



Installation, Service and User Instructions

Maestro[™]

Grossing Station / MB1000 / MG1000 series



JUL 2022
Version 2



DISCLAIMER

Copyright © 2022 by MOPEC

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the publisher. For permission requests, write to the publisher, addressed “Attention: Permissions Coordinator,” at the address below.

Mopec

800 Tech Row, Madison Heights, MI 48071

Phone: 1-800-362-8491 email: customerservice@mopec.com

TRADEMARKS

Maestro[™] Is a registered trademark of Mopec

Ensemble Pegboard[™] Is a registered trademark of Mopec

BETTER BY DESIGN[™] Is a registered trademark of Mopec

Owner's Record

Model No.: _____

Serial No.: _____

Voltage: _____

Dealers Name: _____

Dealers Address: _____

Date of Purchase: _____

Document Revisions

Date	Version Number	Document Changes
07-07-2021	1.0	Initial draft
07-20-2022	2.0	Update HVAC / Ventilation diagram

Table of Contents

1	PREFACE.....	7
1.1	.... <i>Description of the User</i>	7
1.2	.... <i>Notations Used in This Manual</i>	7
1.3	.... <i>Models covered in this Manual</i>	7
1.4	.... <i>Explanation of Safety Warnings</i>	8
1.5	.... <i>Obtaining Instructions</i>	8
1.5.1	Internet.....	8
1.5.2	Ordering Documentation.....	8
1.5.3	Documentation Feedback.....	8
2	Description of the product	9
2.1	.... <i>Purpose of the Product</i>	9
2.2	.... <i>Process Overview</i>	9
2.3	.... <i>Technical Data</i>	9
2.4	.... <i>Product Compliance</i>	9
2.5	.... <i>Product elements</i>	9
2.6	.... <i>Warranty Statement</i>	10
3	Installation	11
3.1	.... <i>How to unpackage your workstation</i>	11
3.1.1	Check for freight damage	11
3.1.2	Uncrating Contents.....	11
3.1.3	Removing Unit from Skid;.....	11
3.1.4	Transporting Unit to final location	12
3.1.5	Placing unit into position	12
3.1.6	Electrical Connection	12
3.1.7	Plumbing Connection;	13
3.1.8	Ventilation connection (in-house ventilation).....	14
3.1.9	Recirculating Ventilation (if equipped).....	14
3.2	.... <i>Decommissioning the Unit</i>	15
3.2.1	Decontaminate the unit.	15
3.3	.... <i>How to Store the Product</i>	15
3.3.1	Storage in place	15
3.3.2	Storage on a skid	15

3.4	.... <i>Disposal and Recycling</i>	16
3.4.1	Stainless Steel.....	16
3.4.2	Ferrous Steel.....	16
3.4.3	Aluminum.....	16
3.4.4	Plastic.....	16
3.4.5	Electronics.....	16
4	Quick Start Guide.....	17
4.1	.... <i>Startup</i>	17
4.1.1	Powering On.....	17
4.1.2	Operating Touch Screen.....	17
4.1.3	Elevation.....	18
4.1.4	Faucet Operation.....	18
4.1.5	Garbage Disposal.....	18
4.1.6	Power outlets.....	18
4.2	.... <i>Powering down</i>	18
4.2.1	Shut down.....	18
5	Factory Options & Accessories.....	19
5.1	.... <i>Standard Features</i>	19
5.1.1	The Maestro is equipped with the following standard features.....	19
5.1.2	Customization (CUST) & Modification (MOD).....	19
5.2	.... <i>Factory Configured Options</i>	19
5.2.1	Available Factory Options.....	19
5.2.2	Customization (CUST).....	21
5.2.3	New Options.....	21
5.3	.... <i>Accessories</i>	21
5.3.1	Standard Accessories shipped with your Maestro.....	21
5.3.2	Available Accessories.....	21
5.3.3	Customization (CUST).....	23
5.3.4	New Accessories.....	23
6	OPERATION/USE.....	24
6.1	.... <i>How to Use the Touch Screen</i>	24
6.1.1	Understanding the Maestro Operational Interface.....	24
6.1.2	Startup.....	24
6.1.3	Actions.....	25
6.1.4	Status.....	25
6.1.5	Alerts.....	25



6.1.6	Settings	25
6.1.7	User	26
6.2	How to Use Maestro Standard Features & Options	27
6.2.1	Lighting (standard)	27
6.2.2	Front Air System (FAS) (standard)	28
6.2.3	Faucet Controls (standard)	29
6.2.4	Foot Pedal (Faucet) Option	29
6.2.5	Infrared Faucet control “Hands-Free” Option	29
6.2.6	Water Timer Option	30
6.2.7	Air Flow Meter (standard)	30
6.2.8	Recirculation System Option	31
6.2.9	Filter Timer option	32
6.2.10	Hand Spray Option	33
6.2.11	End Rinse Option	33
6.2.12	Formalin Dispensing Option	34
6.2.13	Formalin Collection Option	34
6.2.14	Integrated Camera System Options	35
6.2.15	BMS (Building Management System) Connection	36
6.2.16	Fume Detection	37
6.3	What to Do in Emergency and Exceptional Situations	37
7	MAINTENANCE	38
7.1	How to Maintain the Product	38
7.1.1	Changing Filters - Recirculating equipped units only (MB1009 option)	38
7.1.2	Checking Filters	38
7.1.3	Health Hazard information & Disposing of Filters	39
7.1.4	Resetting/Leveling the Elevation system	39
7.1.5	Resetting the Main GFCI	39
7.1.6	Resetting the Auxiliary GFCI	40
7.2	Stainless Steel Maintenance & Cleaning	40
7.2.1	Disinfecting Stainless steel	40
7.2.2	Stainless Care and Maintenance	41
7.2.3	Use of DECAL	41
7.2.4	Rust and Oxidation Formation	41
7.2.5	Scratch Repair	41
7.2.6	Fingerprints and solvent cleaning	42
7.3	Mopec Service	42

8	TROUBLESHOOTING AND REPAIR.....	43
8.1....	<i>How to Identify and Solve Problems</i>	43
8.2....	<i>How to Repair Product Components</i>	47
8.2.1	Electrical Panel Service	47
8.2.2	Lighting/Power Supply Panel Service	47
8.2.3	Garbage Disposal Jams	48
8.2.4	Checking Disposal Breakers	48
8.2.5	Faucet, Hand Spray & End Rinse Service panel	49
8.2.6	Backflow prevention and Service	50
9	Documentation.....	51
9.1....	<i>Sample Rough in Drawing</i>	51
9.2....	<i>Electrical diagrams</i>	52
9.3....	<i>Plumbing diagrams</i>	55
9.4....	<i>HVAC / Ventilation diagram</i>	57
10	Appendices	58
10.1	<i>Spare Parts & Consumables</i>	58
10.1.1	Spare Parts.....	58
10.1.2	Consumables	59
11	GLOSSARY	60



1 PREFACE

1.1 Description of the User

The Mopec Maestro is a Pathology Workstation and is available in several different sizes, elevating and non-elevating, with over 30 modification options, and a growing inventory of workstation accessories, the Mopec Maestro is built to be customizable to your laboratory needs and individual preferences.

