| lo. | Item Model | Requirement | Comment DFL7361 |
|----------------------|--|--|--|
| | Power | Single Phase 220V+/-7% 3 Phases 220V+/-7% 3 Phases 380V+/-7% UPS to let machine complete last step and safely shutdown, no wafer drop allowed | 3 Phases 220V+/-7% |
| | Material | Silicon | Silicon |
| | Wafer Size | Bare wafer size: 8 inch & 12 inch Frame wafer size: 8 inch & 12 inch Conversion between 8" and 12" can be done by SYT Engineer and downtime less than 2hours Conversion between Bare Wafer Handling and Frame Handling can be done by Engineer and downtime less than 2 hours | Bare wafer size: 12 inch Exclusive |
| | Total Wafer Thickness tolerance | Max wafer thickness is <= 775 um Max Chip on Wafer tickness is is <= 775 um + 500um | 775µm Base (APACT 725µm Runing) (@+ Laminate BG Tape Thickness) |
| | Dicing Side | Top/Back side dicing | Back side dicing |
| | Dicing Mode | Supports both SDAG, SDBG, SDTT | SDBG (Stealth Dicing → Back grind) |
| | Wafer load mode | Bare Wafer: Load/Unload from FOUP/Open cassette Frame Wafer: Load/Unload from frame cassette | FOUP (Carrier Type) |
| | Laser Engine | Laser Power: Output Power \ge 6W; Point Power \ge 2.5W (Single focus) | SDE06 Engine Type Output Power : 6.8W Over |
| | X axis | Dicing range: 310mm, Wafer size config range: MAX 300mm, Scale resolution 0.0005 mm, Moving speed: 1~1000mm/s | Dicing range : 310mm Wafer size config range : MAX 310mm Scale resolution 0.0005 Within Moving speed : 1.000mm/s |
| | Y axis | Dicing range: 310mm, Wafer size config range: MAX 300mm, Scale resolution 0.0001 mm, Position accuracy: 1um over 310mm , Moving speed: 200mm/s | Dicing range:310mm Wafer size config range:MAX 310mm Scale resolution 0.0005 Within Position accuracy:3µm over 310mm Within Moving speed:200mm/s |
| | Z axis | Defocus config range: -2.000-5.000mm, Position accuracy: 0.1µm, Movement speed: 50mm/s | Defocus config range:-2.000~5.000mm Position accuracy:1µm Within Movement speed:50mm/s |
| | θaxis | Max rotate angle: 380°, Motor accuracy: 0.039"(angle) | Max rotate angle:380° Motor accuracy:0.039"(angle) |
| | DFPC | Height compensation range: ±20µm, Note:The actual height compensation accuracy are affected by chuck table faltness, tape thickness, wafer thickness and ect. | |
| | Autofocus recognize system | Has infrared camera and recognize pattern automaticaly from back side | ок |
| Machir 1 configur | | Dicing edge to fiducial ±3um | ±3μm |
| n | Chuck Table Upper Surface Parallelism | (when Measuring at 22°C) 0.008 mm/210 mm 0.008 mm/310 mm | (when Measuring at 22°C) 0.008 mm/310 mm |
| | X/Y line straightness | <= 3um / 300mm | 3µm Within |
| | Operate System | The machine have the touch screen, windows operate system, and it can be display the workpiece real-time processing status | ок |
| | Status Light | Contain Green/Yellow/Red 3 color light | Contain Green/Yellow/Red/White 4 color light (+@ : White Lamp / Laser Status) |
| | | Transfer bare wafer to alignment, and transfer processed wafer to FOUP. The robot is capable to flip wafer before alignment station. | OK : FOUP (Carrier Type) Runing |
| | Transfer system | 2. Transfer frame wafer to chuck table and position, and transfer processed frame wafer to frame cassette. The robot/transfer arm is able to flip the frame wafer for SDTT process. | Νο |
| | Water chilling unit HEPA Filter | Provide cooling water for laser engine Separate installation at working room and transfer room | OK (+@ X-axis) HEPA Filter System 2EA |
| | Focus Function | Separate installation at working four and transfer room Single focus and dual focus Can be set by recipe to use either single focus or dual focus, no lens conversion required | OK (MACRO / MICRO Selection Use) |
| | Life time management for spare parts | Key spare parts life time management | ок |
| | Wafer ID | Can be read by OCR or scan by hand type scanner, and can key in it by manually | No |
| | Production record | Machine have a USB port for connect the hand type scanner Machine can record the information of operation/recipe/timestamp/error message/etc., and it can find out the product message by Wafer ID | OK (APACT Not operating) Log View Function / OCR Function No |
| | Machine has different access level | Different accounts and passwords can be set with different access level by user: Operator, Maintenance | OK (User Level Mode selection) |
| | Recipe load function | Auto recipe selection by providing Wafer ID to host | OK (Auto recipe selection by providing lot card ID) |
| 1 | Recipe Saving | >=1000 Recipes | |

| 2 Network Control of Contro of Control of Control of Control of | | | Equipped with alarms for utilities - low water flow, low | Be capable | OK (Utility Interlock) |
|---|---|---------|---|---|-------------------------------------|
