



# RenoNix Company Profile

2019.03.18



# Contents

- 1** **Company Compendium**
- 2** **Refurbishment Business**
- 3** **OEM / 2<sup>nd</sup> NEW Parts**
- 4** **RenoNix Major Customer**
- 5** **Contact Point**

# 1-1. Company Profile

Established 04<sup>th</sup> November 2010

Business Semiconductor tools marketing, Refurbishment, Installation, Relocation, Conversion & Modification, Parts outsourcing, Technical Service, On call service & Technical Development & manufacturing

Capital 330K USD

Employee 16 Persons

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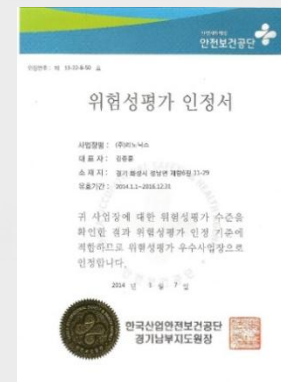
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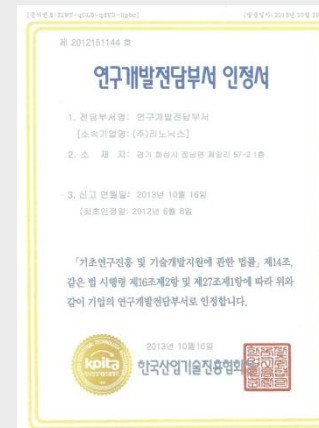
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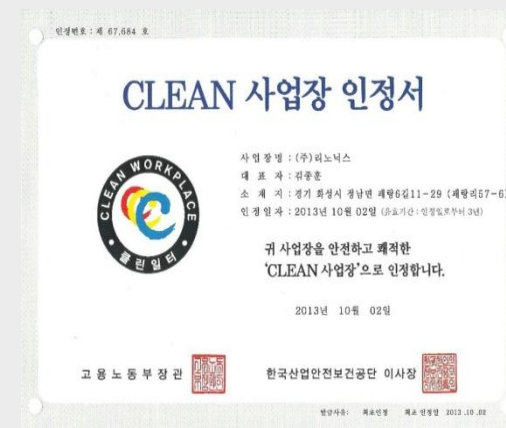
✓Enterprise Risk Management  
13-22-B-50



✓Research Institute  
2012151144



✓Clean Industry  
67,684



## 1-2. Project Recode (The Most Recent 3 Years)

Customer	Project Name	Brief Description	Q'TY	Year
O Korea	AMAT Centura TPCC DPN	Refurbishment/Start up	1	2017
S Singapore	AMAT Endura5500 Ai Cu	Refurbishment/Start up	1	2017
O USA	AMAT Centura	Refurbishment	1	2017
D Korea	AMAT Producer-S 200mm	Refurbishment	1	2017
O Korea	AMAT Endura5500 MOCVD	Retrofit & Start up	1	2017
D Korea	AMAT Centura WCVD	Refurbishment/Start up	1	2017
O Singapore	AMAT Producer-S 200mm	Refurbishment	1	2016
S China	DNS SS-3000-AR Scrubber	Refurbish & Install	1	2016
S China	TEL Telius SCCM Used Tool	Refurbishment/Start up	1	2016
S China	AMAT Emax (200mm)	Refurbishment/Start up	1	2016
S China	SCCM SE+ Chamber 1&SCCM SE	Upgrade & Refurbishment	1	2016
D Korea	AMAT Endura5500	Refurbishment/Start up	1	2016
D Korea	CVD TIN	Retrofit & Start up	1	2016
H China	Endura 5500	Relocation & Additional	1	2015
H Taiwan	Endura5500 Al,Cu System 8inch	Refurbishment/Start up	1	2015
D Korea	AMAT Endura 5500 Chamber Add	Refurbishment/Start up	1	2015
S Singapore	KLA RS75 SYSTEM	Refurbishment/Start up	1	2015
S Singapore	Labor support for RS55	Refurbishment	1	2015
H Korea	AMAT Endura5500	Refurbishment/Start up	1	2015
D Korea	AMAT Endura5500 MO-CVD	Refurbishment/Start up	1	2015
S China	200mm Producer-S	Refurbishment/Start up	1	2015