1.2 Notations Used in This Manual

- **Width (W)** refers to the left to right measurements as you face the Maestro.
- **Height (H)** refers to the top to bottom measurement.
- **Depth (D)** refers to either the measurement of the station from the front of the work surface to the rear of the station, or the depth of the sink.
- **(REF)** references a section of the manual for more information.


1.3 Models covered in this Manual


- MB1048R Maestro 48" long, Right hand sink
- MB1048L Maestro 48" long, Left hand sink
- MB1054R Maestro 54" long, Right hand sink
- MB1054L Maestro 54" long, Left hand sink
- MB1060R Maestro 60" long, Right hand sink
- MB1060L Maestro 60" long, Left hand sink
- MB1066R Maestro 66" long, Right hand sink
- MB1066L Maestro 66" long, Left hand sink
- MB1072R Maestro 72" long, Right hand sink
- MB1072L Maestro 72" long, Left hand sink
- MG1072R Maestro 72" long, Downdraft Right hand sink
- MG1072L Maestro 72" long, Downdraft Left hand sink
- MB1084C Maestro 84" long, Center sink
- MB1096C Maestro 96" long, Center sink



1.4 Explanation of Safety Warnings

This manual employs the following symbols to call attention to warnings cautions and notices.

 **WARNING** Warning is used to indicate the presence of a hazard which CAN cause severe injury or death if ignored.

 **CAUTION** Caution is used to indicate the presence of a hazard which Will or CAN cause personal injury or property damage if the warning is ignored.

NOTICE Notice is used to notify people of installation, operation, or maintenance information which is important but not hazard related.

1.5 Obtaining Instructions

Instructions are typically supplied digitally stored on a USB type flash drive that is zip tied to the main faucet spout. At anytime the most current revision of this manual can be downloaded from the company website list in section 1.5

1.5.1 Internet

The latest version of the documentation is available at the following address: <http://www.mopec.com>

1.5.2 Ordering Documentation

Documentation, user instructions and technical information can be ordered by calling Mopec at **800-362-8491**.

1.5.3 Documentation Feedback

If you are reading Mopec product documentation on the internet, any comments can be submitted on the support website. Comments can also be sent to customerservice@mopec.com

We appreciate your comments.

2 Description of the product

2.1 Purpose of the Product

The Mopec Maestro™ is the most advanced pathology workstation on the market today and is designed with the special needs of the user in mind. Careful consideration is given to the functional requirements and work flow patterns, as well as the need for maximum space utilization and sanitation.

The Maestro™ offers a host of comfort and convenience features:

an adjustable height worksurface, a built-in sink, an optional hands-free dictation system, a well-lighted work area, an efficient exhaust system, hand free or manual controls for water, a disposal, and efficient exhaust options. Virtually everything is at your fingertips.

2.2 Process Overview

The Maestro is for grossing study and not intended to be used as a medical device where tissue comes into contact with a patient. Actual grossing process is defined by each facility and not the responsibility of Mopec.

2.3 Technical Data

The Maestro products are designed, and manufactured under the guidelines of:

- **ISO 9001:2015 with Design** – Mopec facility located at 800 Tech Row, Madison Heights MI USA.

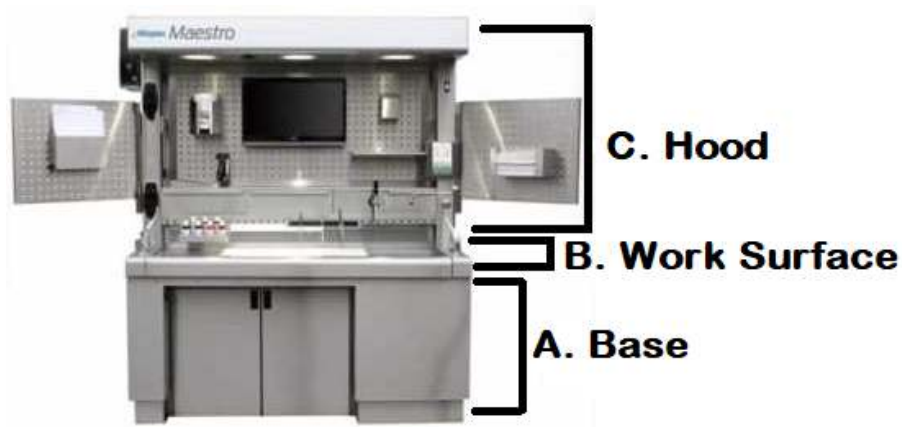
2.4 Product Compliance

The Maestro products is designed, and manufactured under the guidelines of:

- **EN 61010-1:2010** Safety requirements for electrical equipment for measurement control and laboratory use.

2.5 Product elements

The Maestro is constructed as one assembled workstation with 3 main elements in its construction:



A. Base

The base constitutes the framework, cabinetry and elevation system and control. It also contains rough-in utility connections for electrical, plumbing & seismic anchoring.

- Base Controls (a.)
 - Elevation Switch – adjusts the unit up/down in height.
 - Foot pedal switch (if equipped) – turns the sink faucet mixing valve on/off.

B. Work Surface

The work surface is what determines the sink location and associated plumbing fixtures. It also contains the FAS system, grid plates, and cutting board surfaces.

- Work Surface Controls (b.)
 - Faucet Mixing Valve
 - Hand spray/End rinse (if equipped)

C. Hood

The hood or backsplash is the conduit for ventilation. Both inhouse (supplied by facility) and recirculating (supplied and powered by the workstation) are constructed into the hood. It also contains the air flow monitoring system, user interface panel, electrical outlets and peg board mounting for numerous accessories available for the workstation.

