(주)에스엔텍 회사소개서

Total Solution for Plasma Application

회 사 소 개

회사개요 및 주요연혁

회사개요

회사명	(주)에스엔텍	주요사업	진공, 플라즈마 응용 공정장비 제
대표이사	안 경 준	주요제품	박막증착, 식각, 열처리, 표면처리
설립일	2002년 04월	종업원수	41(연구개발전담요원 8)
자본금	3억	회사주소	경기도 김포시 양촌면 학운리 906

주요연혁

창조와 도전

2002~2004

- SNT 설립
- SNTEK법인전환
- 공장등록
- 벤처기업 인증
- 특허출원 2건

기술개발중심의 전문벤처기업

사업기반확보

2005

- 부설연구소 설립
- 투명경영인증
- 기술혁신형 중소기업
- 부품소재전문기업 지정
- 특허출원 2건

기술축적 및
기술 인적 인프라 구축

성장기반조성

2006~

- 확장이전
- 경영혁신형 중소기업
- ISO 9001 인증
- 국무총리상 수상
(산학협력산업기술대전)
- 경기도유망중소기업 선정
- 특허등록 6건, 출원 5건

안정적 수익기반 확보
양산, 해외시장 진입 준비

조직구성도

팀	인원	업무
영업	4	고객요청사항 접수 및 관리, 수주, 견적 및 제안서 작성
설계	7	기구설계 및 시스템 제작 지원
기구제작	4	시스템 제작 및 Leak TEST, 구동 테스트, 기초성능 테스트, Operating 교육
제어	4	전장 설계, 전장 배선, Program 및 Interface 작도, Program TEST, Debugging
연구개발	7	연구기획, 시스템 제작지원, 기초공정테스트, 시스템 최종검수, 공정교육, 공정지원
경영지원	6	기자재 구매, Part 및 소모품 repair, 수급 관리, 인사관리, 일반 경영관리, 재무관리
고객지원	3	A/S, 시스템 정기점검, 시스템 유지보수 교육, 상황 별 응급조치 교육

핵심경쟁력

Manufacturing

- 유연한 생산체제로 다품종 소량 생산
- 생산 Lead time 최적화
  - 단 납기 수주 대응
- 숙련도 높은 생산 인력 보유
- 철저한 품질관리 시스템

Synergy

- 유·무형자산의 시너지 효과
  - 기술 시너지 : 동일 생산기술 활용
  - 인재 시너지 : 보유 인력의 공동 활용
  - 판매유통 시너지 : 유통채널, 마케팅비용 공유
  - H/W, S/W 시너지 : 일괄제공에 의한 부가가치 상승
  - 생산 시너지 : 설비 및 원자재 공유
  - 관리 시너지 : 관리방법 및 시스템 노하우 활용
- 기술간의 시너지 효과를 통해 지속적인 경쟁우위 확보

SNTEK

Technology

- 국내 유수의 대학으로부터의 기술지원 시스템 구축
  - 성균관대학교, 충주대학교, 금오공과대학교…
- Simulation 전문기업과 협력체계 구축
  - (주)경원테크
- 설계 및 생산기술력이 우수
- 국내 R&D시장 최고수준의 제품생산
- 관련 특허 등록
  - 장치의 핵심기술 보호
- 공정 Service 지원
  - 다양한 분야의 공정 엔지니어 구축

Marketing

- 석·박사급 R&D 인력과 우수한 기술인적 인프라 구축
  - 미래시장에 대비
- 유통채널과 노하우, 마케팅비용의 공유로 인한 비용절감
- 우수한 CRM 활동
  - 국내, 해외 전시회 지속적 참가
  - 관련 학회참가 및 학회지 홍보활동
  - 인터넷 메일링 시스템 구축
- 고객의 다양한 needs수용(제품 다양화, 생산납기 조정)

주요영업실적 (2005~2009.2)

ITEM	Q'TY	Customer	DELIVERY
Magnetron Sputtering System	50	University : Sungkyunkwan, Yonsei, etc Research Institute : KIST, CPRI Manufacturer : BNP Science, Micro friend inc, Willtechnology, NPP, etc	2005~2008
Thermal & E-beam Evaporator System	23	University : POSTECH, Kumoh, Sungkyunkwan Manufacturer : BNP Science, Seoul Precision Optics	2005~2008
Plasma Etching System	13	University : Sungkyunkwan, POSTECH, Chungju, etc Manufacturer : Micro friend inc, BS Telecommunication Co., Ltd, etc	2005~2008
Plasma Cleaning System	12	University : Hanyang Research Institute : IAE Manufacturer : PSM, SOFT ELEC, etc	2005~2008
Rapid Thermal Annealing System	20	University : Kunsan, etc Research Institute : KIMM, KIST Manufacturer : Smart Applications Co., Ltd, TS, etc	2005~2008
Plasma Enhanced & Thermal CVD System	18	University : Sungkyunkwan, POSTECH, Kangwon, etc Research Institute : LG Electronics Manufacturer : TS Corporation	2006~2008
Hybrid System	5	Research Institute : ETRI Manufacture : EOS	2008
OLED System	2	University : Seoul, Catholic (Daegu)	2006~2008
CIGS Deposition System	2	University : Chungju Research Insititute : ETRI	2008
Others	Atmospheric Pressure Plasma System, RIE, Asher, Ion Nitriding, Plasma Treatment, etc.		

