



# Marathon M91A

## INTEGRATED PLASMA GASIFICATION & WET ABATEMENT

M91A is the first of its kind plasma gasification and wet abatement system that consumes as little as 7kW to break the highly stable materials like fluorinated compounds into smaller molecules.

Combustion decomposition can be achieved without using fuel or hydrogen thanks to the plasma torch of M91A that focuses high-energy electron to the targeted gas to break them down into smaller molecules.

M91A is developed and tested as a point-of-use abatement system to treat PFCs loaded gases that are mainly found in today's demanding semiconductor and flat panel display process chemistries industry.

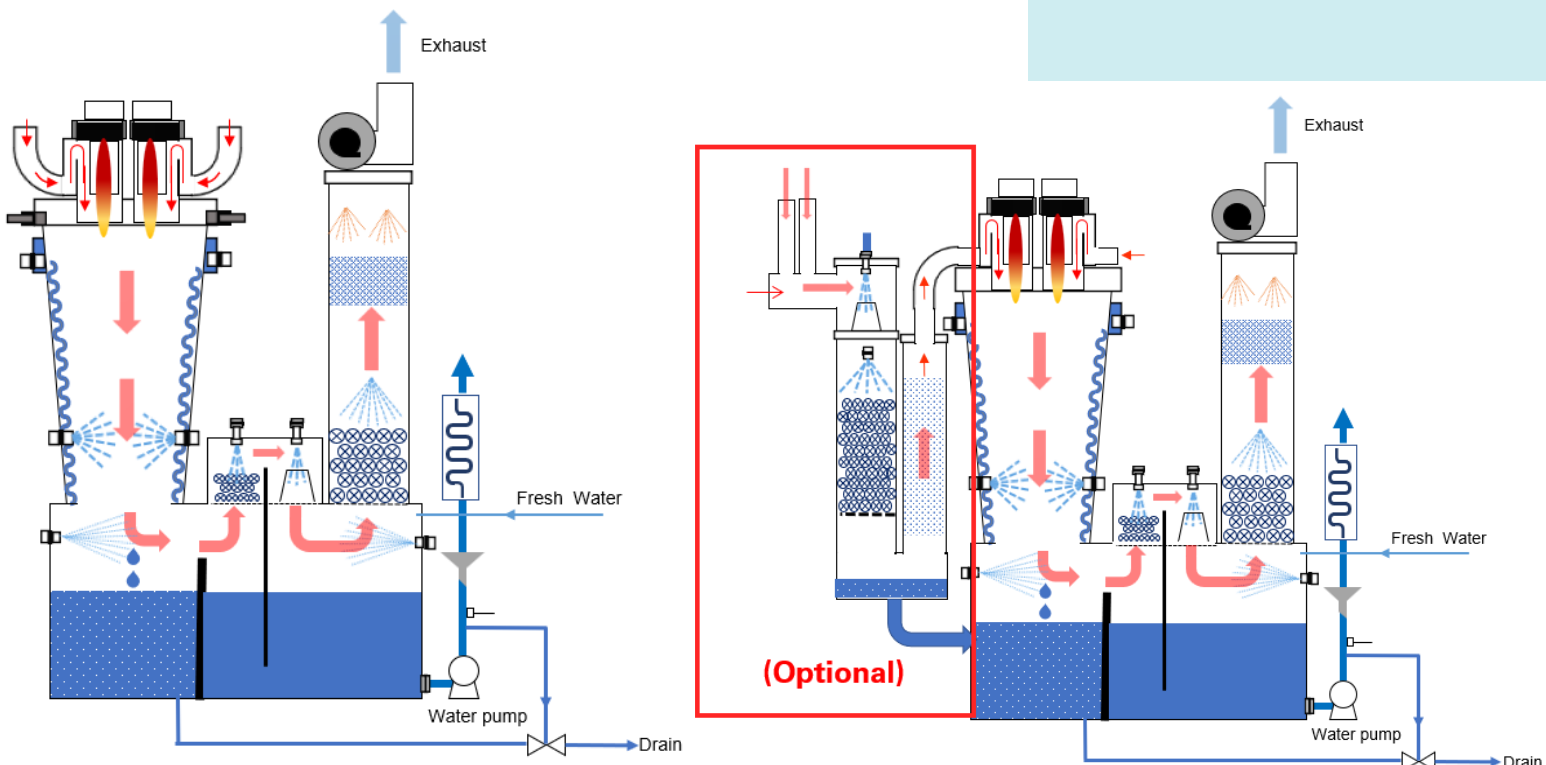
M91A meets the industry standard for controlled decomposition and oxidation treatment of fluorinated greenhouse gases.

