

# Marathon M91

## INTEGRATED COMBUSTION & WET ABATEMENT

M91 is industry standard for reliable, integrated combustion & wet abatement system.

M91 is designed to have the effluent gases pass through the wall of flame in the main chamber, guaranteeing ignition of flammable and pyrophoric process gas before going through the wet scrubbing system to get rid of the water-soluble harmful substances.

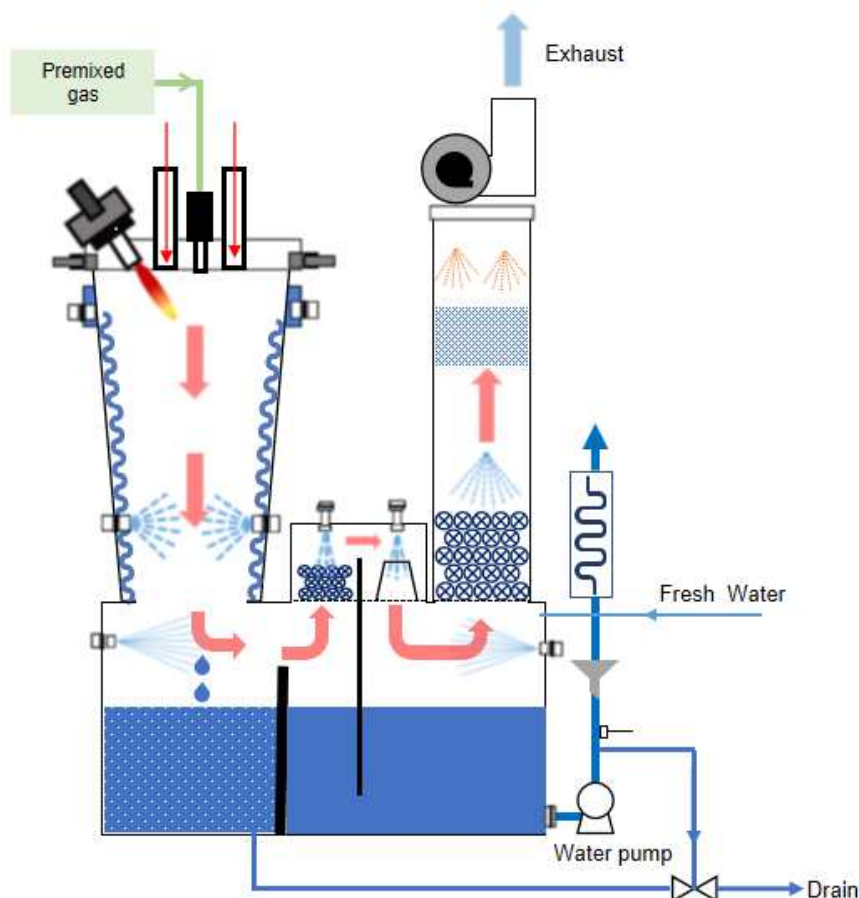
M91 meets the industry standard for controlled decomposition and oxidation treatment of fluorinated greenhouse gases.

### APPLICATION

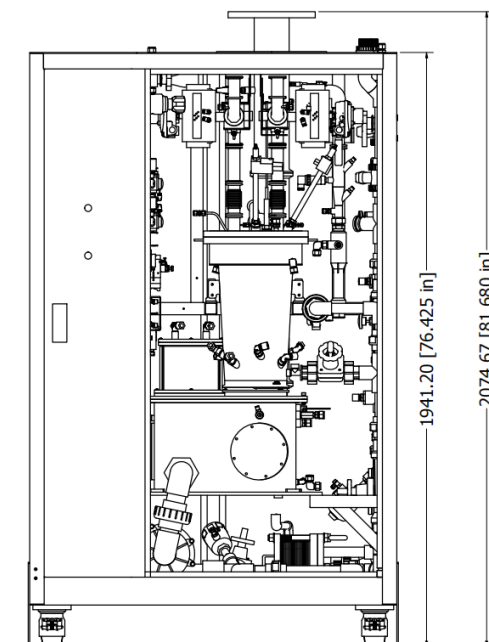
- Polysilicon
- CVD
- Pyrophoric/flammable gas combustion
- Gas cabinet vent purge

### ADVANTAGES

- Low power consumption
- Limited NOx and CO emission
- High flow capacity
- Reduced water consumption and recirculating water system
- Low cost of ownership
- Ease of installation and services
- SEMI S2 compliance, CE marked
- Ethernet ready