# 1-3. Project Recode (The Most Recent 6 Years)

## Summary list for project

Project Name	Endura	Centura	Producer	TEL SCCM	DNS	LAM / Novellus	Other	TOTAL
Refurbishment/ Start up	17	6	2	1	1	2	5	34
Retrofit / Start up	19	5	-	-	-	-	3	27
Relocation/ Start up	1	10	-	-	-	-	4	15
Refurbishment	6	2	2	1(Upgrade)	-	-	3	14
TOTAL (90)	43	23	4	2	1	2	15	90

## Summary list for country

Country	Q'TY	Rate
Korea	43	48%
China	18	20%
Singapore	17	19%
Taiwan	8	9%
Other	4	4%
TOTAL	90	100%

# 1-4. Business Detail

## Customer Satisfaction

### Equipment Refurbish

- ✓ AMAT PVD / CVD / ETCH, LAM / Novellus ETCH / CVD, PSK TERA / SUPRA, TEL ETCH / TRACK, DNS Scrubber, etc.
- System Refurbishment, Modification, Relocation, Upgrade & Conversion
- Start-up.

### 2<sup>nd</sup> / OPM NEW Overhaul Items

- ✓ Heater Block 2<sup>nd</sup> NEW & Overhaul (150mm / 200mm)
- ✓ Magnet 2<sup>nd</sup> NEW & Overhaul (150mm / 200mm / 300mm )
- ✓ Ceramic Heater 2<sup>nd</sup> NEW (200mm)
- ✓ ESC 2<sup>nd</sup> NEW (150mm / 200mm)
- ✓ WJ Equipment Parts 2<sup>nd</sup> NEW (150mm / 200mm)

### Spare Parts

- ✓ OEM / OPM / 2nd New Parts  
OEM : Heater, Magnet, RFG, RFM, Gate Valve, etc.
- ✓ Provide process kits for PVD, CVD, ETCH process chamber.
- ✓ AMAT / LAM / NOVELLUS WJ / DNS / TEL, etc. system parts.

# 1-5. Business Area

## THINFILM / ETCH PROCESS TRACK PROCESS

AMAT  
ENDURA  
SYSTEM



AMAT  
PRODUCER  
SYSTEM



LAM /  
Novellus  
SYSTEM



TEL TRACK  
SYSTEM



Refurbished Equipment / System Relocation / Installation / Engineering Support

## 2-1. Refurbishment Business (AMAT, LAM, NOVELLUS)

### ➤ Summary list for Refurbishment, Modification, Relocation & Upgrade.

#### AMAT

- ✓ PRECISION-5000 : DLH / DxZ, PE-CVD / SA CVD / SiON / TEOS, WCVD, etc. Chamber
- ✓ ENDURA 5500 : STD HTHU, Aluminum, TiN, PCII/RPC, IMP/Encore, TxZ(STD, HP, HP+), MOCVD, etc. Chamber
- ✓ CENTURA : WxZ , PE CVD, CxZ, Gigafill : SACVD, DxZ Top Mount RPS, etc. Chamber
- ✓ Ultima : HDP, Ultima Plus / TE, Uitima-X;
- ✓ CENTURA 5200 RTP : MOD I, XE (MOD II), XE Plus, ISSG, RPN, etc. Chamber
- ✓ CENTURA (ETCH) : MXP Ploy, DPS R1 Metal, Super E, DPS + Poly, DPS + Metal, DPS II Metal, etc. Chamber
- ✓ PRODUCER : APF, SA CVD / BPSG, PE CVD, etc. Chamber

#### ✓LAM / NOVELLUS

- ✓ Concept 1 PE-CVD Nitride, PSN-CVD, BPSG, P-SiON, CVD, etc. Chamber
- ✓ Concept 2 Single / Dual / Triple Speed : Shrink HDP, CVD etc. Chamber
  - Single / Dual ALTUS : Shrink WCVD Chamber
  - Dual Sequel / Sequel Express : CVD, PE CVD, etc. Chamber



