WAFER DISK ANALYZER 3640 FINAL Spec. Review

Page

Content :

I.Machine Information

Machine Name:	RIGAKU X-Ray Fluorescence Spectrometer
Machine Type:	Wafer Disk Analyzer 3640

II.Buy Off Result

Item	*Description*	*Request Spec*	*Result*		*Check by*	*Further Action*	*Action by*	*Exp. Finished date*
			GO	NG				
1. Purchasing content								
	-Main M/C	1 set						
	-6” holdr	1 set						
	-8” holder	1 set						
	-X-ray tube	1set						
	- Ti Goniometer	1 set						
	- Scanning Goniometer	1 set						
	- Heat exchanger	1 set						
	- High voltage transformer	1 set						
	- Automatic Voltage Regulation	1 set						
2. Machine Function								
2.1. Handling capability								
	-Wafer size	6” & 8”						
	-L/UL Auto/Manual	Manual						
2.2. Control and Vision System								
	-Control system	PC based with RS232 port						
	-Operation man-machine interface	18” color touch panel						
	-Data collection	Yes						
2.3. Facility and Environment								
	Operation temp System	15 ~ 25 ^{0}C						
	Relative System	≤ 75%						

	humility								
	Power supply		208 VAC, 60 Hz, 3 Phase, 80A						
	N^2 for dry pump	Flow rate	10 mL/min						
		Pressure	0.3~0.7 MPa (3~7kg/cm2)						
	Cooling water for heat exchanger	Temperature	≤ 30 ^{0}C						
		Pressure	0.2~0.4 MPa (2~4kg/cm2)						
		Quality	City water						
	Cooling water for dry pump	Flow rate	3.5 L/min						
		Temperature	≤ 30 ^{0}C						
		Pressure	0.2~0.4 MPa (2~4kg/cm2)						
		Quality	City water						
2.4 Others									
	Footprint & Weigh	Main machine	- L1120xW890xH1200 (mm) - 600kg						
		Automatic Voltage Regulation	- L600xW600xH1200 (mm) - 200kg						
		High Voltage Transformer	- L480xW950xH570 (mm) - 250kg						
		Heat exchanger	- L950xW240xH680 (mm) - 90kg						
3. Machine Performance									
3.1	Vacuum performance		Vacuum≦4Pa						
3.2	X-ray intensity		1.Ti:≧100kcps 2.Heavy element scan: ≧80kcps						
3.3	Detector characteristics		1.Ti:≦50% 2.Heavy element:≦70%						
3.4	Film measurement accuracy		Au: ±1% Ti: ±1%						
3.5	Film measurement repeatability accuracy		Au: ±1% Ti: ±1%						
5. Safety assurance									
5.1	Cooling system interlock		Function normal						
5.2	X-ray interlock		Function normal						
5.3	Lid open interlock		Function normal						
5.4	Lid close interlock		Function normal						
5.1	Mechanical safety		Appendix A						
5.2	Electrical safety		Appendix B						

I. Documents/Drawings

Description	*Spec Req't*	*Result*	*Check by*
1. Operation manual	2 sets		
.Installation instruction	Must		
.System module introduction	Must		
.Operation instructions	Must		
.Safety instructions	Must		
2. Repair & Maintenance Manual	2 sets		
.PM instructions	Must		
.Trouble shooting instructions	Must		
.Circuit diagram	Must		

Appendix A

Equipment Safety Check List (M.E.)

Item	Result	Remark
1. Equipment general safety requirement		
- Inlet/outlet for product should be safe and prevented from human hurt.		
- Safety doors or sensors with interlock should be installed for tool moving area.		
2. Equipment shape check		
- Any sharp part could hurt human being in/on M/C is not allowed.		
- The physical barrier of x-ray should be provided.		
- Sand, dust proof M/C should provide adequate protection.		
3. Equipment energy safety restriction		
- Electrical component should be covered with a shield to avoid short circuit or electric shock by dropping of tool or screw.		

Appendix B

Equipment Safety Check List (E.E.)

Item	Result	Remark
1. Safety grounding		
- Impedance of all grounding point should be less than 30 ohm		
- Central grounding point should connect to the grounding point of input power		
- Use stainless steel screw, washer, star washer, or ring terminal, and confirm case grounding firmly		
2. General Requirement		
- Under room temperature, the voltage of all place which could be possibly touched by operator or technician should not be more than 50 volt AC or 120 volt DC (ripple 10%), but should not be more than 25 Volt AC or 60Volt DC (ripple 10%) under wet or other special condition.		
- Switch, over-current protector, relay and contact, cable, EMC filter, fuse, motor, protection device, etc., should meet UL, JIS, CNS standard		
- All electric component, device, module should be indicated in drawing		
- All points which could cause hurt to human, like heat, electric shock, emergency stop, etc., should be labeled with adequate color		
- Electric component on bottom plate should be covered with a shield to avoid short circuit or electric shock by dropping of tool or screw.		
3. Power supplies		
- Equipment uses single power supply		
4. Main supply connection		
- Wiring of connector, main supply, main power switch, and main power cable: . Should be firmly fixed, no loose . Contact point should be properly isolated to prevent electric shock		
- Three phase supply: phase should be the same as main power		
- Single phase supply: should have grounding line		
- Cable selection should meet UL, JIS, CNS standard and its current rating should not be least than 1.2 times the running current.		
- Switching & fusing: Fuse or protection switch should be connected after main power switch. Main power switch should be labeled and stuck at proper place.		
5. Wiring		
- Control cable should have sufficient insulation capability and its current rating should not be least than 1.2 times the running current, and should also meet UL, JIS, CNS standard.		
6. Wire Color		
- Should meet general JEM or other international standard		
- Phipal standard: . Single wire: Black/live line, blue/neutral, yellow-green or green/ground . Main power wire: Brown/line, black/other line, blue/neutral, yellow-green or		

green/ground		
7. High Voltage		
If equipment has dangerous high voltage, it should be labeled and reserve creepage space - Labeling should be clear with rating voltage and warning, etc. - Creepage space: High voltage portion should be sealed, or make safety distance of 1.5 mm for 125 V, 2.5 mm for 250 V, 4 mm for 400 V		
8. Electrical Control		
- Color code of push button should meet international standard		