| 2 Nethod Additional balance in separation quality OK (rengine summation) 4 High-Semainty Channer and Oblique Lighting Backskie reflectation measurement Ves OK 7 Optical axis monitoring Paterner and SECS/GEM complexes and points on No Sige Chank Ves OK (Log Vew) 8 Equipment should have optical axis monitoring general SECS/GEM complexes and balance equipment should have equipment should have optical axis monitoring SEM ES-SEM equipment communication standard 2 message content(SECS-II) following SEM standard equipment should have equipment should auport following SEM standard SEM ES-SEM equipment communication standard 2 message content(SECS-II) following SEM standard equipment should auport following SEM standard SEM ES-THEM equipment atom standarg 2 message structure standard 2 message structure to analysis SEM ES-THEM message for equipment status monitor and eventilation messages(SIGPS/SIGPS) OK 1 Equipment an display short message on screen which was sent from host by terminal display message(SIGPS/SIGPS) OK 2 Network Temperature float/size temperature of contained, any recipe which was sent from host by terminal display to take message should be apport to take the subached on bot OK 3 Safety Temperature float/size temperature of contained, any recipe which was created from equipment size contained and working area, and the parts which contact wafer direcit have gioned ESD conditions. Static | | | | | |
| 2 Vectors Uppung Uppung Vectors Vectors Vectors OK 2 Petrock Yes OK 3 Selectors Vectors OK 4 Vectors Vectors OK 5 Selectors Vectors OK 4 Vectors Vectors OK 7 Non Step Check Yes OK 8 Equipment band/additions the laser intensity distribution Beam porting: Monitors laser intensity distribution Beam porting: Monitors laser intensity distribution OK (Hast Steam CUT Function) Non Step Check Yes OK (Hast Steam CUT Function) OK 1 Equipment tabuid laser SEM ES-SEM equipment communication standard 2 messages content(SECS-II) OK 2 Network Equipment should support SEM ES7-High speed SECS message services(HSMS) OK 2 Network Equipment should support SECS/GEM messages for equipment status monitor and ventilation majors OK 2 Network Equipment cam files/secore which was sent from host by terminal display OK 3 Selecy If equipment | | | Auto-Focus Unit | | OK (Height estimation function) |
| Image: statement Pes Or 0 Pes Optical axis monitoring Yes Optical axis monitoring Yes 1 Heam Out Yes Or Or Or Optical axis monitoring Yes 1 Heam Out Yes Or Or Or Heam Out Yes 2 Network Equipment should have or previous SCSGENE following SEMI standard SEMI ESP-Generic model for communication standard 2 message content(SECS-II) OK OK 2 Network Equipment should have or previous SCSGEN message services(HSMS) OK OK 1 Fequipment can SECS/GEM message for equipment status monitor and event/alarm messages, all resumesages should be sent to how to to the the time messages and these messages should be sent to how to to the time messages and resumesages should be sent to how to be the time message should be sent to how the vast restend from resumesages (SIP3/SIGFS) OK 3 Fequipment is requipment is requipment is requipment is Optical kine matche 1 requipment is requipment is second prove should along on reseages (SIP3/SIGFS) OK 2 Fequipment is requi | | | | Yes | ОК |
| Image: state in the state interview interv | | | | Yes | ок |
| Image: state in the state in the state in the state in contact with ESDS device in thestate in contact with ESDS device in the state in c | | | Optical axis monitoring | Beam profile: Monitors the laser intensity distribution | OK (Log View) |
| 2 Requipment should have general SECS/GEM compliance and have capability support from follwing SEMI standard SEMI E5-SEMI equipment communications and control of SEMI (SEMI E30-Generic model for communications and control of SEMI (SEMI E37-High speed SECS) OK 2 Network Equipment should support follwing SEMI standard SECS/GEM (SEMI E37-High speed SECS) OK 2 Network Equipment should support follwing SEMI standard SECS/GEM message for equipment status monitor and event/alarm messages, all display short message on screen which was sent from host by terminal display messages(S10F3/S10F3) OK 2 If equipment can equipment is display short message on screen which was sent from host by terminal display messages(S10F3/S10F3) OK 3 SECS/GEMS Equip SECS/GEM open ports OK 4 Temperature If surface temperature display display that message (S10F3/S10F3) OK 5 Temperature If surface temperature display display that message (S10F3/S10F3) OK 6 Temperature If surface temperature display that are is higher than >40 degree celsius, a caution obtain surface temperature disclassing (Inc) ± 100V/D ± 100V/D ± ± 100V/D ± ± 100V/D ± 100V/D ± ± 100V/D ± ± 100V/D | | | | | |