- Hood Controls (c.)
 - Main Power Switch – Powers the unit on/off
 - Touch Screen – interface for Microprocessor controlled features on the unit
 - Disposal Switch – powers the disposal unit on/off

2.6 Warranty Statement

Products manufactured by Mopec will be free from defects in material and workmanship and conform to Mopec's description or specifications. If a warranty claim is made within one (1) year from the date of shipment or the date of installation (if installation is provided by Mopec), the defective or nonconforming Product or Part thereof will be repaired or (at Mopec's option) replaced free of charge, FCA Mopec's dock. All warranty claims must be in writing and received by Mopec within the warranty period. The warranty is not transferable (other than to customers of Mopec's authorized Distributors), and will not apply unless the Equipment has been properly installed, maintained and operated in accordance with all instructions; and does not apply to defects, nonconformities, or other failure due to Equipment misuse, abuse, modifications, or other causes outside Mopec's control. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THE WARRANTY AS SET FORTH HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. To the extent that Mopec is acting as a supplier of Products manufactured by a third party, the Products will be warranted only to the extent that they are warranted by their manufacturers and Buyer (or its customer) agrees to look solely to the Product manufacturer for all warranty claims. For shipments outside the United States or Canada, as to any defective or non-conforming part, the part will be replaced upon return of the part to Mopec. Mopec will owe no obligation to perform any repair or to install any replacement part.

3 Installation

Notice: If you have purchased installation from Mopec your installer will cover section 3

3.1 How to unpackage your workstation

3.1.1 Check for freight damage

- If the unit has sustained damage during transit or during unloading from carrier now is the time to file a freight claim.

NOTICE

Many large institutions use their own carriers. A freight claim would file with that provider.

- Check for damage to the skid that would result in an unsupported or twisted station.
- Check that the sides of the crate have not been punctured or smashed.
- Check that the top of the crate has not sustained damage or has evidence of being placed upside down.
- Take photographs of any damage and contact Mopec or your private freight carrier if applicable.

3.1.2 Uncrating Contents

- Remove the top boards from the crate. Place in dumpster or out of the way to dispose of later. Watch for staples, nails and slivers of wood.
- Remove the side boards, end boards and plywood from the crate.
- Remove the corner posts of the crate. Pull downward and then sideways to break away from the base.
- Remove all the bracing at the bottom of the skid. Note the small 2"x 4" blocks nailed to prevent the unit from moving.
- Carefully cut the plastic wrap so the unit is not scratched and components are not damaged.
- Unwrap the plastic wrap and foam from the unit.
- Cut and remove and the metal banding material securing the unit.
- Look the unit over for hidden damage. If found, take photos and contact Mopec.
- Remove any optional equipment from the sink, under the sink or behind the doors (if so equipped).
- Ensure all plumbing and wiring is secured and up and out of the way before moving the unit.

3.1.3 Removing Unit from Skid;

- Ensure there is plenty of room to work around the unit.
- Tip the unit forward to retract the back leveling feet to allow the unit to slide on the crate floor.
- Tip the unit back to retract the front leveling feet to allow the unit to slide on the crate floor.
- Slide the unit back a little more than halfway off the skid, and tilt back until the bottom edge is resting on the floor. Tip the unit back a little farther so the skid can be pulled out from under the unit.
- Then gently put the unit upright on its base, making sure not to drop the unit.

3.1.4 Transporting Unit to final location

- Place the Unit on a. (4) corner dollies, or b. (2) skid dollies on each end. If available one can use c. (2) crank up furniture or Piano Mover style dollies on each end of the station.



- Wheel the unit to the desired location, pay close attention to the dollies when going over thresholds or entering and exiting elevators.
- Pay attention to door frames with magnetic contacts and door closure devices. Watch for low hanging signs in hallways and door arches.

3.1.5 Placing unit into position

- Before you unload the equipment check that the utilities have been prepared in accordance to the Mopec rough-in drawing for your model workstation.
- Check the floor condition is clean dry and level as possible. Masonite boards can be used to protect softer styles of flooring.
- The unit has leveling feet with non-marring skids and will slide on other hard smooth surfaces.
- Remove the unit from the dollies and set on the Masonite boards.
- Tip the unit forward to lower the back leveling feet so the bottom of the foot is approximately ¼ inch below the frame. This allows the unit to have air flow in case of a water spill.
- Tip the unit back to lower the front leveling feet so the bottom of the foot is approximately ¼ inch below the frame.
- Slide the unit back to the desired distance, if different than the approval drawing.
- The back feet should drop off the Masonite board near the installation location.

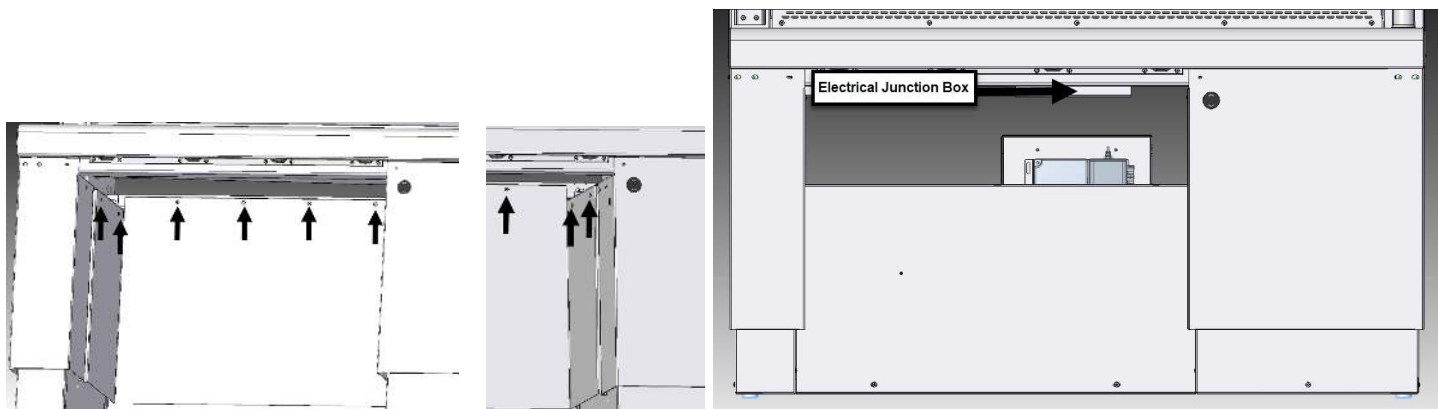
NOTICE Do not slide the unit on soft vinyl flooring it will tear the flooring. If the unit must be adjusted, it will have to be moved one end at a time on soft vinyl flooring. The unit will slide on other hard smooth surfaces.

- Confirm the distance of the unit from the wall is 3" (inches) or more.
- Level the unit using retractable leveling feet on bottom of station.

3.1.6 Electrical Connection

- The inner knee space skirting will have to be removed to access the connections for electrical and plumbing. Unless otherwise accessible from the end or the back of the unit.