생산 제품 소개

SNTEK 제품 군

Semiconductor, Display, MEMS Device System

- FLEX
- BEP
- MEP
- NPS
- PSP

Solar Cell Application System

- MCS
- SRS
- BCS

Industrial Plasma System

- EMI
- E/B
- Sputter & Arc
- In-Line

Enterprise Knowledge/Information Portal

SNTEK

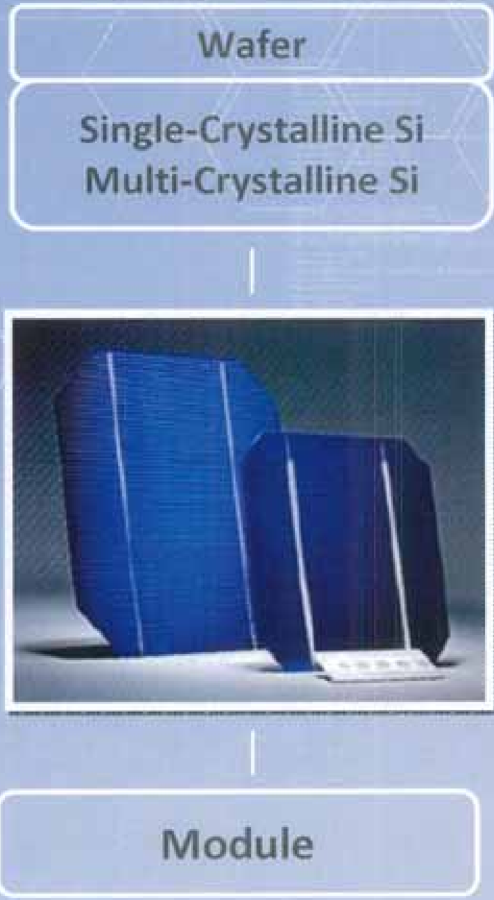
SNTEK Product

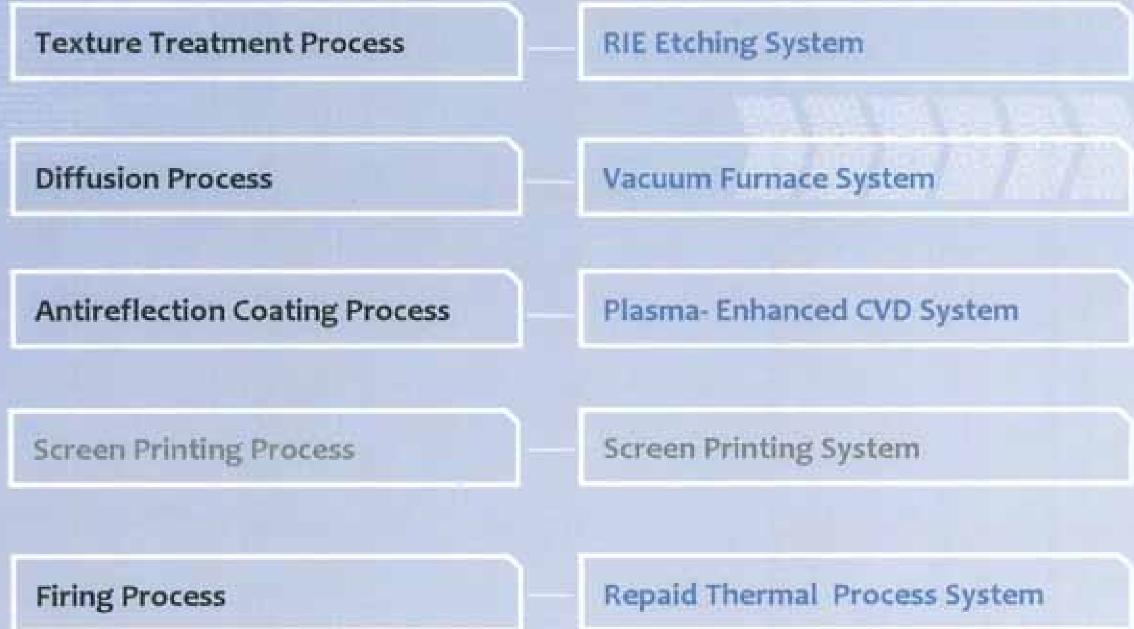
Solar Cell Application System

- BCS : BCS5000 Plasma Enhanced CVD System
- SRS : SRS5000 Rapid Thermal Process System
- MCS : MCS5000 Thin-film Solar cell PE-CVD System
- ILS : ILS5000 In-line Sputtering System
- CIGS : CIGS5000 Thin Film solar Cell

Solar Cell Application System

Silicon Wafer Solar Cell Equipment





Antireflection Coating Process System

MODEL : BCS 5000 Series

BCS 5000 Plasma Enhanced -CVD system is batch-production equipment that supports the application of silicon based thin film process offering step coverage and gap filling required during semiconductor fabrication and solar cell device processes. Including the applications of passivation, isolation and dielectric insulation deposition.

Specifications

- Sample Size : 156 X 156mm X 4Pcs
- Power Source : RF 13.56MHz
- Deposition Type : Plasma Enhanced - CVD
- Plasma Type : Direct Plasma
- Substrate Temp : 450℃
- Working Pressure : 100mT ~ 5Torr
- Film Thickness Uniformity : ±2.5%
- Film Thickness Uniformity Wafer to Wafer : ± 2.5%
- Refractive Index : 1.9 ~ 2.3
- Pump Station : Booster + Rotary pump

Antireflection Coating Process System

MODEL : BCS 5000 Series

Heater

Gas shower nozzle

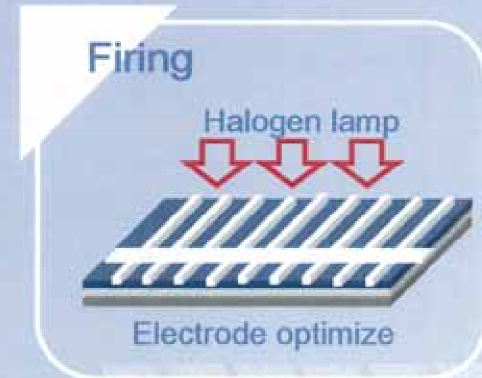
Sample loading tray

Gate door

Firing Process System

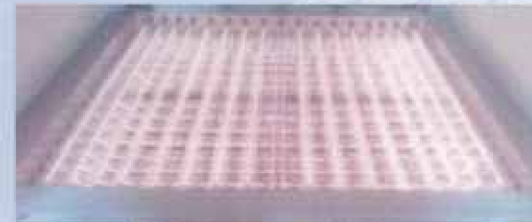
MODEL : SRS 5000 Series

SRS 5000 System is available with 4inch to 6inch wafer capability. This has been specially developed to meet the requirements of University, Research Laboratory . The Quality control and small-scale production are possible. The high reliability assures low cost of ownership. The high Temperature version can run annealing process up to 1500℃.



