

Purchase Order

Date	P.O. No.
4/30/2010	2010-3356

Terms

Item / Part #	Description	Qty	Rate	Amount
1	1. Automated Alpha Tool (Double Sided Porous Silicon: 25 wafer batch) based on WS-820L platform retrofittable to 50 wafer batch double sided a. Wafer size 200mm b. Wafer Flow Left to right c. Cassette included 2. Components to include: a. Main body – 1 unit b. Loader – 1 unit c. Unloader – 1 unit d. Two robots for bath to bath transfer systems – one robot for wet wafers and one for dry wafers; Robot arms to be Teflon coated quartz - 2 units e. Double Sided Porous Silicon bath – 1 unit f. Electrical Breaker Box for U.S. safety regulation g. CD ROM Manuals h. Material is FM-PVC to meet FM4910 criteria 3. System description: a. Position 1 : Loader (CTC type) b. Position 2 : CHCL (Robot Chuck Clean) c. Position 3 : PS (Single-Double Sided Porous Silicon bath) d. Position 4 : QDR (Quick Dump Rinse) e. Position 5 : SD (Spin Dryer) f. Position 6 : Unloader (CTC type) 4. Other components: a. Notch Aligner b. Wafer Counter	1	1,304,315.00	1,304,315.00

The Amount of this Purchase Order is in Japanese Yen 122,686,100.00

TOTAL (Not To Exceed)

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	c. IPA replenishment function for PS bath(w/ anti explosion) d. HF49% replenishment function for PS bath e. Fire extinguisher system for PS bath (\$42,525.00/ Yen 4,000,000.00 is included in the total PO amount- Revised 6/7/10) 5. Packing and crating; DNS to deliver and responsible for billing costs for all crates to Narita, Japan. Customer is responsible for freight from Narita, Japan to CA, USA T&Cs: 1. 10% 7 days before shipment, 70% upon delivery and 20% upon acceptance, all N30 and upon invoice 2. DNS to retrofit the Alpha tool to 50 Wafer batch DS PS at NTE \$100,000 USD 3. Customer to pay for the 3rd part safety and electrical inspection 4. DNS to comply with all US Safety and UL Electrical requirements for the Alpha tool installation at Solixel's pilot line in Milpitas 5. One year Warranty for both Labor and parts/Material from the date of Final Process and Tool acceptance at Customer's Milpitas Pilot line 6. Tool source inspection to be completed prior to shipment of the Alpha tool to Customer 's Milpitas facility 7. Final acceptance is conditional upon compliance to			

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	mutually accepted tool and process specifications based on: a. Tool source inspection to be completed prior to shipment of the Alpha tool to Customer's Milpitas facility b. Process spec for qualifying Solexel's process at Customer's Milpitas facility (i.e. +/- 10% spec for uniformity, porosity, thickness etc.) c. Final tool acceptance at Customer's Milpitas facility 8. Delivery to be FCA Narita Airport			