NOTICE Do not use a powered screw gun to remove or install the screws. A screw gun can damage the PEM nut in the sheet metal.



- Once the skirting has been removed the electrical can be connected by the appropriate personnel.
- If equipped with a cord with a plug, plug in to the provided wall outlets.
- If hard wiring the station, cut the zip ties that secure the factory supplied electrical whip and prep the wire ends for final connection to the facility.
- The electrical system should then be tested per local codes or guidelines at this time.
 - The workstation utilizes a multiwire branch circuit.
 - (1) 115/1/60, 20amp circuit labeled L1 powers the controls and power outlets.
 - (1) 115/1/60, 20amp circuit labeled L2 powers the disposal.

3.1.7 Plumbing Connection;

- Check that the internal flexible drain line is present and still connected to the P-Trap assembly free from any obstruction. The unit is shipped fully lowered in elevation so the flex line will appear flattened out.



Lowered



Raised

- With the plumbing bracket mounted to the factory location on the frame (as shown in image above) the facility drain line can be connected either via a flexible line with hose clamps or hard plumbed per your local codes and regulations. The unit is designed to drain properly in this configuration if roughed in per the drawing.

- If you must relocate the plumbing bracket due to site conditions watch that you have proper drainage when the unit is in its lowest elevation position and that the unit flexible line connection allows for full elevation of the unit.

⚠ CAUTION Elevating units must retain the factory flexible line connection from the disposal to the P-Trap. A hard connection will cause damage to the unit or the facility plumbing or both.

- HOT and COLD water lines should be connected directly to the factory supplied water strainers. Especially in new construction these strainers are your only protection from site debris damaging seals and valving in your new workstation.



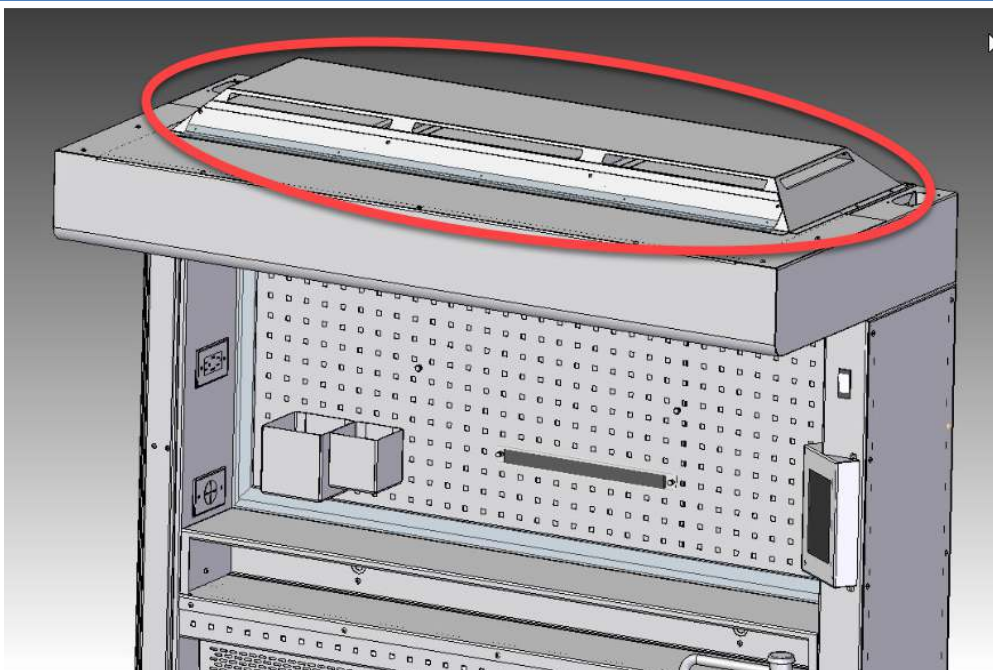
- Water strainers supplied have a ½" NPT female thread. Plan final connections to HOT and COLD water lines accordingly. Be sure to use a backup wrench on the strainer when tightening the connections.

3.1.8 Ventilation connection (in-house ventilation)

- At this point the unit should still be in its lowest elevation position, if not, please lower to the lowest position in order to properly size the flexible ducts to the facility connection.
- Locate the (2) 8" diameter flexible vent ducts and (4) hose clamps shipped with the unit. These are typically shipped in the knee space on the skid. Otherwise check in the sink.
- Slide the vent duct and clamp over the duct stubs on the top of the unit.
- Connect the opposing end to the facility vent stubs. With the unit still in its lowest elevation the excess flexible duct may be trimmed to fit. This will optimize flow performance throughout the elevation range by reducing the chance for any bunching or kinking due to excess material.
- Tighten all hose clamps on the ducts.

3.1.9 Recirculating Ventilation (if equipped)

- No external ductwork is connected if the unit is equipped with recirculating ventilation unit.
- Recirculation filters are loaded into the top of the unit. Check that all packaging and wrap is removed from filters before use.



- Be sure to set your filter timer (**REF 6.2.8**) when installing new filters (**REF 7.1.1**).

3.2 Decommissioning the Unit

3.2.1 Decontaminate the unit.

- Decontaminate the workstation per your standard processes.
- Determine if drainage from the unit is classified as a biohazard. This will depend on your local ordinances.
- The disposal unit, the drain line and P-trap may contain fluids when disconnected.

3.3 How to Store the Product

3.3.1 Storage in place

- Adjust the elevation to its lowest position for long term storage.
- Turn off the water supply to the unit. Open and drain all lines including hand spray.
 - If the temperature could drop below freezing it is advisable to pour RV antifreeze down the drain lines especially the disposal unit.
- Disconnect the ventilation ducts and tape off the opening to prevent dust and debris from entering.
- Disconnect power to the unit.
- Wipe WD40 on all stainless surfaces to protect from transfer rust.
- Cover or drape unit with a tarp.

3.3.2 Storage on a skid

- Follow steps in 3.3.1 to prep the unit.
- Lift the unit one end at a time and walk the station side to side onto a skid.

-
- Strap the unit down across the worksurface and pull down towards the skid. Be sure to put padding on the edges of the worksurface where the straps contact the sheet metal.

3.4 Disposal and Recycling

Disposal of the unit is ultimately up to local codes and guidelines. The following section breaks down the materials of construction for recycling purposes.

3.4.1 Stainless Steel

- The Hood is made entirely of 304 stainless steel. Remove all electronics and recycle appropriately.
- The worksurface is also 304 stainless steel.
 - Remove the faucets and fixtures as these are typically chrome plated brass in construction.
- The lower skirting is 304 stainless steel along with the frame cross connectors.