Specifications

- Square Chamber : Cold wall & contamination-free
- Maximum Temperature : 1000℃
  - Reasonable Process Time at Max. 10minute
- Process Temperature Range : 250 ~ 900℃
  - Ramping Up : 0 ~ 50℃/sec
- 125, 156mm Wafer available
- Gas mixing capability with MFC
- Optical pyrometer or Thermo-coupled control
- Ultimate Pressure : < 1×10^{-2} Torr
- Atmospheric & Vacuum Process are Possible
- Automation System using PC interface(Option)
- 1500℃ High Temperature Version is Optional

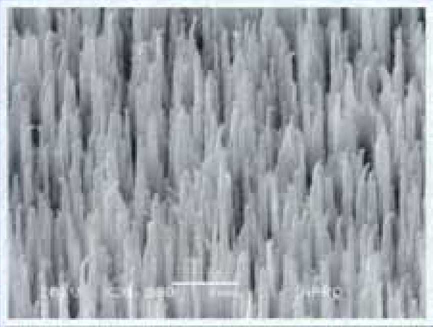


Solar Cell Sample

Sample

Wet etching Process

Reactive Ion Etching Process



Pyramid Surface

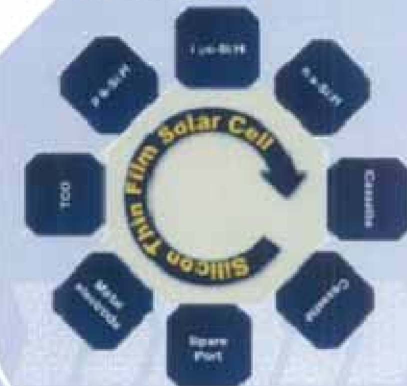
Black Silicon Surface

Antireflection Coating Sample

Silicon Thin film Solar Cell

MODEL : MCS 5000 Series

Plasma Enhanced CVD is an excellent alternative for depositing a variety of thin films at lower temperatures than those utilized in CVD reactors without setting for a lesser film quality. PECVD uses electrical energy to generate a glow discharge (Plasma) in which the energy is transferred into a gas mixture. Some of the desirable properties of PECVD films are good adhesion, low pinhole density, good step coverage, and uniformity.



Specifications

- Sample Size : 150 x 150mm
- Power source : RF 13.56MHz , VHF 60MHz
- Deposition Type : Plasma-Enhanced
- Process Temperature Range : 250 ~ 900℃
- Plasma Type : Direct plasma
- Substrate Temperature : MAX.450℃
- Temperatuer uniformity : ±3℃
- High Vacuum Pumping (Rotary + TMP)
- Full automation control system use PC interface

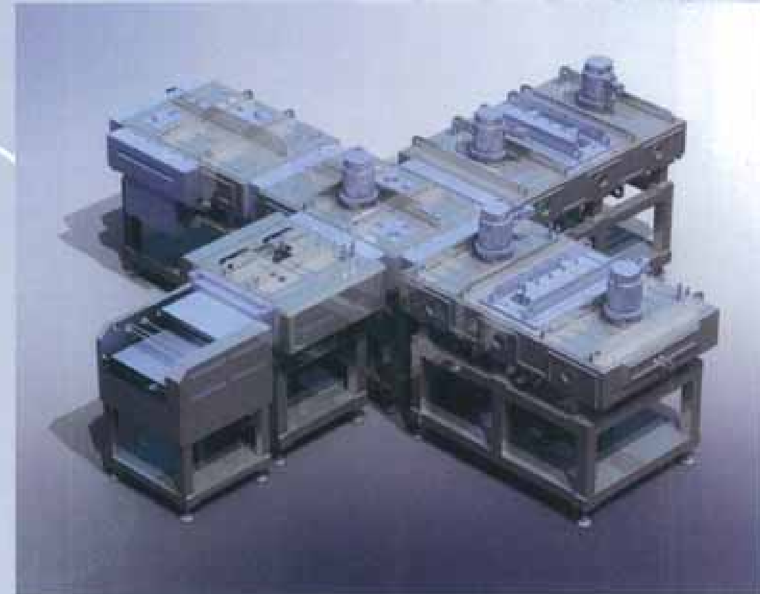
In-Line Sputter System

MODEL : ILS 5000 Series

ILS 5000 In-line Sputter system is used in the Metal Electrode Coating and the TCO Coating process for 2nd Generation Solar Cell.
And it is also supported Metal & Oxide thin film for the field of Semiconductor, Optical, Nano device and Other thin film applications.
Consisting of :
Loading Stage+Loadlock+Trans Module+Buffer+ Process Chamber