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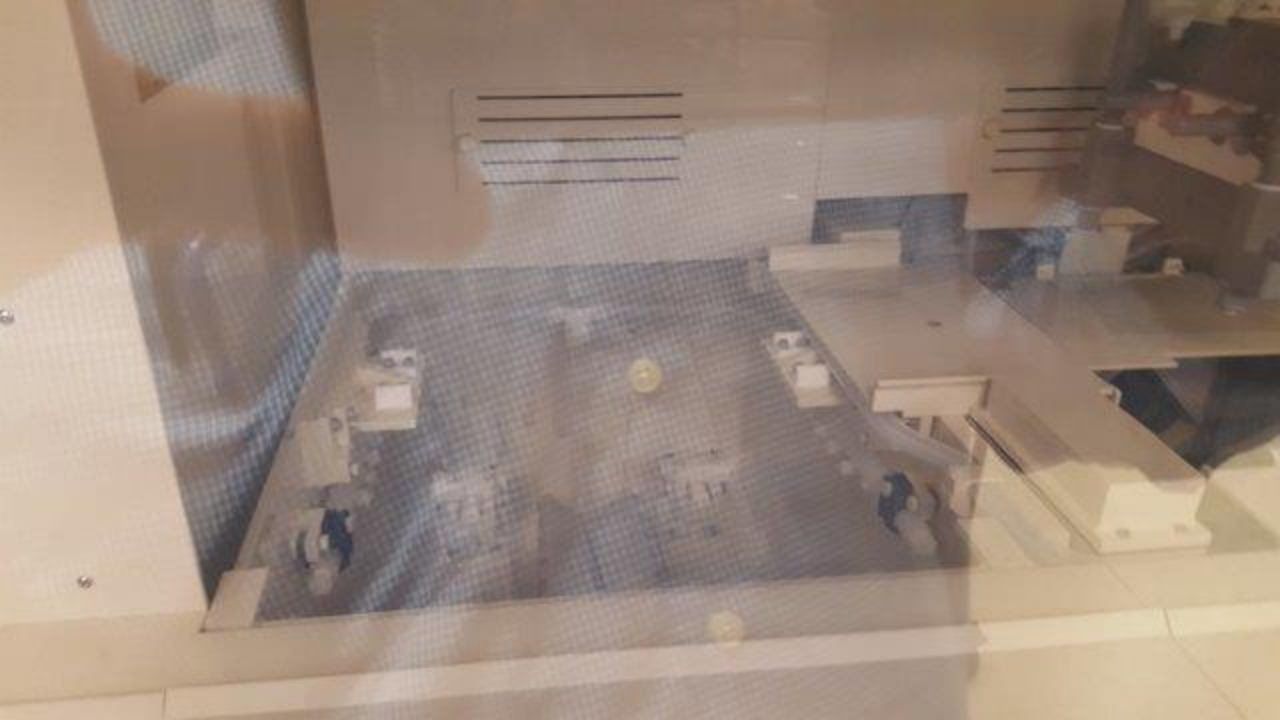
\$1,304,315.00