3.4.2 Ferrous Steel

- The only ferrous steel used on the Maestro is in the lower frame weldment where the linear actuators mount.
- If equipped with a magnetic tool bar this will also be made from steel.

3.4.3 Aluminum

- The elevation guide posts are made from aluminum located in the frame ends.
- If the unit is equipped with monitor and keyboard arm accessories those are also made of aluminum.

3.4.4 Plastic

- The cutting board and formalin dispense tank lid are made of thick HDPE.
- The waterlines, fittings, flexible vent ducts and collection carboys are typically made of thermoplastics like polypropylene, vinyl and polyvinylchloride and should be recycled accordingly.

3.4.5 Electronics

- The unit has internal circuitry, circuit boards, touch screen, LED lighting and actuators that should be recycled as electronic components.

4 Quick Start Guide

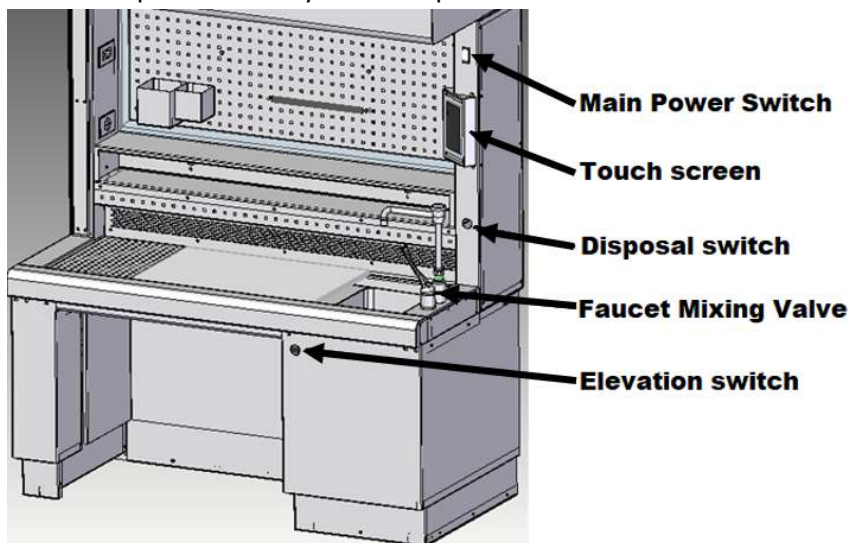
4.1 Startup

The following section explains how to start the Maestro and some of its standard functions.

⚠ CAUTION The unit must be installed per factory recommendations in section 3.1 of the user manual.

4.1.1 Powering On

- The unit is powered on by the main power switch located on the sink side column in the Hood section.



- After the unit is switched on the touch screen controller will start to boot up. While the system microprocessor boots up you will see the startup screen saver and may see the screen flash.
- The Maestro will land on its home page after all processes have finished loading.

4.1.2 Operating Touch Screen

- The unit will display all the standard and optional features as buttons on the home page.
- Selecting one of these buttons with a light finger touch will open up that action page.
 - The Action is selected for “Lights” in the example below:



4.1.3 Elevation

- The elevation of the unit is adjustable from the Elevation (</>) button located on the front corner of the sink (see 4.1.1 image). The unit is adjustable over 12" of elevation, select the best position for sitting or standing. Stand clear and check for obstructions surrounding (and under) the Maestro when raising and lowering the unit.

4.1.4 Faucet Operation

- The faucet is controlled by the faucet mixing valve lever. Pulling the lever up and away from the sink turns the water on. Pushing the lever forward and backward from that position will adjust the Hot and Cold mix.
- On units equipped with a Foot Pedal control, the Faucet will turn on and stay on with a foot pedal push. To turn off simply press the foot pedal again.

NOTICE The ON time of a foot pedal push is controlled by the **Water Timer** function in the action screen. See section 5 of the user manual for instructions on how to adjust this feature.

4.1.5 Garbage Disposal

- The garbage disposal or disposer is operated via a push button air switch located on the sink side column (see 4.1.1 image). The disposal will start and stay on with a button push. To turn off simply press the button again.

NOTICE Standard Maestro units utilize a dry ½ hp disposer unit. You must run the water to assist in flushing the contents down the drain. Never put hands or tools into the disposer while under power.

4.1.6 Power outlets

- The unit is equipped with power outlets intended for small appliances on the back shelf. These outlets cycle on/off with the unit power switch and are protected by the main GFCI circuit located in the top inside panel of the hood.
- The power outlet located on the opposite end side panel remains powered as long as the unit has facility power. This is typically used to power computers or other devices that should not power cycle with the main switch.

4.2 Powering down

4.2.1 Shut down

- Use the main power switch to shut down the unit. This will power down the internal circuitry including the power outlets on the hood backsplash.
- Most units are connected to central facility powered HVAC ventilation and is controlled separately

NOTICE The auxiliary outlet located on the side panel for computer power does remain powered. To power down this outlet utilize the facility breaker or unplug the units power cord if equipped.



CAUTION Powering down unit will also stop recirculating fans if equipped, make sure worksurface is clear of open tissues and laboratory chemicals.

5 Factory Options & Accessories

5.1 Standard Features

5.1.1 The Maestro is equipped with the following standard features

- Dimensions: 60" L x 32" W x 75" H (87 elevated)
- Stainless steel construction
- 10" deep sink located on right or left side (as configured)
- Backdraft ventilation
- In-house ventilation duct stubs with (2) 8" round flex ducts
- Touch screen control panel and alert system
- On-Demand FAS system
- Seismic anchoring points
- Integrated hood mounted camera cut out and cover plate
- Faucet mixing-flow control
- Side/column accessory mounts
- (4) Power outlets: (2 G.F.C.I. receptacles, 2 with USB power)
- One (1) perforated grid plate
- One (1) sliding work surface cutting board, white
- Two (2) wire ports for cord management
- 1/2 Hp. Disposal (dry)
- Magnetic instrument bar
- One (1) large and one (1) small organizer bin
- Ensemble Pegboard™ System
- C-Fold Paper Towel Dispenser
- Single Shelf

5.1.2 Customization (CUST) & Modification (MOD)

- If your base unit has a feature customized the Model No. will show a "CUST" suffix
- If your base unit has a feature removed the Model No. may show a "MOD" suffix

5.2 Factory Configured Options

Factory configured options are integrated or built into the unit and should be ordered when built. Although not recommended some options can be retrofitted in the field but will require a factory trained technician. This could also require the unit to undergo inspection per local guidelines or electrical safety codes.