Specifications

- Type of transport : Batch In-Line System(Inter Back)
- Substrate Size : 125mm × 125mm × 16PCS, 156mm × 156mm × 9PCS
- Sputter Gun : Dual Magnetron Sputtering Source
- Sputter Power : Pulsed DC 20kW + RF 5kW
- Temp. Range : <200°C in Process Chamber
- Heat Uniformity : <±15°C
- ITO Film Uniformity : <±5% (except the Edge 5 mm)
- Sheet Resistance : 50 Ohm/Square at 80nm
  (Above condition is possible with heating process
- Transmittance on Glass : More than 85% at 450nm to 1200nm wavelength(corning glass)



CIGS Thin Film Solar Cell

MODEL : CIGS5000 Series

CIGS 5000 Series as R&D equipment for compound thin film solar cell is consist of Transfer,Loadlock,MBE,back contact Sputtering and window sputtering Chambers. In CIGS series process Mo-back contact was deposited on a sodalime glass by sputtering system and the CIGS absorber layer over the Mo back contact growth technique using multi-source(Cu,In,Ga,Se)evaporation method. Then window layer consisted of Zn0 or ITO thin film is coated by RF sputtering system.

Processing

Specifications

- Deposition thickness : up to several ten thousands Å for Mo, CIGS and ZnO film
- Film thickness uniformity : ≤±5% on 100mm x 100mm substrate
- Film sheet resistance uniformity : ≤±5% on 100mm x 100mm substrate(for Mo film)
- In-situ temperature monitoring software of depositing CIGS film
- Substrate : Glass and flexible metal,100mm x 100mm
- Deposition : Mo film deposition by DC magnetron sputtering method CIGS film deposition by MBE intrinsic and n type ZnO film by RF magnetron sputtering method
- Throught put : 100mm x 100mm x 1 sheet / batch, using by load lock
- Vacuum chamber : Six-Way Transfer chamber, Loadlock chamber, MBE chamber, Mo and ZnO sputtering chamber

SNTEK Product - i i

Semiconductor, Nano, MEMS Device Application System

- FLEX : FLEX5000/5002 Cluster type OLED System for R&D
- BEP : BEP5000 ICP-IRE System (for Batch)
- MEP : E-Beam Evaporation System
- NPS5000 : Nano Wire Growing System
- PSP : PSP5000 Planar Batch Sputtering System

OLED System for R & D

MODEL : FLEX 5000 Series

Consisting of:
Evaporation + Sputter + Glove Box + Loadlock

Application

PMOLED, AMOLED on glass & wafer
Mono/Area/Full Color Lighting

Specifications

- Substrate : Max.100 × 100 glass, 4inch wafer
- Tact time : 20~80min- Depends on the number of mask
- Loading Capacity : Glass 1 sheet, Mask 4 sheet
- Substrate rotation in process
- Vacuum Performance : Deposition < $2E^{-7}$Torr
- Plasma Treatment : Optional
- Alignment accuracy : Mechanical, less than ±50um
- Evaporation Source for organic(5ea) : 10cc for host, 4cc for dopant
- Evaporation source for metal(2ea) : Thermal source, E-Beam is optional
- Deposition uniformity : Organic, Metal, sputter less than ±3%
- Max. deposition rate : organic 5A/sec, metal 10A/sec
- Rate Accuracy : organic ±5%, Metal ±7%
- Thickness reliability : Organic & Metal ±5% glass to glass
- Doping ratio less than 1% at 1A/sec of host
- Conductive Oxide : Low damage sputtering(FTS or general sputter)
- Glove Box : H_2O, O_2 less than 0.1ppm
- Fully automation System(Option)
- ICP CVD for thin film passivation is optional
- FTS(facing target sputter) is optional

Cluster Type OLED System for R & D

MODEL : FLEX 5002Series

Consisting of:
Evaporation + Sputter + Parylene + Glove Box + Loadlock

Application

PMOLED, AMOLED on glass &
Wafer Mono/Area/Full Color
Lighting

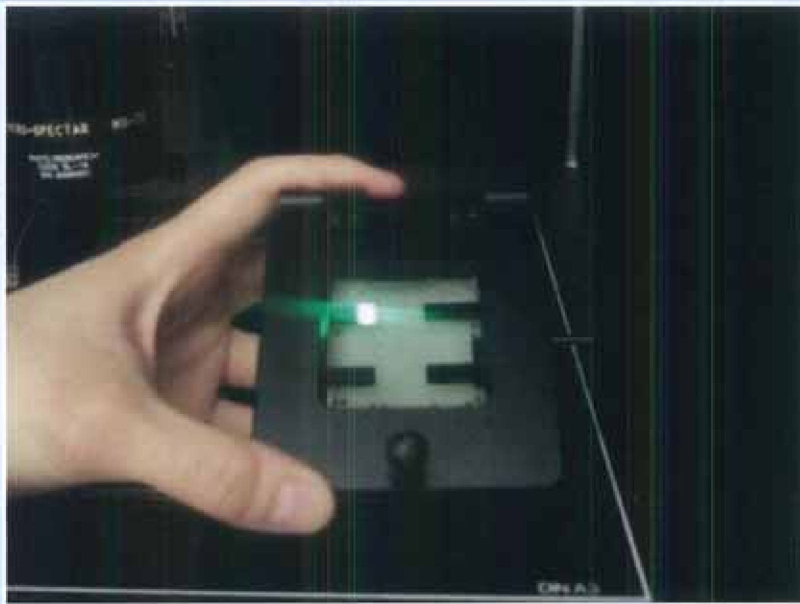
Specifications

- Substrate : Max.100 × 100 glass, 4inch wafer
- Tact time : 20~80min- Depends on the number of mask
- Loading Capacity : Glass 1 sheet, Mask 4 sheet
- Transfer Method : Vacuum Robot
- Substrate rotation in process
- Vacuum Performance : Deposition < $2E^{-7}$Torr
- Plasma Treatment : Optional
- Alignment accuracy : Mechanical, less than ±50um
- Evaporation Source for organic(5ea) : 10cc for host, 4cc for dopant
- Evaporation source for metal(2ea) : Thermal source, E-Beam is optional
- Deposition uniformity : Organic, Metal, sputter less than ±3%
- Max. deposition rate : organic 5A/sec, metal 10A/sec
- Rate Accuracy : organic ±5%, Metal ±7%
- Thickness reliability : Organic & Metal ±5% glass to glass
- Doping ratio less than 1% at 1A/sec of host
- Conductive Oxide : Low damage sputtering(FTS or general sputter)
- Thin Film Passivation : Parylene coating & inorganic coating
- Glove Box : H_2O, O_2 less than 0.1ppm
- Fully automation System(Option)

