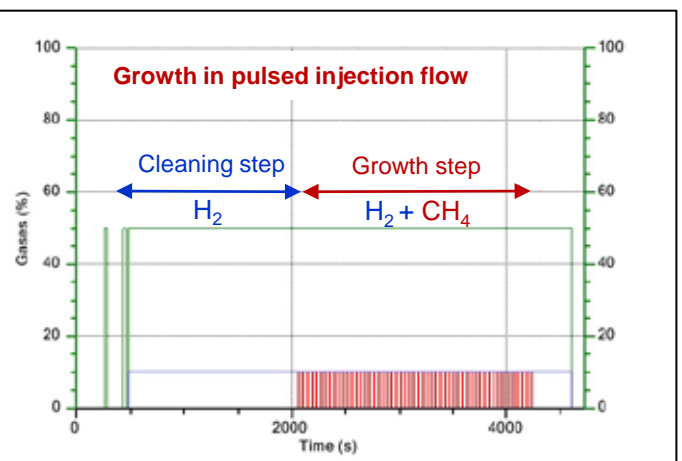
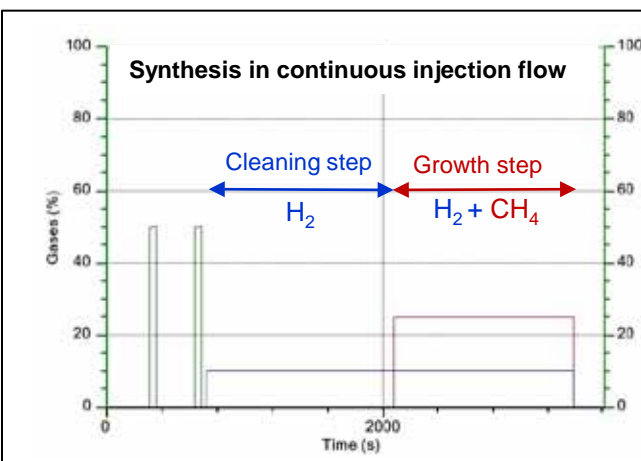
Graphene on Cu foil



Graphene on Cu foil



- q Pressure: **Precise control of the pressure** 0.1 Torr to 760 Torr
- q Temperature: Precise control of the temperature from **RT to 1400°C**
- q Thermal profile: **fast ramp** up rate ($>40^{\circ}\text{C/s}$) and cooling rate (up to 50°C/s)
- q Precursor injection: **Continuous or Pulsed gas flow injection**



For more information contact Annealsys: contact@annealsys.com – www.annealsys.com

Graphene and Boron Nitride Rapid thermal processing equipment solutions

Features

- q **Fast-response heater:** Infrared halogen lamp furnace
- q **Thermal CVD:** Single / multi layers for Graphene and hBN
- q **Extended temperature range:** Up to 1400°C
- q **Proven Processes:** Continuous or Pulsed gas flow injection
- q **Fast thermal cycles:** Short processes for higher throughput
- q **Rapid thermal processing capability**

Advanced Design

- q **Cold-wall chamber technology:** Fast cooling capability
- q **Closed-loop infrared wafer temperature control**
- q **Accurate temperature control:** Fast digital PID controller
- q **Handling of CVD gases :** CH₄, C₂H₂, H₂, etc.
- q **Substrate holders:** Quartz pins and graphite susceptors
- q **Excellent reproducibility**

Control

- q **Full PC process control:** Real time display & data collection
- q **Easy recipe-editing:** Step editor for process recipe
- q **Robust control system:** Industrial PLC and TCP/IP com.
- q **System management tools and reports**
- q **Integrated safety interlocks**



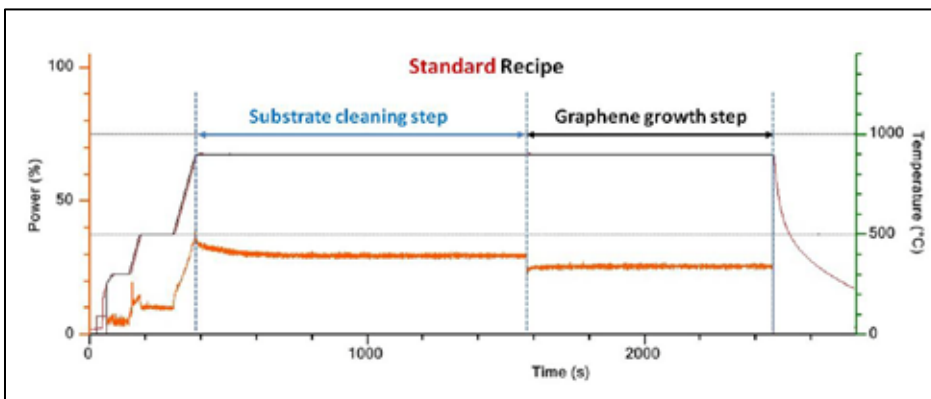
IR lamp furnaces



AS One series



AS Master series



Full PC control