5.2.1 Available Factory Options

- MB1008 MAESTRO, LEXAN SIDE SHIELDS
- MB1009 MAESTRO, RECIRCULATING BOX, 60IN UNITS
- MB1009-048 MAESTRO, RECIRCULATING BOX, 48IN UNITS

- MB1009-054 MAESTRO, RECIRCULATING BOX, 54IN UNITS
- MB1009-066 MAESTRO, RECIRCULATING BOX, 66IN UNITS
- MB1009-072 MAESTRO, RECIRCULATING BOX, 72IN UNITS
- MB1009-084 MAESTRO, RECIRCULATING BOX, 84IN UNITS
- MB1009-096 MAESTRO, RECIRCULATING BOX, 96IN UNITS
- MB1010 MAESTRO, FORMALIN DISPENSE
- MB1011 MAESTRO, FORMALIN COLLECTION
- MB1012 MAESTRO, END RINSE
- MB1016 MAESTRO, FAUCET, FOOT PEDAL, PNEUMATIC
- MB1017 MAESTRO, FAUCET, INFRARED
- MB1019 MAESTRO, FUME DETECTION SYSTEM
- MB1020 MAESTRO, AUX SIDE VENT PORT
- MB1021 MAESTRO, GARBAGE DISPOSAL, 1 H.P. WITH WATERJET
- MB1022 MAESTRO, BMS SYSTEM
- MB1023 MAESTRO, CABINET DOORS
- MB1023-048 MAESTRO, CABINET DOORS, 48IN
- MB1023-054 MAESTRO, CABINET DOORS, 54IN
- MB1023-066 MAESTRO, 66IN DOORS
- MB1023-072 MAESTRO, 72IN DOORS
- MB1023-084 MAESTRO, CABINET DOORS, 84IN
- MB1023-096 MAESTRO, CABINET DOORS, 96IN
- MB1024 MAESTRO, GARBAGE DISPOSAL, 1/2 H.P.
- MB1024C MAESTRO, GARBAGE DISPOSAL, 1/2 H.P. (CANADA UL-APPROVED)
- MB1026 SAFETY SPLASH SHIELD
- MB1027 POWER CORD, NEMA PLUG L14-20P
- MB1029 MAESTRO, 2X Quick Coupler Base Magnifier
- MB1030 MAESTRO, LEG FRAME, 60IN
- MB1030-048 MAESTRO, LEG FRAME, 48IN
- MB1030-054 MAESTRO, LEG FRAME, 54IN
- MB1030-066 MAESTRO, LEG FRAME, 66IN
- MB1030-072 MAESTRO, LEG FRAME, 72IN
- MB1030-084 MAESTRO, LEG FRAME, 84IN
- MB1030-096 MAESTRO, LEG FRAME, 96IN
- MB1031 MAESTRO, RED GFCI AND USB OUTLETS
- MB1032L MAESTRO, HAND SPRAY, FOR LEFT HAND UNITS
- MB1032R MAESTRO, HAND SPRAY, FOR RIGHT HAND UNITS
- MB1033 MAESTRO, FORMALIN DISPENSE & COLLECTION
- MB1034 UVC DISINFECTION FOR MAESTRO
- MB1035 UVC DISINFECTION RETROFIT KIT
- MB1036L MAESTRO, HANDSPRAY & END RINSE, LEFT HAND
- MB1036R MAESTRO, HANDSPRAY & END RINSE, RIGHT HAND
- MB1037 MAESTRO, FORMALIN DISPENSING TAP

5.2.2 Customization (CUST)

- If your factory “Option” has been customized the Model No. will show a “CUST” suffix

5.2.3 New Options

- As New factory built options become available they will be posted on www.mopec.com

5.3 Accessories

Accessories are features and tools that can be added to the Maestro at anytime by the user or supporting staff.

5.3.1 Standard Accessories shipped with your Maestro

- AX052 Perforated Grid Plate
- AX064 Cutting board (White)
- AX015 Magnetic tool bar
- AX008 Small organizing bin
- AX010 Large organizing bin

5.3.2 Available Accessories

- AX001 PEGBOARD, MONITOR MOUNT
- AX002 PEGBOARD, REQUISITION HOLDER
- AX003 PEGBOARD, TICKET HOLDER
- AX004 PEGBOARD, MARKING DYE HOLDER
- AX006 PEGBOARD, 14" SHELF
- AX008 PEGBOARD, SMALL BIN
- AX010 PEGBOARD, LARGE BIN
- AX011 PEGBOARD, C-FOLD GLOVE/PAPER TOWEL BIN
- AX012 PEGBOARD, DOUBLE C-FOLD GLOVE/PAPER TOWEL BIN
- AX013 PEGBOARD, TRIPLE C-FOLD GLOVE/PAPER TOWEL BIN
- AX014 PEGBOARD, QUAD C-FOLD GLOVE/PAPER TOWEL BIN
- AX015 PEGBOARD, MAGNETIC TOOL BAR
- AX016 PEGBOARD, ARTICULATING MONITOR MOUNT
- AX017 PEGBOARD, BARCODE HOLSTER
- AX018 PEGBOARD, FACE SHIELD HOLSTER
- AX019 PEGBOARD, GLASSES HOLSTER
- AX020 PEGBOARD, WIPE DISPENSER
- AX021 PEGBOARD, CABLE MANAGEMENT
- AX031L COLUMN, PEG BOARD LEFT WING,
- AX031R COLUMN, PEG BOARD RIGHT WING,
- AX032 COLUMN, KEYBOARD ARM
- AX033 CPU MOUNT
- AX034 COLUMN, MONITOR ARM