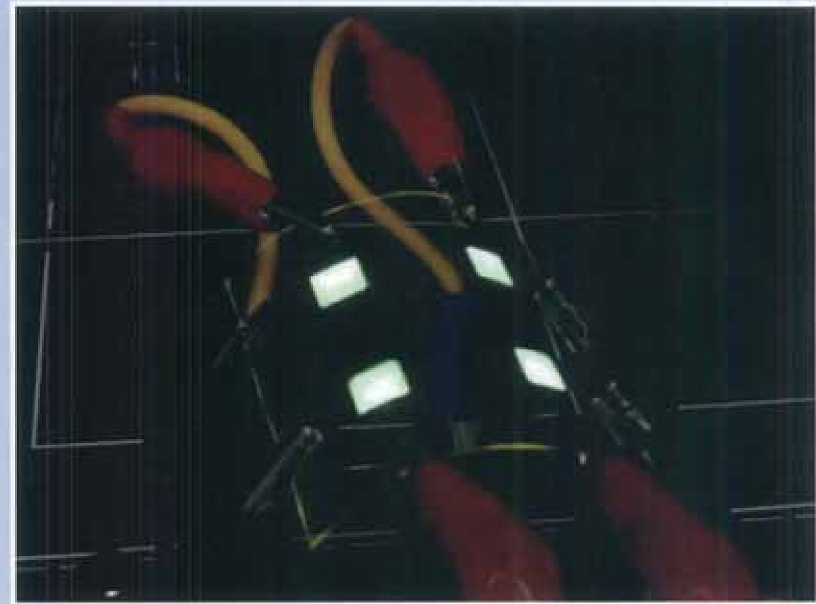
OLED Sample

Sample

Sample size 50×50 Glass OLED



Sample size 50×50 Flexible OLED



ICP-RIE System

MODEL : BEP5000 Series

BEP5000 High density plasma etching system is batch-production equipment that supports the application of general metal & dielectric material film & III-V compound Material etching process for the field of semiconductor, Optical, Nano and MEMS Device.

Application

III-V Compound Etching
Al_2O_3, Si, SiO_2, Si_3N_4 Etching
Metal Etching
MEMS Process
Ashing Process

Specifications

- Plasma Source : Planar ICP Type
- Sample Capacity: Max. 6" × 4pcs, 12" × 12" × 1pcs
- Source(ICP) Power : RF 3000W
- Bias Power : RF 600W
- Mechanical Chucking with Backside Helium Cooling
  - Wafer Temperature Control in process: Max. 30℃
  - Chiller: 5~35℃
- High Vacuum Pumping System : TMP + Rotary
- Vacuum Loadlock System
- Operation Pressure Control : Down or Up stream
- Fully Automation System
- Etch Uniformity : <±5% for WIW, WTW and RTR
- Operational Pressure Range: 1-50mTorr
- Ultimate Pressure : less 5 X 10-6 Torr within 30min

Etcher Sample

Sample

Bosch Process etch

E-Beam Evaporation System

MODEL : MEP 5000 Series

MEP5000 High Precision Electron Beam Evaporator System is a batch-production equipment dedicated to the Lift-Off & Conformal process for power IC, LED device & MEMS with precision line-width requirement

Specifications

- Sample: Si wafer, Sapphire wafer etc.
- Sample Size & Capacity: Max. 6inch × 12pcs
- High Vacuum Pumping (Cryo + Rotary)
  - Ultimate Pressure: 1×10^{-6} Torr within 30 minutes
- Substrate Heating
  - Max. Temperature: 200 Degree on the sample surface
- Substrate Rotation & Revolution
  - Self rotating dome (1ea)
  - Planetary rotating dome (3ea)
  - Easy exchangeable dome
  - RPM Control: 10~50RPM
- Electron Beam Source with Power supply
  - 25cc crucible × 6ea
  - 10kW Power supply
- Fully Automation Control System using PC interfacing
- Deposition Material : General Metal & Oxide
- Selective Processing
  - Lift Off Process & conformal process
- Film Uniformity : <±5% for WIW, WTW and RTR
- Multi Layer(6layer) Evaporation Process Available

Nano Wire Growing System

MODEL : NPS 5000 Series

The Nano develops solutions for nanotube and nanowire synthesis. We manufacture process equipment suitable for the synthesis of a variety o0f one-dimensional nanostructures and nanomaterials.
We are focused on addressing the specific process control challenges unique to this field by applying our broad experience in nanotechnology instrumentation and fabrication.