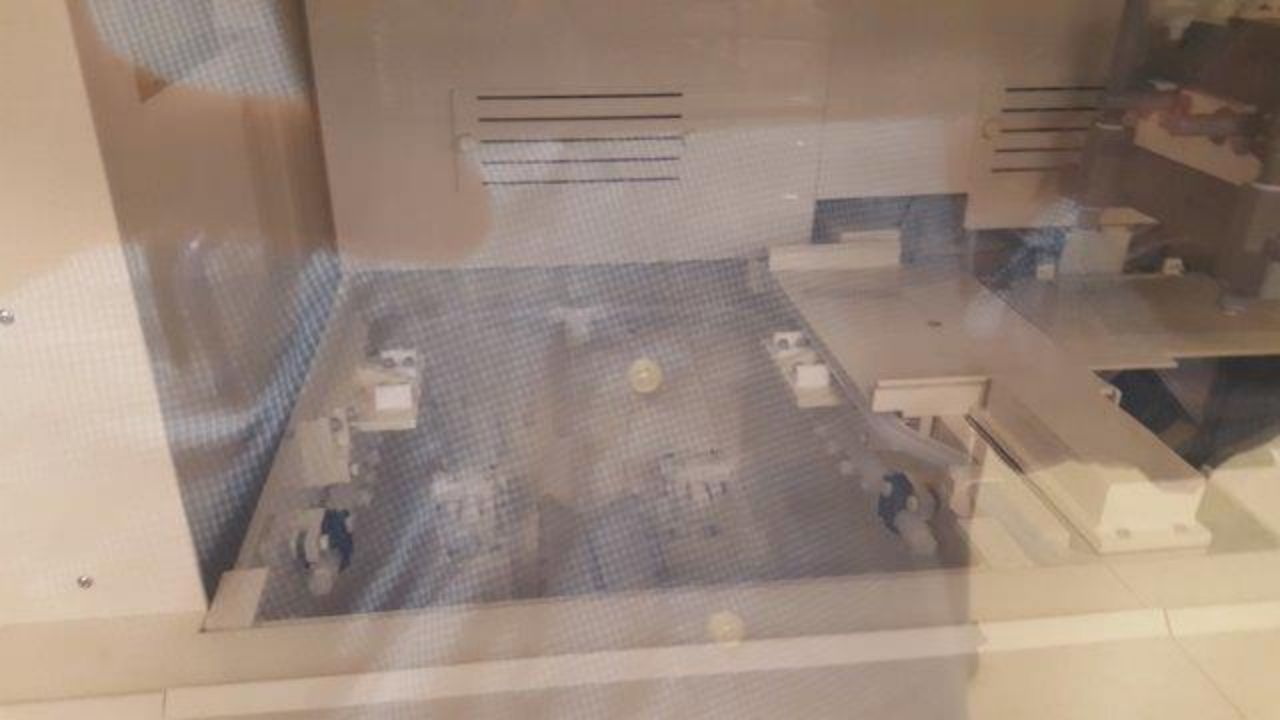
























A photograph of a person, likely a man with glasses, standing behind a glass partition in an industrial or laboratory setting. The person is holding a white rectangular sign that reads "ROBOT 4". The background shows a factory floor with various equipment, including a large white machine on the left and a yellow machine on the right. The lighting is bright, with overhead fluorescent lights visible. The glass partition is slightly reflective, showing some of the surrounding environment.

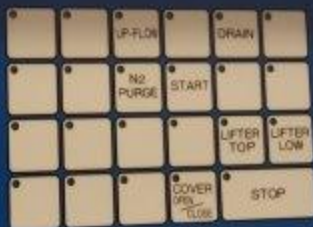
ROBOT 4



ROBOT 3

POSITION 6

N2 DRY



N2-2

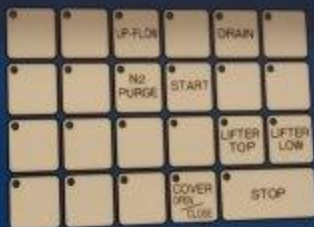


N2-1



POSITION 6

N2 DRY



N2-2



N2-1







POSITION 4

QDR

DRAIN

UP-FLOW

SHOWER

BUBBLING

STOP

POSITION 4

QDR

DRAIN

UP-FLOW

SHOWER

BUBBLING

STOP

ROBOT 2

POSITION 2

TRAY

SHOWER

TRAY
HOME

TRAY
CENTERING

STOP

ROBOT 1

E, 3112111
 kVA | A |
 Wire(s) +GND/PE |
 A |
 A | Motor | A |
 Co., LTD.
 425 Oyabu-cho, Kuze, Minami-ku, Kyoto-shi, Kyoto
 604-8001

MFG. NO. 170400068A
 MODEL WS-E201 DATE SEP.2011
 PHASE 1 100 Vac Full Load 7 kVA 62 A
 60 Hz 2 Wire(s) +GND/PE
 SCCR 5 kA Main Breaker Rating A
 Largest Load Heater A
 Diagram No. A Motor A
 Mass kg

TechInTech Co., LTD.
 425 Oyabu-cho, Kuze, Minami-ku, Kyoto-shi, Kyoto
 MADE IN JAPAN

MFG. NO. 1704000368A

MODEL WS-820L DATE SEP.2011

PHASE | 3 | 200 Vac | Full Load 22 kVA | 63 A |
60 Hz |

SCCR 5 kA | Main Breaker Rating Wire(s) + GND/PE | A |

Largest Load | Heater 22 A | Motor A |

Diagram No. | F-4-40439-01 |

Mass 45 kg

TechnTech Co., LTD.