## 2-2. Refurbishment Business (LAM, DNS, TEL(Track / Dry ETCH))

### ➤ Summary list for Refurbishment, Modification, Relocation & Upgrade.

#### LAM

- ✓ Rainbow 4400 /4420 /4520
- ✓ TCP9400 /9600 Series

#### DNS SPIN-SCRUBBER System

- ✓ DNS SSW-60/80A
- ✓ DNS 60/80A/B

#### TEL

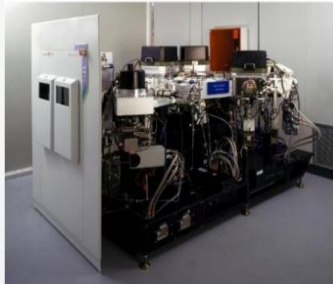
- ✓ Mark 7, Mark 8
- ✓ ACT 8, ACT-12

#### TEL

- ✓ UNITY ME Series
- ✓ UNITY 2 Series
- ✓ TE 8500 Series

## 2-3. AMAT PVD / ETCH System

### ➤ AMAT Endura 5500 PVD



#### CHAMBER SOLUTION

- ✓ Aluminum Chamber
- ✓ Ti/TiN Chamber
- ✓ PCII/RPC / IMP / Encore Chamber
- ✓ TxZ Chamber (STD, HP & HP+)

**IMP**



**TxZ**



**Pre-Clean**



**STD & HTHU**



### ➤ AMAT Centura 5200 CVD



#### CHAMBER SOLUTION

- ✓ HDP / WxZ Chamber
- ✓ DxZ / CxZ Chamber
- ✓ PE CVD (TEOS & SION)

**Ultima**



**WxZ**



**Ultima Plus/TE**



**DxZ Top Mount RPS**



## 2-4. AMAT / Novellus CVD System

### ➤ AMAT Producer



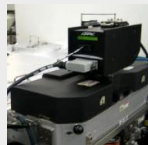
#### CHAMBER SOLUTION

- ✓ APF (200mm)
- ✓ SA CVD (200mm)
- ✓ PE CVD (200mm)

**PE CVD**



**HARP USG**



### ➤ LAM / Novellus CVD (C1, C2)



#### CHAMBER SOLUTION

- ✓ C1 : PE-CVD, Nitride, PSN-CVD (150mm)
- ✓ C1 : P-SiON, BPSG, TEOS, CVD (150mm)
- ✓ C2 Speed : Shrink HDP Chamber (200mm)
- ✓ C2 ALTUS : W CVD Chamber (200mm)
- ✓ C2 Sequel : CVD, PE CVD Chamber (200mm)
- ✓ C2 Express : TEOS, CVD Chamber (200mm)

**PE TEOS**



**Max HDP**



## 2-5. TEL Track / LAM ETCH System

### ➤ TEL MARK Series



✓ MARK-V, VZ



✓ MARK-7, 8

### ➤ LAM 9400 Series



✓ TCP-9400 SE

### ➤ TEL ACT8, 12



✓ ACT-8



✓ ACT-12

### ➤ LAM 9600 Series



✓ 9600 Alliance A6

## 2-6. Upgrade & Conversion

### ➤ PVD

Std TxZ => HP/HP+ TxZ  
IMP => SIP & Encore  
HP Robot => HP+/VHP Robot  
Std Heater => E-Chuck  
Shutter  
RF match Upgrade  
Cryo Pump Upgrade  
Any type of PVD Chamber



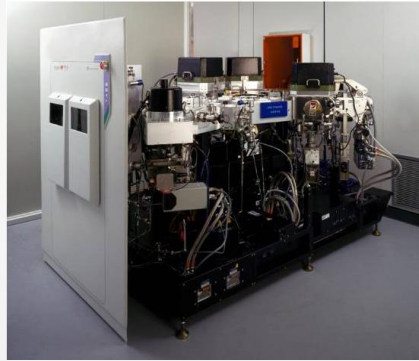
### ➤ CVD

RF Cleaning => RPC, RPS  
Std W => Sprint W  
MTR5 Robot => MAG7 Robot  
Std Cooling => 4 Cooling Slot  
Ultima => Ultima+, TE  
Any type of CVD Chamber