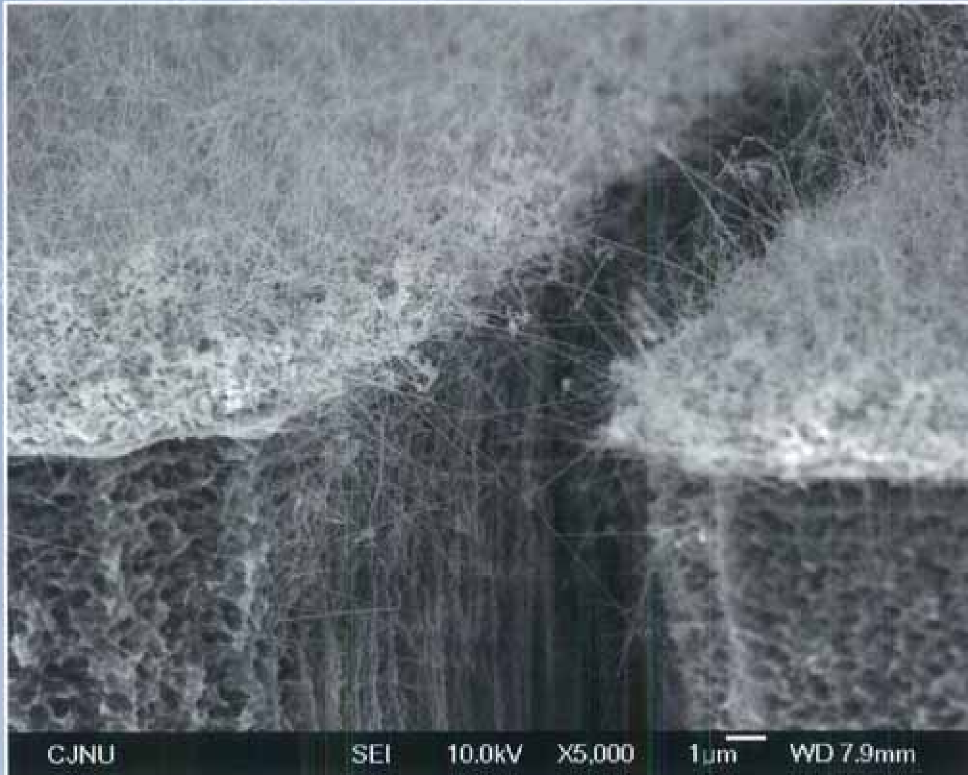
Specifications

- Main Quartz Tube
- Sample Holding Unit Using Quartz Disk(Fork)
- Mechanical Rotary Vacuum Pump
- Max. Temperature: 1000℃ (Option1200℃)
- Process Temperature Range: RT~1000℃
- Gas Type: SiH_4, B_2H_6, PH_3, GeH_4
- Vacuum Power Controller with Safety Alarm
- Flow Control Range: 0~200sccm
- Sample Dimension: Piece Wafer (10×30)
- Auto PID Temperature Controlling

Nano Wire Growing Sample

Sample

Gas sensor에 사용된 SnO_2 Nano wire (26nm)



Planar Batch - Sputtering System

MODEL : PSP5000 Series

PSP5000 Magnetic Enhanced Sputtering System is batch-production equipment that supports the application of general metal & oxide film for the field of Semiconductor, Optical, Nano device and others.

Application

Metal & Oxide Coating
Multi layer coating

Specifications

- Sample Capacity : 4inch × 10ea, 6inch × 6ea, 8inch × 3ea
- Circular Magnetron Sputtering Source
  - Target Material: Various Metal & Oxide
  - Multi Layer Sputtering Process Available
- High Vacuum Pumping System(Rotary + TMP)
  - Ultimate Pressure: 5×10^{-6} Torr within 30 minutes
- Substrate Heating
  - Max. Temperature: 200 Degree on the sample surface
- Substrate Rotation & Revolution
  - RPM Control: 5~50RPM
- Target to Substrate Distance : 120mm
- Film Uniformity : <±5% for WIW, WTW and RTR
- RF Plasma Pre-treatment(Option)
- Power Supply
  - DC, Pulsed DC or RF(Option)
- Fully Automation Control System using PC interfacing

Sputter & Arc Ion Plating System

MODEL : SAP5000 Series

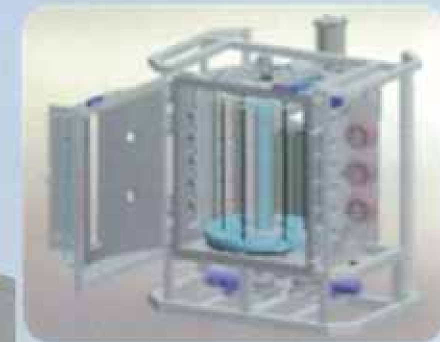
SAP5000 Magnetic Enhanced Sputter & Arc Ion Plating System is a batch-production equipment that supports the application of metallurgical process, outstanding membrane coating with anti-abrasion, thermal resistance, corrosion resistance, electronic conductivity, electric cover and others.

Application

Hard Coating (Tin, ZrN, CrN)
Wear Resistance (TiC, SiC)
Color Coating (TiO_2, CrO, Al_2O_3)

Specifications

- High Vacuum Pumping System
  - Cryo, TMP, PolyCold, Booster, Rotary
  - Ultimate Pressure: 5×10^{-6} Torr within 30min
- Magnetron Sputtering Source
  - Dimension: 150mm × 1500mm
  - Target Material: Ti, Zr, Si, Al & Oxide
  - Multi Layer Sputtering Process Available
- Arc Ion Source
  - Dimension: 150mm × 1500mm
  - Target Material: Ti, Cr, Zr,
  - Multi Layer Arc Ion Plating Process Available
- Substrate Heating
  - Max. Temperature: 200°C on the sample surface
- Internal Drum Rotation & Revolution
  - RPM Control: 10~100RPM
- Target to Substrate Distance: 120mm