- AX039 HITCH, WRITING LEDGE
- AX044 VIDEO-EDITING PC WORK STATION; WINDOWS 10
- AX045 PATHCAM, 21" PC MONITOR, TOUCH SCREEN
- AX047 PATHCAM, HANDS FREE, FOOT PEDAL, COMMAND FEATURE
- AX048 PATHCAM, HANDS FREE, VOICE COMMAND FEATURE
- AX049 MAESTRO, LIGHT BAR
- AX052 MAESTRO, GRID PLATE
- AX052-MG MAESTRO, MG STYLE GRID PLATE
- AX055 MAESTRO, HITCH MOUNT
- AX060L MAESTRO, VENTED TRASH CAN ON WHEELS, LEFT
- AX060R MAESTRO, VENTED TRASH CAN ON WHEELS, RIGHT
- AX064 MAESTRO, DISSECTION BOARD, WHITE
- AX065 MAESTRO, DISSECTION BOARD, WHITE W/ 3" LEGS
- AX066 MAESTRO, DISSECTION BOARD, LIGHT BLUE
- AX067 MAESTRO, DISSECTION BOARD, LIGHT BLUE W/ 3" LEGS
- AX068 MAESTRO, DISSECTION BOARD, DARK BLUE
- AX069 MAESTRO, DISSECTION BOARD, DARK BLUE W/ 3" LEGS
- AX070 COLUMN, MONITOR/KEYBOARD MOUNT
- AX071 DICTATION STAND, 7"x5"x8" (55DEG), SS
- AX072 MAESTRO, PEGBOARD, 7IN SHELF
- AX073L MAESTRO, CASSETTE LABELING SHELF, LEFT SIDE
- AX073R MAESTRO, CASSETTE LABELING SHELF, RIGHT SIDE
- AX074 MAESTRO, CAMERA STAND
- AX075 MAESTRO, SHELF, NO DRAWERS
- AX080 MAESTRO, COMBINATION LEDGE & PENCIL DRAWER
- AX081 SINGLE GOOSENECK LED TASK LIGHT (SHELF MOUNT)
- AX082 DUAL GOOSENECK LED TASK LIGHT
- AX096 MAESTRO, SMALL DRAWER
- AX097 MAESTRO, SMALL INSTRUMENT DRAWER
- AX098 MAESTRO, LARGE DRAWER
- AX099 MAESTRO, LARGE DRAWER, DYE HOLDER
- AX100 MAESTRO, KEYBOARD DRAWER, CENTER
- AX102 PATHCAM MICRON: MICROSCOPE (ADD-ON CAMERA)
- AX103 LED GOOSENECK TASK LIGHTING DECK MOUNTED 24VDC
- AX110 MAESTRO, RECIRCULATING TO IN HOUSE KIT
- AX111 MAESTRO LITE, EXHAUST DAMPING KIT, 8IN DUCT
- AX112 MAESTRO, VIRTUS CAMERA HOOD
- AX113 MOPEC CORNER DOLLY, SET OF 4
- AX114 MAESTRO, MILESTONE CAMERA
- AX115 MAESTRO, HITCH MOUNT, KEYBOARD
- AX120 AUTOPSY SAW HOLDER
- AX122 PATHCAM, HD SYSTEM + SOFTWARE (FOR LIVE STREAMING/TEACHING USE)

- AX123 PATHCAM-5K + SOFTWARE (FOR GROSSING STATION USE)
- AX131 PATHCAM, CAMERA MOUNT: MAESTRO HOOD
- AX133 PATHCAM, MICROSCOPE-CAMERA MOUNT: MAESTRO

5.3.3 Customization (CUST)

- If your factory “Accessory” has been customized the Model No. will show a “**CUST**” suffix.

5.3.4 New Accessories

- New Maestro Accessories are developed every day! To make a suggestion for a new accessory or to check on our latest go to www.mopec.com for more information.

6 OPERATION/USE

6.1 How to Use the Touch Screen

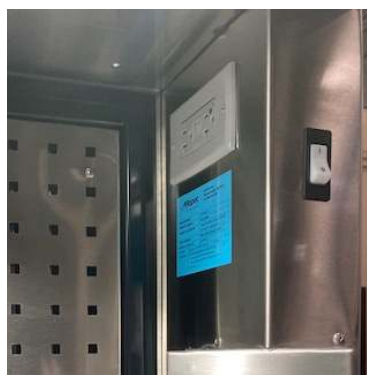
6.1.1 Understanding the Maestro Operational Interface

Mopec designed the Maestro to be highly customizable in its construction in an effort to meet all types of process flows and procedural preferences in the pathology lab. The touch screen display allows for variable user interface controls to support the many configurations available on the Maestro.

⚠ CAUTION The Maestro is equipped with a “Touch” Screen, pressing hard on the screen will result in damage.

6.1.2 Startup

Turn on the Maestro from the (a.) **Power Switch** located on the hood column above the sink side of the unit.

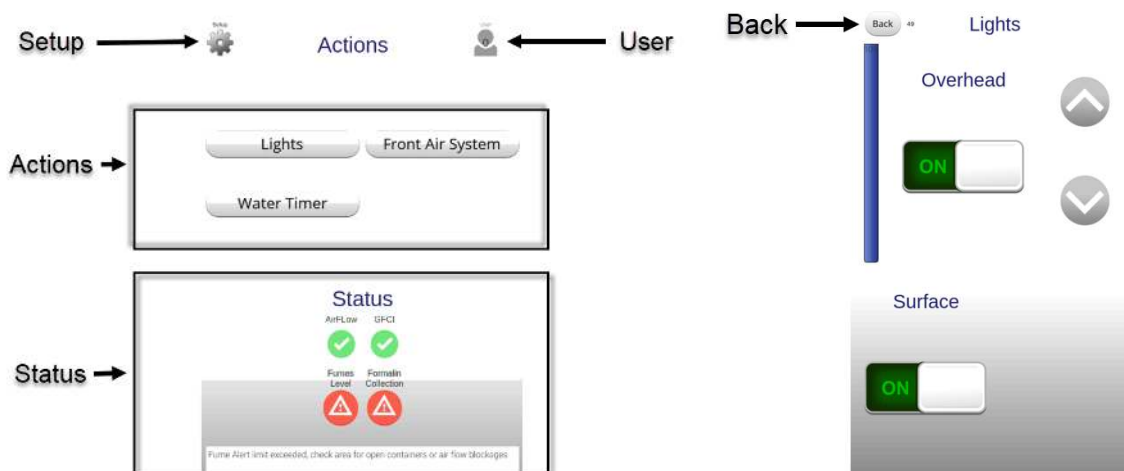


a. Power switch



b. Loading screen

- The unit will briefly display the Mopec logo on the (b.) **Loading screen** while the microprocessor loads. Once loaded the touch screen will land on the **Actions** page.
- The Maestro’s **Actions** screen will have a **Setup** button in the top left, a **User** button in the top right (covered in a sections 6.1.6 & 6.1.7)
- The **Actions** screen primarily displays action buttons across the middle of the screen and status icons along the bottom.



6.1.3 Actions

The home page will display all the **Actions** that are available based on the options you have configured on your Maestro.

- A light touch on any action button will open up that action and display its available parameters.
- Lightly touch the **Back** button to exit any screen and go back to the **Actions** menu.

NOTICE Individual action screens will time out and return to the **Actions** menu.