# 2-7. The Way to Refurbished Equipment

## In Factory



## Disassembly



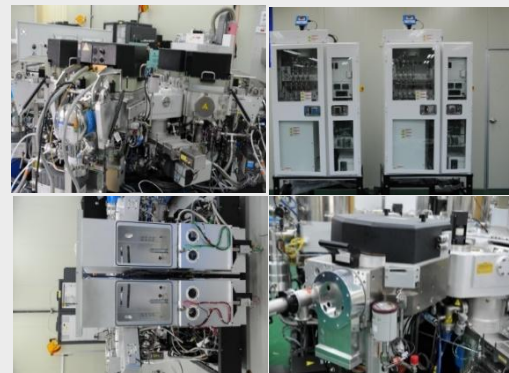
## High Quality Refurbishment

- ◆ Each piece of equipment goes through our superior refurbishment process
- ✓ Production Fab and refurbishment company trained engineers
- ✓ Standardized refurbishment procedures
- ✓ Remanufacturing based on the original factory specification
- ✓ Detailed inspection & installation report
- ✓ Can be support process issues

## Integration & Final Test



## Assembly



**RenoNix Co.,Ltd.**

**200mm Endura Final Test - Operation Signoff Document**

Revision	Description	Originator / Approver	Date
1	200mm Endura Final Test		
Specification For Resistance (Ohms)			
	Channel Function	Driver TB Position	
	Standard Heater	5in	5in 5in
	High Temp 6 finger Heater		
	NIM		
	Advanced 101 & B101		
	PT100 Heater		
	TDV2 Check		
	Chamber Bake Out Lamp		
	Degas Lamps		
	Metallic Bake Out Elements		
	HS-Temp. MCA-A, E-Check Outer Zone, Basable	4 and 5	
	HS-Temp. MCA-A, E-Check Inner Zone, Basable	7 and 8	
	HS-Temp. MCA-A, E-Check Inner Zone - Outer Zone	7 and 8	
	Low Temp. Sub-cool. and Low Temp Basable I	4 and 5	
	Low Temp. Sub-cool. and Low Temp Basable II	7 and 8	
	SLT		
	Ta2 Heaters		

Supply Type	Measured Voltage (V)	Voltage Range	In Spec (Y/N)
+6V Supply	4.85 to 5.16 V	4.85 to 5.16 V	
+16V Supply	14.65 to 15.46 V	14.65 to 15.46 V	
+18V Supply	18.45 to 18.55 V	18.45 to 18.55 V	
+24V Supply	23.52 to 24.48 V	23.52 to 24.48 V	
+15V EXT	14.70 to 15.30 V	14.70 to 15.30 V	
+16V EXT	16.45 to 16.55 V	16.45 to 16.55 V	
+6V EXT	4.85 to 5.16 V	4.85 to 5.16 V	
+8V on VME	4.95 to 5.05 V	4.95 to 5.05 V	
+12V Supply	11.75 to 12.24 V	11.75 to 12.24 V	
-12V Supply	-12.24 to -11.76 V	-12.24 to -11.76 V	
Remote generator	14.70 to 15.30 V	14.70 to 15.30 V	
Remote generator	-15.30 to -14.70 V	-15.30 to -14.70 V	

# 3-1. OEM Spare Parts

👉 More products information , Please refer to [www.irenonix.com](http://www.irenonix.com) / [renonix@irenonix.com](mailto:renonix@irenonix.com)

<p>ASS'Y, ELECT, SBC, SYNERGY CPU WITH1 0090-76133 (15ea) Good Working Condition</p>	<p>GAS DETECTOR 02-109457-01</p>	<p>AE MDX-L12M-650 RF GENERATOR 0010-21844/20225</p>	<p>8" Hi TEMP HEATER W/WELDED LUGS 0010-22012</p>	<p>Producer Ceramic Heater 0040-84051</p>
				
<p>MITSUBISHI ALL MOTOR &amp; MOTOR DRIVER</p>	<p>AMAT ENDURA ALL NEW MAGNET</p>	<p>PEDESTAL LIFT ASSY 2 STOP, SPEED 02-113291-00</p>	<p>CERAMIC, TC 15-00567-00</p>	<p>INSULATOR PINLESS 8" SNNF PRECLEAN II 0200-20426</p>
				

# 3-1. OEM Spare Parts



👉 More products information , Please refer to [www.irenonix.com](http://www.irenonix.com) / [renonix@irenonix.com](mailto:renonix@irenonix.com)