EMI Coating System

플라스틱 케이스

전자파 차폐 코팅

E-Beam Evaporation System

윈도우

하드코팅
무반사 코팅
하프 밀러 코팅
내지문 코팅

E-Beam Evaporation System

Sample Test A

	박막설계구조 (Thickness-nm)
Sample1	SUB/SiO_2/Nb_2O_5/SiO_2/Nb_2O_5/SiO_2/Air (228/ 387.2 / 397.9/ 365/ 307)
Sample2	SUB/SiO_2/Nb_2O_5/SiO_2/Nb_2O_5/SiO_2/Nb_2O_5/Air (113 / 101 / 113 /101 / 113/ 101)
Sample3	SUB/SiO_2/Nb_2O_5/SiO_2/Nb_2O_5/SiO_2/Nb_2O_5/Air (102.2/ 91.1 / 102.2/ 91.1/ 102.2/ 91.1)
Sample4	SUB/SiO_2/Nb_2O_5/SiO_2/Nb_2O_5/SiO_2/Air (216.9/ 166 / 169.2/ 144.4/ 85.2)
Sample5	SUB/SiO_2/Nb_2O_5/SiO_2/Nb_2O_5/SiO_2/Air (239.9/184.5 / 187.1/ 160.5/ 94.3)
Sample6	SUB/SiO_2/Nb_2O_5/SiO_2/Nb_2O_5/SiO_2/Air (281.3/218.8 / 219/ 190/ 110)
Sample7	SUB/SiO_2/Nb_2O_5/SiO_2/Nb_2O_5/Air (261/ 375 / 153/ 376)

SNTEK Product - iV

R&D Application

- Standard Magnetron Sputtering System
- Standard PE-CVD System
- Standard ICP-RIE System
- Standard Asher-RIE System
- Standard RTP System

Magnetron Sputtering System

MODEL : MSS 4000 Series

Sputtering is used extensively in the semiconductor industry to deposit thin films of various metal and oxide materials. Thin anti-reflection coatings on glass for optical applications are also deposited by sputtering. Because of the low substrate temperatures used, sputtering is an ideal method to deposit contact metals for thin-film transistors. MSS4000 is optimization equipment for R&D.

Application

Metal & Oxide coating
Pt, Ti, Cu, Al and other metals
ZnO, AZO, GZO, TiO_2, SiO_2 and other oxide materials

Specifications

- Sample Size : 4inch
- Gun Type : Up or Down.
- Film Thickness Uniformity : < ±5 % in 4inch Area
- Heating Temperature on Substrate : Max 600 ℃
- Heating Uniformity : <±5 % in 4 inch Area at Main Chamber
- Substrate Rotation : 5~20 RPM
- Z-motion Unit (Target to Substrate Distance : 50~100㎜)
- Position Sensor for Sample Loading/Unloading & T/S Distance Adjust
- DC Power Supply 1㎾, RF Power Supply 600W(13.56 ㎒)
- 3 Target mount enable, RF 1ea, DC 2ea (Target cost : Option)
- Loadlock System (Optional Item)
- Full Automation Control System Using PC or PLC Based Touch Panel (Optional Item)

Standard PE-CVD System

MODEL : SCS 5000 Series

Plasma Enhanced Chemical Vapor Deposition (PECVD) is a process used to deposit thin films from a gas state (vapor) to a solid state on some substrate. There are some chemical reactions involved in the process which occur after creation of a plasma of the reacting gases.

Application

SiO_x, Si_xN_y, a-Si etc.
Passivation, isolation
Solar Cell Device

Specifications

- Substrate Size : 6inch
- Max. Temperature : 700 ℃ (On Heater)
- Substrate to Gas Nozzle Distance : 30 ㎜ ~ 100 ㎜ Adjustable (Manual)
- Power Source : RF 13.56 ㎒
- Gas Flow System
- Flow Control Range : 0~100 sccm
- Gas : SiH_4, NH_3, N_2O, Ar, O_2, CHF_3 (For Cleaning)
- Gas Scrubber
- Film Thickness Uniformity
- within wafer : < ± 5 % within 6㎒ wafer
- Run to Run : < ± 5 %
- Ultimate Pressure : < 1×10^{-5} Torr within 10 min

Standard ICP-RIE System

MODEL : IRS 5000 Series

IRS5000 High density plasma etching system is a standard type that supports the application of general metal & dielectric material film & Ⅲ−Ⅴ compound Material etching process for the field of semiconductor, Optical, Nano and MEMS Device.

Application

Metal etching
Al_2O_3, Si, SiO_2, Si_3N_4 Etching
Ashing Process
MEMS Application

Specifications

- Plasma Source : Specially Designed Antenna Module for High Density Plasma
- Sample Capacity : 4″ , 6″ Wafer
- Source(ICP) Power : RF 1000W
- Bias Power : RF 600W
- High Vacuum Pumping system : Turbo Molecular Pump + Mechanical Rotary Pump
- Sample Loading/Unloading : Vacuum Load-lock system
- Full Automation system(optional)
- Plasma Density : $>5\times10^{11}/cm^3$
- Ultimate Pressure : $< 5\times10^{-6}$Torr within 1 hour
- Etching Uniformity : $<\pm$ 5% at 6 inch Area

Standard Asher RIE System

MODEL : ARS 5000 Series

Reactive ion etching (RIE) is an etching technology used in microfabrication. It uses chemically reactive plasma to remove material deposited on wafers. High-energy ions from the plasma attack the wafer surface and react with it.

Application

Silicon etching
Dielectrics etching (SiO_2, Si_3N_4, etc)
Polymide etching

Specifications

- Substrate Size : Piece to 6inch
- Max. Temperature : 700 ℃ (On Heater)
- Process Gases Nozzle & RF Plasma Source Effective Area : 6inch
- RF Power Supply : 13.56㎒, 600W
- Gas Flow System
  : Flow Control Range : 0~100 sccm
  : Gas : Ar, O_2, SF_6, CHF_3 (4Channel + Option)
  : VCR Fitting
  : Gas Flow Control on Touch Panel
  : Gas Panel in Jungle Box
- All System Control using PLC Based Touch Panel (TFT 256 Color)
- Ultimate Pressure : < 1×10^{-5} Torr within 10 min.

