

# Atmospheric Pressure (AP) Plasma Module for Wafer Level Packaging

M-AP Plasma Series are compact in-line Atmospheric Pressure (AP) plasma modules for very efficient surface cleaning and surface modification for Wafer, Glass, Plastics and Polymer Substrate.



## Features

1. No Outgassing and No serious ESD issues in Wafer Level Packaging Process with high efficient wafer cleaning performance.
2. Less failure rate than in conventional vacuum plasma process for WLP processes.

## Other Applications

M-AP Plasma Modules can be effectively used for cleaning & etching organic and inorganic contaminants to improve adhesion property of over layer on Glass and Polymer substrates.

- Touch Panel & Module
- LCD Panel & Module
- Solar cell Panel & Module
- Lamination Process (Pol Film)
- Pretreatment for OCR/OCA Coating and AF, AR, AS Coatings
- Surface modification for hydrophilic & Hydrophobic properties on Glass, Plastic substrates

## General Specifications

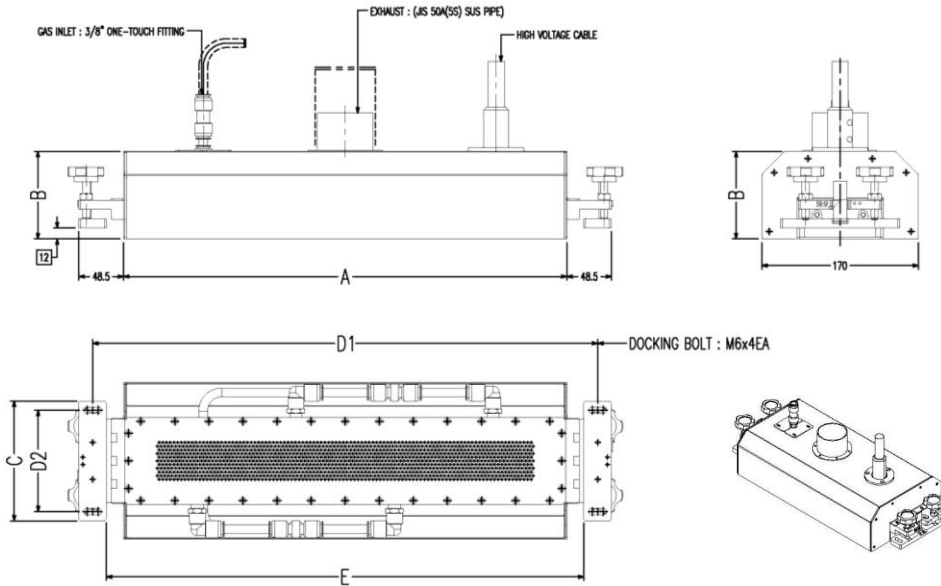
- Treatment Effect:
  - Contact Angle:  $< 5^\circ$  at 100mm/s
- Process Gap : Max. 8 mm
- Process Gas
  - Mixed Gas ( $N_2 + CDA$ ), F-Gas
- Low Operation Voltage : 6kV ~ 8kV
- No Cooling Water (Air Cooling Only)
- Gas Interlock for Safe operation
- Exhaust : ~400 Pa



# EULLHB

# Specifications

Unit : mm



	200M	300M	400M
A	282.4	382.4	482.4
B	95	95	95
C	130	130	130
D1*	384.4	448.4	548.4
D2*	110	110	110
E	318.4	418.4	518.4
Plasma Area	210	310	410
Weight	5 Kg	6 Kg	7 Kg

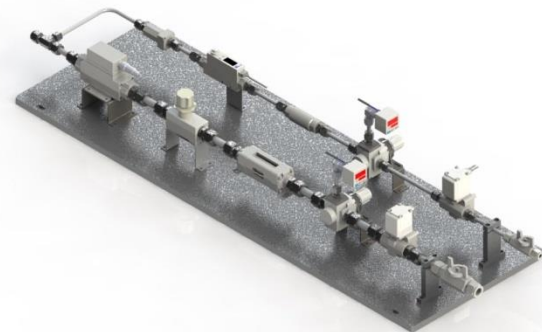
\* D1 x D2 – Docking point (M6 bolt x 4ea)

## Electrode & Electricity

	Description	APM-200M	APM-300M	APM-400M
Electrode	Dimensions (mm)	387.4W x 180D x 136.5H	487.4W x 180D x 136.5H	587.4W x 180D x 136.5H
	Docking point	348.4 x 110 mm (M6,4ea)	448.4 x 110 mm (M6,4ea)	548.4 x 110 mm (M6,4ea)
	Cooling Block	Option ( For Film process )		
Power Supply	Specification	220 VAC, 50-60 Hz, 1-phase, 20 A, 2 kW Power Supply		
	Dimensions	480W x 504.5D x 222H mm		
	output power rate	0.5 ~0.7 kW @ 8kV	0.8 ~ 1.0 @ 8kV	1.1 ~1.3 kW @ 8kV
	Control & Interface	Manual Mode / PLC Mode / D-Sub 25 pin		

## Hook-Up Utility

	Description
Process Gas Fitting Size & Type	P-N2 MFM (500 LPM) - 1/2" Lock-Type
	CDA MFM (10 LPM) - 1/4" Lock-Type
Utility parts	Check Valve, Flow Switch, Speed Con, Sol V/V, Regulator, M/V
Dimensions	900W x 300D x 200H mm
Docking point	800 x 280 mm (M6, 4ea)
Interlock	N2 MFM lower limit interlock
Exhaust	General Exhaust, JIS50A, <-300Pascal : Plasma Company scope
	General Exhaust, 100Ø, <-300Pascal : Laminating Company scope
Cooling line	option ( water cooling line ; PCW )



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