MPA-600 Projection Lithography Equipment Introduction

1. Equipment technical solution

Category	Lithography	Tool Name	Mask Aligner
Maker	Canon	Serial No.	
Model	MPA600	Wafer Size	100-200mm
Vintage		Location	
Spec			

1. Overview

1.1 The MPA-600 lithography equipment is second-hand equipment. After debugging, it should meet the requirements of automatic exposure of 6-inch silicon wafers.

1.2 The lighting source is a high-pressure spherical mercury lamp with a spectrum of G/H/I mixed lines.

1.3 The exposure method is 1:1 projection of the pattern on the reticle onto the wafer and exposure in a scanning manner.

1.4 Operation mode: manual and semi-automatic exposure modes, easy to operate and maintain.

1.5 High efficiency and good stability.

1.6 There is sufficient supply of spare parts.

2. Equipment performance indicators

MPA-600 **equipment performance technical indicators**

No.	project	Technical indicators	Remark
1.	Device Configuration	MPA-600 (main unit, control box, mercury lamp power supply, exhaust fan)	
2. Film loading and unloading methods		Rack to rack fully automatic/manual single slide	
3 Wafer size		6"	
4 Mask size		7" (ÿ125mm, thickness 2.3mm)	
5 Light Source		2KW high pressure mercury lamp	
6 Light source spectrum		365nm(i-line)405nm(h-line)436nm(g-line)	
7 Light Intensity		ÿ400 mw/cm^2	
8 Light intensity non-uniformity		ÿ±4.0 %	
9 Projection mirror		Total reflection UM01, 1X	
10 Resolution (positive photosensitive film)		ÿ2.0ÿ	
11 Depth of Focus		ÿ±4 ÿ	
12 Distortion		±0.5ÿ	
13 Exposure time		5.0s-150.0s	
14 Pre-alignment accuracy		ÿ±100ÿ	
15 Alignment		Manual alignment	
16 Multiple exposure function		have	
17 The lighting system has internal over-temperature protection function			
18 Vacuum shortage alarm function		have	
19 LAB uses AIR undervoltage alarm function		have	

4. Power conditions:

(1) Electric (Power)

-MPA-600 mainbody : AC 200V, 3phase, 6KVA, 50/60Hz.

(2) Utility specification

	Pressure (kg/m2)	Flow ({/min)	Point	Size (Hose)
Pressure (For Cylinder)	4	5	1	3/8"
Clean air (For Auto feeder)	4	30	1	3/8"
Cooling air I (For Lamp unit)	4	60	1	3/8"
Clean dry air (For LAB) Clean dry air (For LAB)	6.5	120	1	3/8"
Vacuum	Over		1	3/8"
Vacuum	50cmHg		1	3/8"

- Caution

1 ÿThe due point of dry air : below -40 degree. (Compressed air dew point is less than -40 degrees)

2. Have to use the filter for Pressure, Clean air to protect the particle, moisture, No oil (compressed air needs to use a filter, no oil)

3. Exhaust

Flow pressure : 6.5m/sec ~ 9.5m/sec [for illumination unit]

Point : 1

Duct size: 100mm (Flexible Duct Hose)

6. Acceptance indicators:

No.	Item		Unit	Specification	Result
1. Illumination intensity			m/cm2	Over400	
2 Illumination Uniformity			%	Below ±4.0	
3 Resolution (Positive Photosensitive)			one	Below 2.0	
4	Depth of Focus		one	Over ±4.0	
6	Distortion	DX	one	Below ±0.5	
		YOU	one		
7	Pre-alignment accuracy (Mecha. P/A)	L	one	Belowÿ100	
		R	one		
8. Exposure Energy			mj	50	

Note: The test methods for various acceptance indicators shall be tested and accepted in accordance with the requirements in the CANON MPA-600 instruction manual.

7. Dimensions, weight and layout of each part of the equipment

No.	ITEM	Length(mm)	Width(mm)	Height(mm)	Weight(kg)
1	Main Body	1450	1590	1756	1330
2	Control Box	330	1094	452	60
3	Lamp Power	380	850	500	120
4	Exaust Fan	170	240	170	70