Standard RTP System

MODEL : RTP 5000 Series

Our RTP system is available with max 6inch wafer capability. This has been specially developed to meet the requirements of University, Research Laboratory. The Quality control and small scale production are possible. Expressly, RTP is enable to easy and accurate temperature control and Data base (e.g. effect on Heating; Sample Temperature, Pressure...)

Application

RTA, RTO
Diffusion, Nitridation, Silicidation
Crystallization, Densification
Implant Quality Control.

Specifications

- Sample Size : 6inch
- Gas Flow Rate is Displayed on the LCD Monitor using Analog Signal
- Heat Source : Halogen Lamp
- Max. Temperature : 1000 ℃
- Process Temperature Range : 200 ℃ ~ 900 ℃
- Heating Uniformity : <± 5 % in 6inch Area
- Ultimate Pressure : $<5\times10^{-2}$ Torr
- Atmospheric & Vacuum Process are Possible.
- All System Control using Pentium 4 Industrial Computer & 17" LCD Monitor

** Temp. PID Control is Possible using Labview Software automaticall

첨 부 서 류

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인증서 및 확인서

기업부설연구소인정서

한국산업기술진흥협회

투명경영인증서

제 4709 호

부품 · 소재전문기업확인서

위 업체는 부품 · 소재전문기업등의육성에 관한특별조치법시행령 제3조제3항의 규정에 의하여 부품 · 소재전문기업임을 확인합니다.

2007년 10 월 11 일

산업자원부장관

Small and Medium Business Administration

제 060516-01128호

경영혁신형 중소기업 확인서

업 체 명 : (주)에스엔텍

대 표 자 : 안정중

유효기간 : 2006.11.9 ~ 2009.11.8

위 업체는 경영혁신형 중소기업 발굴육성 사업에 의해 선정된 경영혁신형 중소기업임을 확인합니다.

2006년 11 월 9 일

경기지방중소기업청장

Small and Medium Business Administration

제 5061 - 0420 호

기술혁신형 중소기업(INNO-BIZ)확인서

업 체 명 : (주)에스엔텍

대 표 자 : 안정중

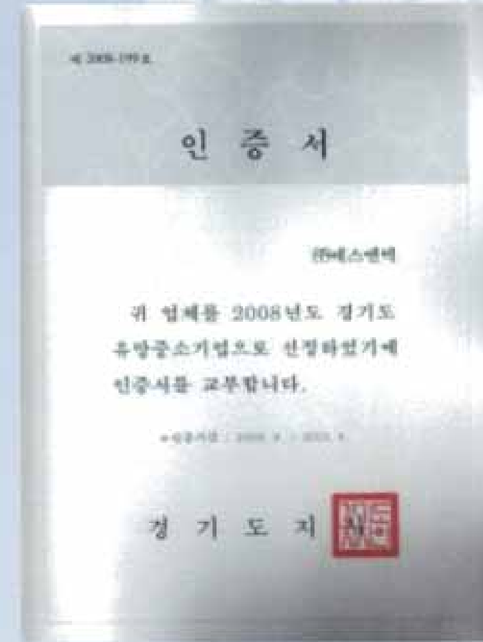
등 급 : A

유효기간 : 2005. 08. 18 ~ 2008. 08. 17

위 업체는 기술혁신형 중소기업 육성사업에 의해 선정된 INNO-BIZ기업임을 확인합니다.

2006년 6월 9일

중 소 기 업 청 장


인 증 서

(주)에스엔텍

위 업체를 2008년도 경기도 유망중소기업으로 선정하였기에 인증서를 교부합니다.

경 기 도 지 사

수상 & ISO9001

상 장

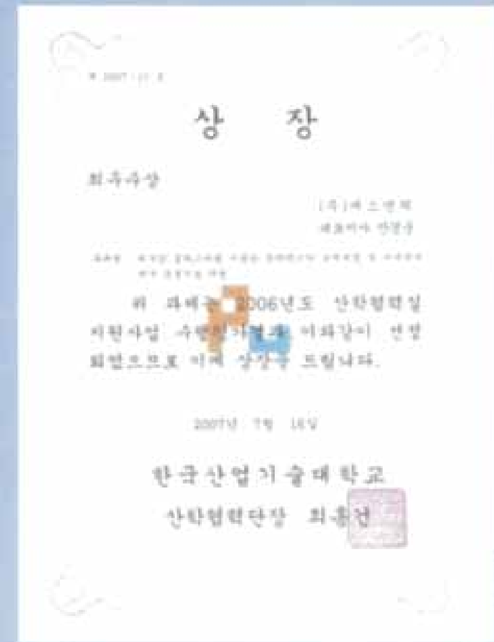
(주) 에스엔텍

대표이사 안 경 준

귀하는 제7회 산학협력산업기술에서 가장 우수한 실적을 거두었으므로 이에 상장을 수여합니다.

2007년 9월 18일

국무총리 한 덕 수


상 장

최우수상

(주)에스엔텍

대표이사 안경준

위 과제는 2006년도 산학협력실 지원사업 수행 결과 이와같이 선정되었으므로 이에 상장을 드립니다.

2007년 7월 18일

한국산업기술대학교

산학협력단장 최홍건

품질경영시스템 인증서

다음의 규격 및 범위에 적합함을 인증합니다.

(주) 에스엔텍

KS A 9001:2001 / ISO 9001:2000

한국국제규격인증원

Certificate of Registration

This is to certify that the Quality Management System of

SNTEK CO., LTD

has been found to conform to the Quality Management System Standard:

KS A 9001:2001 / ISO 9001:2000

KOREA INT'L STANDARDS CERTIFICATION

Thank You