



# **SATALAB MICRO & NANO FABRICATION SYSTEMS**

| MEMS/NEMS

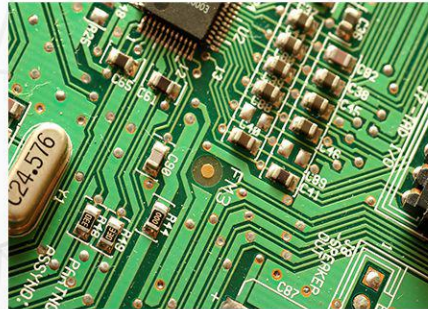
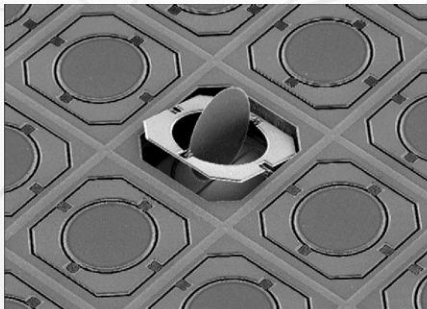
| LITHOGRAPHY

| MICROFLUIDICS

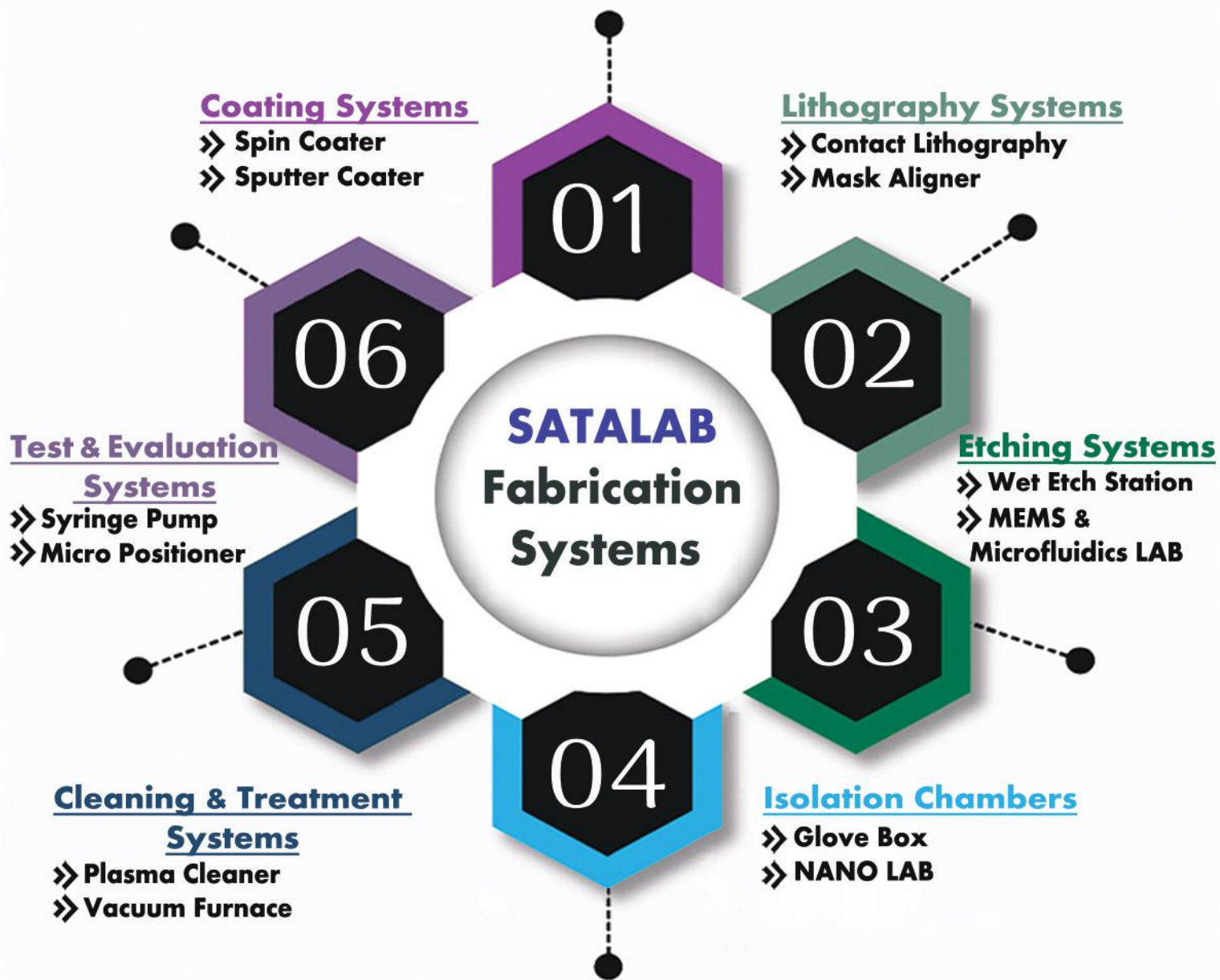
| SOLARCELL

**SATALAB** (SAMANETAJHIZ DANESH) Corporation is an IRANIAN private technology company located in TEHRAN. It develops, manufactures, supports and sells Micro & NANO fabrication machines. It's best known products are the Lithography Mask Aligners, Spin Coaters, Sputter Coaters and Glove Boxes. It's multifunctional machine such as MEMS LAB, Microfluidics LAB and NANO LAB are used in a series of consecutive fabrication processes in Micro and NANO fabrication laboratories.

**SATALAB** provides all the basic and professional machines needed in a Micro or NANO fabrication process. It also helps scientists and University students to develop their innovative ideas by preparing them all the tools needed in it's training center.