| 2 Network Equipment should have general SECS/GEM compliance and have repability to support from folkwing SEMI standard SEMI E30-Generic model for communications and control of SEMI SEMI E37-High speed SECS message services(HSMS) OK 2 Network Equipment should support folkwing SEMI standard SECS/GEM SECS/GEM message for equipment status monitor and event/alarm messages, all display short message on screen which was sent from host by terminal display message(S10F3/S10F5) OK 2 Network Equipment can display short message on screen which was sent from host by terminal display message(S10F3/S10F5) OK 3 SECS/GEMS Equipment side, could be uploaded to host OK 3 SECS/GEMS Equip SECS/GEM open ports OK 4 Temperature If surface temperature of certain area is higher than >40 degree celsius, a caution directly have good ESD conditions. OK 3 Safety ESD Surface Resistance (Pick up head, flipper, ceramic etc); 10*4 ~ 10*110 OK 4 Maxine Resistance (Pick up head, flipper, ceramic etc); 10*4 ~ 10*110 OK OK 5 Surface Resistance (Pick up head, flipper, ceramic etc); 10*4 ~ 10*110 OK OK 5 Surface Resistance (Pick up head, flipper, ceramic etc); 10*4 ~ 10*110 OK< | | | Non Stop Check | Yes | OK (Kerf Check Function) |
| 2 Network SEMI E30-Generic model for communications and control of SEMI OK 2 Network Equipment (GEM) SEMI E30-Generic model for communications and control of SEMI OK 2 Network Equipment should support form these messages of equipment status monitor and event/alarm messages.all Equipment can OK 2 Equipment can display short message on screen which was sent from host by terminal display equipment side, could be uploaded to host OK 3 Fequipment is required to support recipe download, any recipe which was created from equipment side, could be uploaded to host OK 5 SECS/GEMS Equipment cold to support recipe download, any recipe which was created from equipment side, could be uploaded to host OK 5 SECS/GEMS Equip SECS/GEM open ports OK 7 Temperature If surface temperature of certain area is higher than >40 degree celsius, a caution hot sticker must be attached. OK 8 Safety ESD Surface Resistance (Pick up head, flipper, ceramic etc): 10*4 ~ 10*110 OK 8 Safety Safety Surface Resistance (Pick up head, flipper, ceramic etc): 10*4 ~ 10*110 OK 1 Surface Resistance (Pick up head, f | 2 | Network | general SECS/GEM compliance and have capability to support from | SEMI E5-SEMI equipment communication standard 2 message content(SECS-II) | ок |
| 2 Network Image: Cario Content of the subscription of the subscriptio | | | | | ок |
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| 3 Safety Edupriment Call messages(S10F3/S10F5) CK 3 Safety If equipment is SECS/GEMS Equip SECS/GEM open ports OK 3 Safety Temperature If surface temperature of certain area is higher than >40 degree celsius, a caution hot sticker must be attached. OK (Temperature Interlock Function) 3 Safety Temperature There are ionizer placed at working area, and the parts which contact wafer directly have good ESD conditions. Static dissipation time-5 s (From ±1000V to ±100V) ; Balance Voltage < ±35V | | | Equipment should support | | ок |
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| 3 Safety Temperature If surface temperature of certain area is higher than >40 degree celsius, a caution hot sticker must be attached. OK (Temperature Interlock Function) 3 Safety Temperature If surface temperature of certain area is higher than >40 degree celsius, a caution hot sticker must be attached. OK 3 Safety There are ionizer placed at working area, and the parts which contact wafer directly have good ESD conditions. Static dissipation time<5 s (From ±1000V) to ±100V) ; Balance Voltage <±35V | | | If equipment is | | ок |
| 3 Safety For each of the surface must be attached. OK (Temperature interlock Function) 3 Safety There are ionizer placed at working area, and the parts which contact wafer directly have good ESD conditions. Static dissipation time<5 s (From ±1000V to ±100V); Balance Voltage <±35V | | | SECS/GEMS | Equip SECS/GEM open ports | ок |
| 3 Safety Hard Picture and Pictur | 3 | Safety | Temperature | | OK (Temperature Interlock Function) |
| 3 Safety ESD Equipment Grounding (Machine surface and parts that are in contact with ESDS device) <10 | | | | directly have good ESD conditions. | ок |
| Equipment Grounding (Machine surface and parts that are in contact with ESDS device) <10 | | | | Surface Resistance (Pick up head, flipper, ceramic etc): 10^4 ~ 10^11\Omega | ок |
| Image: solution of the surface has the English warning label OK Image: solution of the surface has the English warning label OK Image: solution of the surface has the English warning label OK Image: solution of the surface has the English warning label OK | | | | device) <1Ω | ок |
| Safety protected by cover OK Machine surface has the English warning label OK Manual Spare part list, operation manual, maintain manual OK | | | | | ок |
| Manual Spare part list, operation manual, maintain manual OK | | | Safety | | ок |
| | | | | Machine surface has the English warning label | ок |
| 6 Other Air gun: 1 set, Machine mount foot stand: 1 set. OK | | Manual | | Spare part list, operation manual, maintain manual | ОК |
| | 6 | 6 Other | | Air gun: 1 set, Machine mount foot stand: 1 set. | ОК |