425 Oyabu-cho, Kuze, Minami-ku, Kyoto-shi,
Kyoto, 601-8206, Japan
F-F4-40439-01
MADE IN JAPAN









EMO

ROBOT 1



ROBOT 1

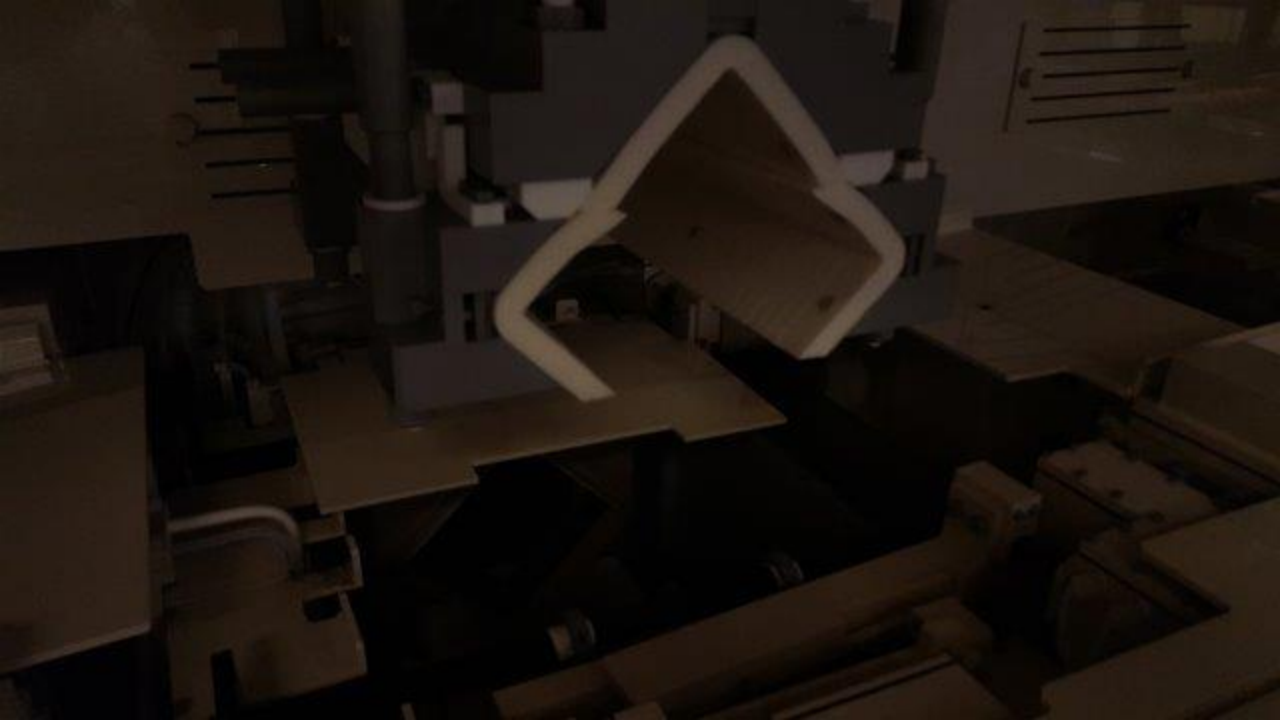








ROBOT 2



ROBOT 3

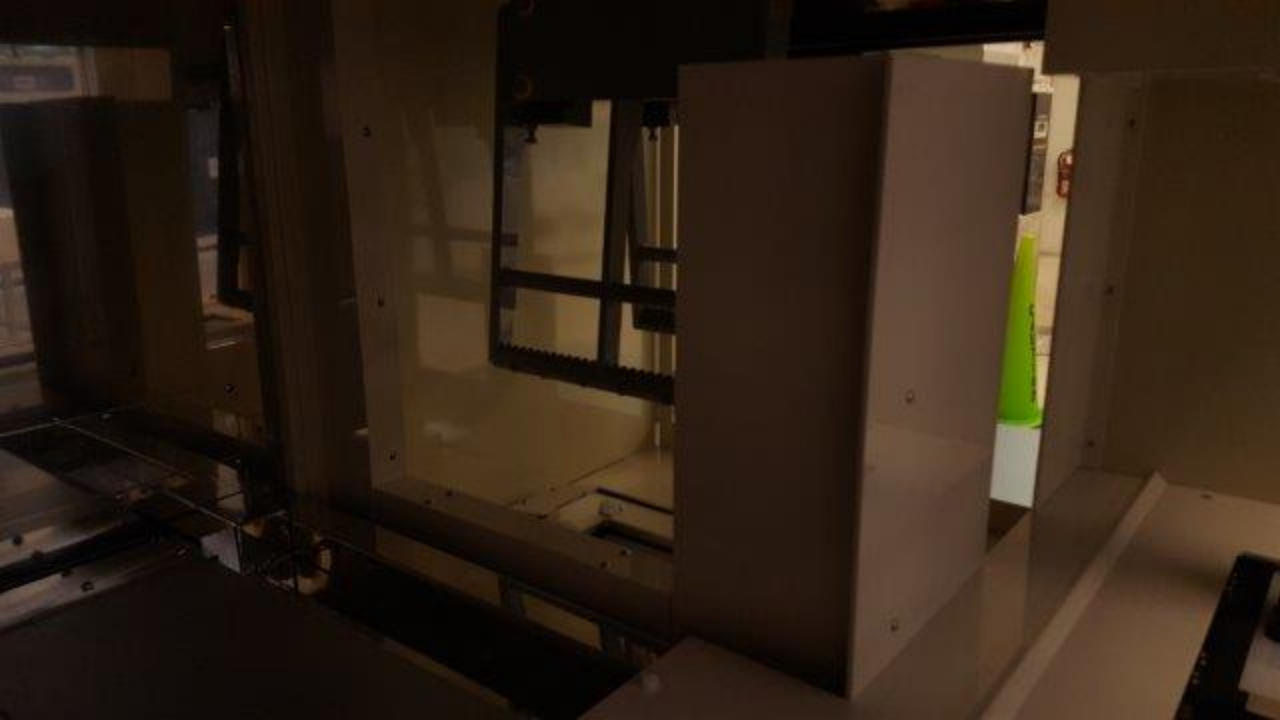




ROBOT 4



















ファン異常停止
FAN STOP



0000
000000





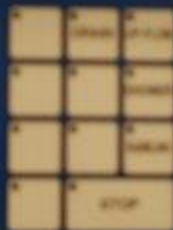
POSITION 6

ACTIVITY



POSITION 4

QDR



POSITION 3

PS



POSITION 3

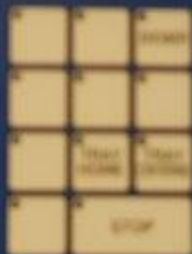
PS



DO NOT DRAIN IPA

POSITION 2

TRAY





Process Flow

Water

**Cell
Formation**

Backplane

**Front-side
Finishing**

**Back-side
Finishing**

**Module
Packaging**

Porous Silicon

- Makes thin surface layer of silicon water porous in an electrochemical process
- Provides excellent crystal quality for epitaxial growth
- Serves as seedlayer layer
- Batch process consisting of 5 baths with 26 wafers per bath
- Two layers are created: top layer is of lower porosity for epitaxial growth of crystalline silicon while the bottom layer is higher porosity seedlayer
- Throughput: 340 wafers/hr

High-volume Tool (Existing)



Process Flow



Porous Silicon

- Makes thin surface layer of silicon wafer porous in an electrochemical process
- Transfers excellent crystal quality for epitaxial growth
- Serves as release layer
- Batch process consisting of 5 baths with 26 wafers per bath