<p>ENDURA Preclean Chamber Good Working Condition</p>	<p>Edward Dry Pump</p>	<p>2 PHASE DRIVER 0870-01003</p>	<p>MAGNET ASSY DURASOURCE TTN (Overhaul) 0010-21844</p>	<p>Vexta Stepper Motor PH265-05B-C12 0090-70002</p>
				
<p>HARNESS ASSY, 5-PHASE DRIVER TRANSFER(0140-20092)</p>	<p>HARNESS CABLE 0140-20054</p>	<p>STEC ALL Model (NEW/Overhaul)</p>	<p>MKS ALL Model GE-50A Series (NEW/Overhaul)</p>	<p>UNIT ALL Model (NEW/Overhaul)</p>
				





# 3-2. 2<sup>nd</sup> NEW Parts List

👉 More products information , Please refer to [www.irenonix.com](http://www.irenonix.com) / [renonix@irenonix.com](mailto:renonix@irenonix.com)

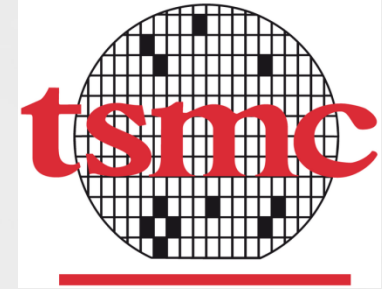
NO.	P/N	Description	Parts List
1	0040-09136	CHAMBER 200MM BW	 <b>AMAT 2nd NEW Parts List</b>   <b>Producer 2nd NEW Parts List</b>
2	0020-09999	PLATE, FRONT, THROTTLE DRIVE	
3	0020-30335	QUARTZ TUBE HOUSING	
4	0020-10135	MANIFOLD-WETER SUPPLY	
5	0020-30102	OUTPUT MANIFOLD	
6	0190-13175	Centura 5200 EPI - Light Pen	
7	0190-75073	LOAD LOCK LEAD SCREW	
8	0020-20488	CLAMP BAKEOUT LAMP	
9	0021-09758	MAINFOLD, OUTPUT,DXZ	

NO.	P/N	Description	Parts List
1	1D10-201429-15	UPPER ELECTRODE	 <b>TEL 2nd NEW Parts List</b>
2	1D10-101475-12	TAPER BAFFLE PLATE	
3	1D10-303124-14	SHIELD DEPO 85-2	
4	1D10-200733-11	RING SHIELD	
5	1D10-202204-12	UPPER ELECTRODE	
6	1D10-100854-15	BAFFLE PLATE	
7	1D10-303124-21	SHIELD DEPO 85-2	
8	1D10-201588-12	UPPER ELECTRODE	
9	1D10-202177-12	UPPER ELECTRODE	

NO.	P/N	Description	Parts List
1	715-130081-008	HOLDER WAFER 8"	 <b>LAM 2nd NEW Parts List</b>
2	714-330982-001	E2-CMP	
3	715-018991-208B	CATHODE (E) 8"	
4	810-424110-2	BAFFLE A 8K	
5	32005S-42713	WINDOW PORT	
6	715-140125-001-B	FACING ELECTRODE	
7	715-011913-083	PLATE LOWER BAFFLE	
8	715-130080-008	HOLDER WAFER 8"(ELL)	
9	715-030136-004	POLY EDGE RING	

NO.	P/N	Description	Parts List
1	16-137686-00	DOOR GATE	 <b>NVLS 2nd NEW Parts List</b>
2	16-126663-01	SHIELD STAGE ESC SPRAYED	
3	17-123793-02	ADAPTER SHIELD HCM	
4	16-137688-00	SHIELD BTM CLAMPLESS SPRAYED	
5	17-157344-00	L BRACKET	
6	16-122744-00	ASSY ANODE HCM ESC	
7	16-033931-01	SHOWER HEAD	
8	16-033932-00	SHOWER HEAD	
9	16-271392-00	SHOWER HEAD	

# RenoNix Major Customer



# Contact Point

**We're Capable of Most of service for PVD,CVD, ETCH areas.  
If you have any inquiry or interest , please feel free to contact us.**



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