### Product Dimensions



# Specifications

## OPERATING PARAMETERS

|                                     |                               |
|-------------------------------------|-------------------------------|
| Process Gas Capacity                | 600 slm (21.19 cfm)           |
| Cool Water Consumption              | 57 slm (15 gpm)               |
| Fresh Water                         | 1.9 – 3.8 slm (0.5 – 1.0 gpm) |
| CDA Consumption                     | 200 slm (7.06 cfm)            |
| N <sub>2</sub> Consumption          | 10 slm (0.35 cfm)             |
| Fuel (CH <sub>4</sub> ) Consumption | 100 slm (3.53 cfm)            |
| Process Exhaust Static Pressure     | 4000 slm (141 cfm)            |
| Power Consumption                   | 2,500 watts                   |

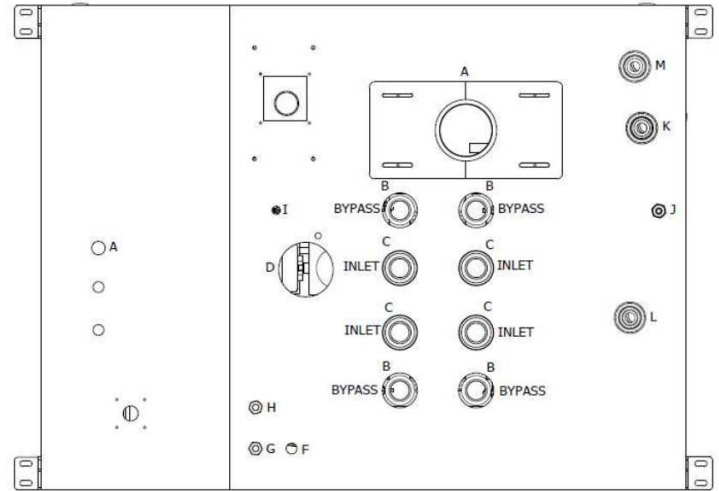
## FACILITIES REQUIREMENTS

|                               |  |
|-------------------------------|--|
| Process Connections           | 4 Inlet Process Ports<br>KF-40                                       |
| Clean Dry Air (CDA)           | 90 - 10 psi<br>1/2" compression fitting                              |
| Nitrogen (N <sub>2</sub> )    | 90 - 10 psi<br>1/2" compression fitting                              |
| Fuel Supply<br>Methane        | 0.2 - 10 psi<br>1/2" compression fitting                             |
| Fresh Water                   | 40 – 60 psi<br>1/2" compression fitting                              |
| Cooling Water                 | 55 – 75 psi (18°C)<br>1" FNPT  |
| Drain                         | 1" FNPT  |
| Process Exhaust               | -5" to -2.5" w.c.<br>152mm (6") PVC Flange                           |
| Cabinet Exhaust               | Minimum 4000 slm (141 cfm)<br>@ -0.40" w.c.<br>152mm (6") metal duct |
| Electrical Supply             | 380/400 VAC ± 10% @ 50/60 Hz<br>20A, 3P, 4 WIRE                      |
| Overall Dimensions<br>(HxWxD) | 2,074.67 x 1,200 x 899.97 mm<br>(81.68" x 47.24" x 35.43")           |
| Clearance                     | Front, rear – 914 mm (36")<br>Back, Left – 610 mm (24")              |

## COMMUNICATION AND INTERLOCKS

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

## Facilities Connection



## FACILITIES CONNECTION

| Label | Description     | Connection                           | Operational Parameters         |
|-------|-----------------|--------------------------------------|--------------------------------|
| A     | Power required  | 380/400 VAC ±10%                     | 20A, 3P, 4 Wire                |
| C     | Process inlet   | KF-40                                | 600 slm<br>(21.19 cfm)         |
| B     | Process Bypass  | KF-40                                | --                             |
| D     | Cabinet Exhaust | 152 mm (6") SST or<br>FRP metal duct | -0.40" w.c                     |
| E     | Process Exhaust | 152 mm (6") SST<br>PVC flange        | -2.5 to -4.0" w.c              |
| F     | CDA             | 1/2" Compression<br>Fitting          | 200 slm max<br>(7.06 cfm max)  |
| G     | N <sub>2</sub>  | 1/2" Compression<br>Fitting          | 10 slm max<br>(0.35 cfm max)   |
| H     | Fuel Supply     | 1/2" Compression<br>Fitting          | 100 slm max<br>(3.53 cfm max)  |
| L     | PCWR            | 1" FNPT                              | --                             |
| K     | PCWS            | 1" FNPT                              | 57 slm<br>(15 gpm)             |
| J     | Freshwater      | 1/2" Compression<br>Fitting          | 1.9 – 3.8 slm<br>(0.5 - 1 gpm) |
| M     | Sump Drain      | 1" FNPT                              | --                             |

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