## Spin Coater

SATALAB offers reliable and maintenance free Spin Coating technology for research, development and more.

FEATURES	SPECIFICATIONS
Display	7" Touch Screen
Data Entering	Table up to 8 Rows
Vacuum Chuck	Substrates Up to 4" Dia.
Speed Range	100 to 12000 RPM
Acceleration	1 to 3000 RPM/Sec
Body Material	304 Stainless Steel
Bowl Material	Polyethylene

LAN Connection with syringe pump for Auto injection



## Sputter Coater

The S3 & 7 series are the latest version of SATALAB's nationally acclaimed, market-leading range of sputter coaters.

FEATURES	SPECIFICATIONS
Display	7" Touch Screen
Chamber	304 Stainless Steel
Gun Type	Magnetron Watercooled
Target Size	2" or 4" Dia.
No. of Guns	3 to 7
Power Source	100 to 600 W DC or RF
Substrate Holder	Rotating with Optional Heater
Vacuum System	Back & Rough

## Contact Lithography

SATALAB offers an economic lithography system that uses aligned radiant energy to transfer image of a mask in contact with wafer.

FEATURES	SPECIFICATIONS
Display	5" Touch Screen
Substrate Holder	Up to 2" Dia.
Inspection Method	Visual or Microscope
Light Source	365 nm Monochromatic LED
Light Intensity Range	Up to 15 mW/cm <sup>2</sup>
Motorized Stage Resolution	0.2 μm in Motorized Models



## Mask Aligner Lithography

User friendly and easy to use with small footprint; SATALAB's motorized mask aligner is a perfect system for laboratories and small volume productions.

FEATURES	SPECIFICATIONS
Display	7" HMI display
Alignment Mechanism	X, Y, Z, $\theta$ Motorized Axis
Inspection Method	X, Y Motorized Microscope
Light Source	365 nm Monochromatic LED
Substrate & Mask Holder	4" & 5"
Light Intensity Range	Up to 8 mW/cm <sup>2</sup>

## Wet Etch Station

The Wet Etch Station is a key part of a Micro/NANO production system. SATALAB provides anti-acid stations for scientific and laboratory applications.

FEATURES	SPECIFICATIONS
Body Material	Polyethylene
Fume Hood	for Hazardous Gases
Anti-Acid Sink	to Lock Etchant
Air & DI Water Gun	to Wash & Dry Substrate
Optional Etchant Circulation Elevator	with Pump on Demand for Automatic System



## MEMS & Microfluidics LAB

SATALAB's MEMS & Microfluidics LAB System is an excellent multifunctional coating, lithography and etching system for MEMS/NEMS or Microfluidics purposes.

FEATURES	SPECIFICATIONS
Body Material	Polyethylene
Fume Hood	for Hazardous Gases
Lithography Station	Refer to Mask Aligner Section
Embedded Spin Coater	Refer to Spin Coater Section
Anti-Acid Sink	to Lock Etchant
Desiccator & Syringe Pump	for Microfluidics Purposes



## Glove Box

SATALAB's high efficiency Glove Boxes give you ultimate control over your chamber's inner atmosphere.

FEATURES	SPECIFICATIONS
Display	7" HMI display
Body Material	304 Stainless Steel
Controlled Parameters	Humidity, Pressure, Temperature & Oxygen
Inside Access	By Frontdoor, Antechamber & Feed Through
Humidity Controller	Closed Loop Dryer
Doors Mechanism	Easy Access Doors



## NANO LAB

SATALAB's multifunctional Glove Boxes are sealed containers used to Spin Coat substrates and manipulate objects in an inert atmosphere.

FEATURES	SPECIFICATIONS
Display	7" HMI display
Body Material	304 Stainless Steel
Systems Included	Glove Box Plus Embedded Spin Coater
Spin Speed Range	100-6000 RPM
Acceleration Range	Up to 3000 RPM
Glove Box Features	Refer to Glove Box Section

## Plasma Cleaner

SATALAB offers Plasma Cleaning systems to remove all organic matter from the surface of an object. This equipment can be used by scientists in MEMS & Microfluidics applications.

FEATURES	SPECIFICATIONS
Display	7" Touch Screen
Body Material	304 Stainless Steel
Cleaning Gun	2" Magnetron Gun
Power Source	RF Auto Tune
Vacuum System	Mechanical Pump
Purge Gas	Argon Filled



## Vacuum Furnace

SATALAB offers a complete innovative Vacuum Furnace equipment surrounded by Vacuum during process and cooled by inert gas for special purposes.

FEATURES	SPECIFICATIONS
Display	7" Touch Screen
Vacuum System	Mechanical Pump
Temperature Range	Max 700° C
Chamber Material	304 Stainless Steel
Gas Purge	Manual Needle Value
Temperature Control	Step & Ramp PI Control



## Syringe Pump

SATALAB Syringe Pumps are used for small and precise infusion or withdrawal of liquids in precise or Microfluidics applications.

FEATURES	SPECIFICATIONS
Display	7" HMI display
Infusion System	3 Independent Rods
Operation Modes	Infusion & Withdraw
Movement Resolution	200 nm per Step
Injection Modes	Rate or Volume
Syringe Types	Auto Calibration According to Syringe Size



## Micro Positioner

SATALAB's Micro Positioner system provides high precision 3 degree Micro Positioner on straight motions of X, Y and Z axes to place probing points on substrate. Analysers can be provided on demand.

FEATURES	SPECIFICATIONS
No. of Probes	1 to 4 Probes
Motion Axes	X, Y and Z
Systems Included	CCD Camera with Magnification
Analyser System	Provided on Demand
Substrate Holder	Gripper or Vacuum Chuck
Moving Stroke	+/-5 mm Each Axes



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PRINTED IN IRAN

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