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- Makes thin surface layer of silicon wafer porous in an electrochemical process
- Transfers excellent crystal quality for epitaxial growth
- Serves as release layer
- Batch process consisting of 5 baths with 26 wafers per bath
- Two layers are created: top layer is of lower porosity for epitaxial growth of crystalline silicon while the bottom layer is higher-porosity release layer
- Throughput: 640 wafers/hr

High-volume Tool (Existing)

Porous Silicon

- Makes thin surface layer of silicon wafer porous in an electrochemical process
- Transfers excellent crystal quality for epitaxial growth
- Serves as release layer
- Batch process consisting of 5 baths with 26 wafers per bath
- Two layers are created: top layer is of lower porosity for epitaxial growth of crystalline silicon while the bottom layer is higher-porosity release layer
- Throughput: 640 wafers/hr

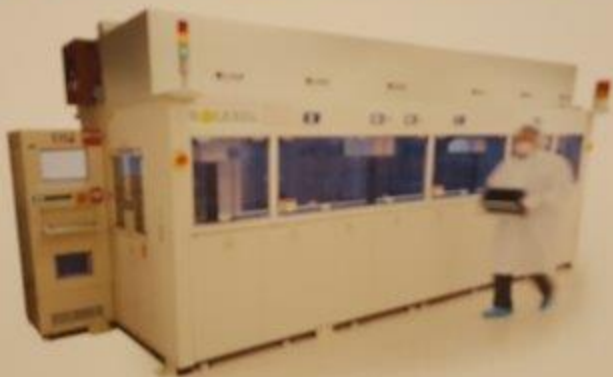
High-volume Tool (Existing)



while the bottom layer is higher-porosity release layer

0 wafers/hr

High-volume Tool (Existing)









SCRUBBED EXHAUST

SCRUBBED EXHAUST

SCRUBBED EXHAUST









VOLTAGE
CURRENT
WAVELENGTH
WAVELENGTH
WAVELENGTH

VOLTAGE
CURRENT
WAVELENGTH
WAVELENGTH
WAVELENGTH



RECOMMENDED EXHIBIT























MAIN
POWER
OFF



ROBOT
POWER
ON OFF



COVER
INTERLOCK
ACTIVE



PS
POWER
OFF



P/C
POWER
ON



ROB. REMOTE
CONTROL BOX

CONNECT
DISCONNECT