### APPLICATION

All semiconductor and flat panel display

### ADVANTAGES

- 6 inlets
- Does not required fuel or hydrogen
- Low power consumption
- Excellent PFCs abatement efficiency
- Limited NOx and CO emission
- High flow capacity
- Low cost of ownership
- Ease of installation and services
- SEMI S2 compliance, CE marked
- Ethernet ready

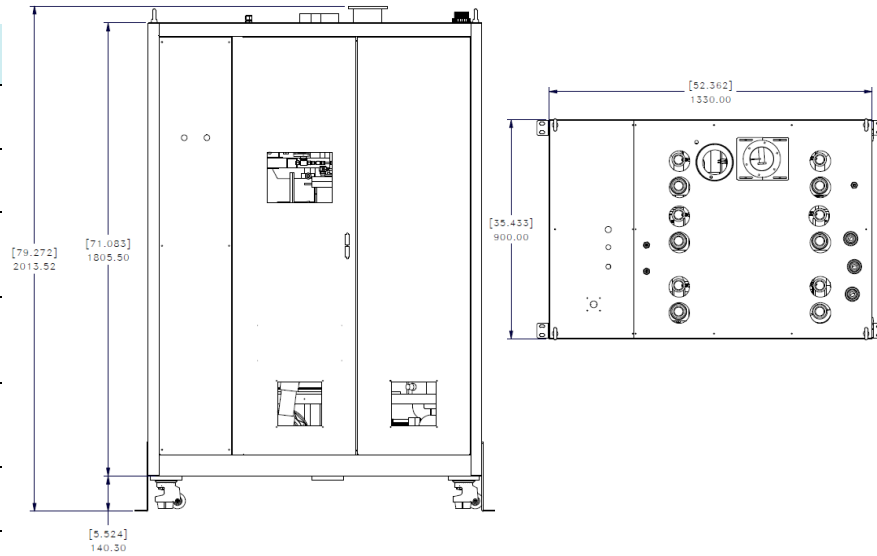


# Specifications

# Product Dimensions

## OPERATING PARAMETERS

Process Gas Capacity	600 slm (21.12cfm)- (Total up to 4000slm)
Cool Water Consumption	40–60 psi 56.8 slm (15 gpm)
Fresh Water	40–60 psi 1.89-3.79 slm (0.5-1.0 gpm nominal)
Clean Dry Air (CDA) Consumption	90±10 psi 120 slm (4.24cfm)
Nitrogen (N <sub>2</sub> ) Consumption	90±10 psi 10 slm (0.35cfm)
Process Exhaust Static Pressure	-5" to -2.5"w.c.
Power Consumption	6,000 watts



## FACILITIES REQUIREMENTS

Process Connections	6 Inlet Process Ports KF-40
Clean Dry Air (CDA)	90 psi ± 10 1/2" compression fitting
Nitrogen (N <sub>2</sub> )	90 psi ± 10 1/2" compression fitting
<b>Water Supply</b> Fresh Water	40 – 50 psi 1/2" compression fitting
Process Cooling Water	40 – 60 psi (10 °C) 1" FNPT
Process Exhaust	-5.0" to -2.5" w.c. 4" PVC duct flange
Cabinet Exhaust	Minimum 185 scfm @ -0.36" wc 6" duct
Electrical Supply	380/400 VAC ± 10%, 50/60 Hz, 38A, 3 phase, 4 wires
Overall Dimensions	52.36" W x 35.43" D x 79.272 H (1,330 mm W x 900 mm D x 2,013.52 mm H)
Clearance	Front– 35.43" (900 mm) Rear, Left, Right – 23.62"(600 mm)

## COMMUNICATION AND INTERLOCKS

- Multiple dry contacts to meet customer-defined requirements.
- Ethernet Ready

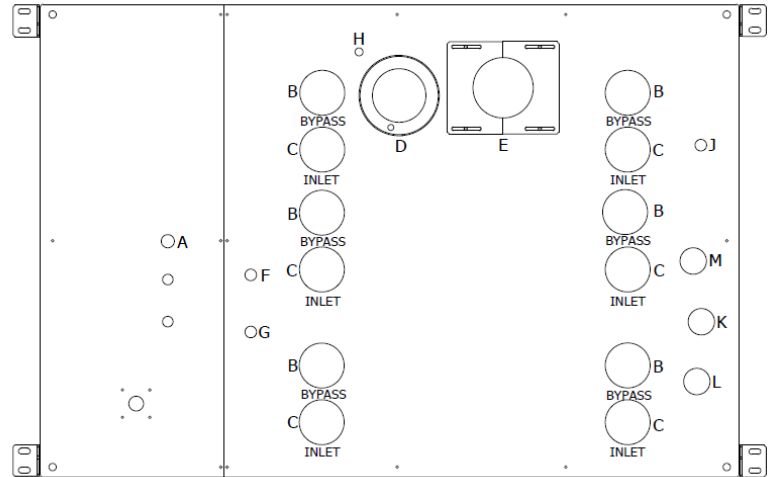
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## Facilities Connection



	DESC	CONFIG	CONNECTION
<b>A</b>	Power Required	380/400 VAC ±10% 4-Wire,38A	50/60 Hz
<b>F</b>	CDA	90±10 psi	1/2" compression fitting
<b>G</b>	Nitrogen, House	90±10 psi	1/2" compression fitting
<b>M</b>	Drain	--	1" FNPT
<b>J</b>	Freshwater	40 – 60 psi	1/2" compression fitting
<b>K</b>	PCWS	40 – 60 psi	1" FNPT
<b>L</b>	PCWR	--	1" FNPT
<b>D</b>	Cabinet Exhaust	6" (152 mm) SST or FRP	6" (152 mm) metal duct
<b>E</b>	Process Exhaust	-5.0" to -2.5" wc	4" PVC duct flange
<b>C</b>	Process Inlet	6 Inlet Ports	KF-40
<b>B</b>	Process Bypass	6 Bypass Ports	KF-40