6.1.4 Status

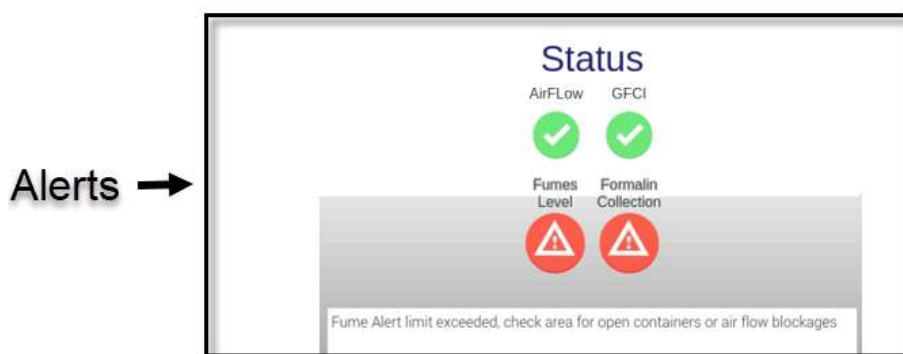
The **Status** menu will display the applicable alerts and monitoring for the optioned equipment built into your Maestro.

- The status icons are only informational and do not accept button presses.
- The setpoints and details of the status icon functions are within the settings menu tables.

6.1.5 Alerts

The Maestro is continuously monitoring all of its input and output parameters and will display an alert to the user.

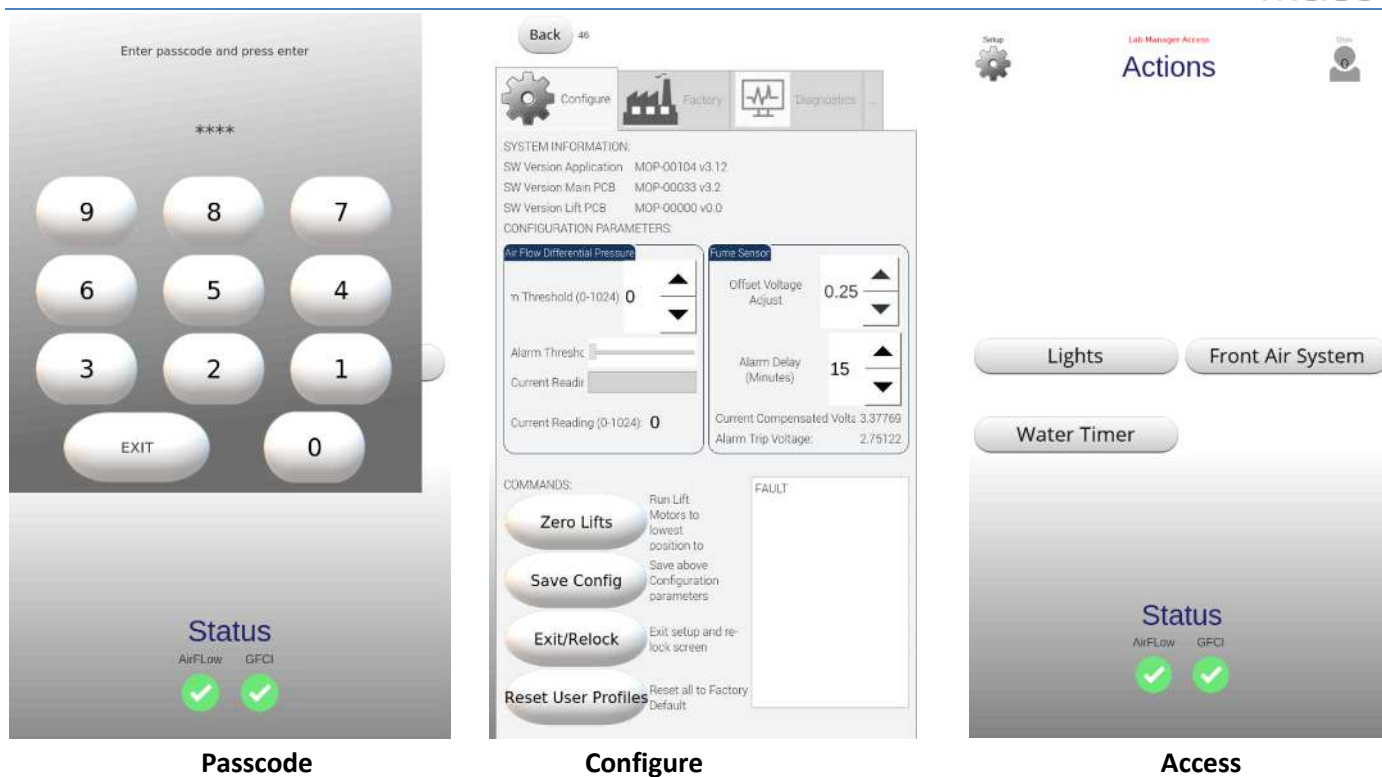
- The alert message box will appear at the bottom of the screen when the system has reached an alert setting threshold.
- If your system is connected to a building management system (BMS), these alerts will trigger the dry contacts.



6.1.6 Settings

The Maestro setup screen is where maintenance or a Lab Manager will adjust settings for the unit. The available settings will vary based on options.

- Pressing the Setup button will launch the touch pad passcode screen.
- For Lab Manager Access – touch “ **1 2 3 4** ” passcode into the keypad.



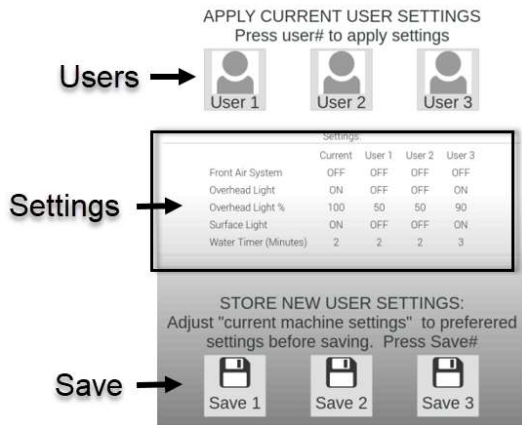
- The system now allows edits to be made on the **Configure** tab in Setup.
- When adjustments have been completed touch **Save Config** and then **Exit/Relock** button to save changes and then lock out setup screen.

NOTICE if you touch **Back** button you will retain **Lab Manager Access** and it will display on the top of the screen in **red**. This feature is there to allow the system to be tested with setup unlocked.

6.1.7 User

The Maestro has the ability to save user adjustable settings.

- Lightly touching the User button will bring up the user settings screen.
- This screen displays all the users and their custom configured settings.
- Adjust all the desired parameters of the station.
 - FAS system on/off
 - Overhead Light on/off
 - Overhead Light dimmer setting
 - Surface Light Bar
 - Recirculation fans on/off
 - Recirculation fan speed
 - Water Timer minutes



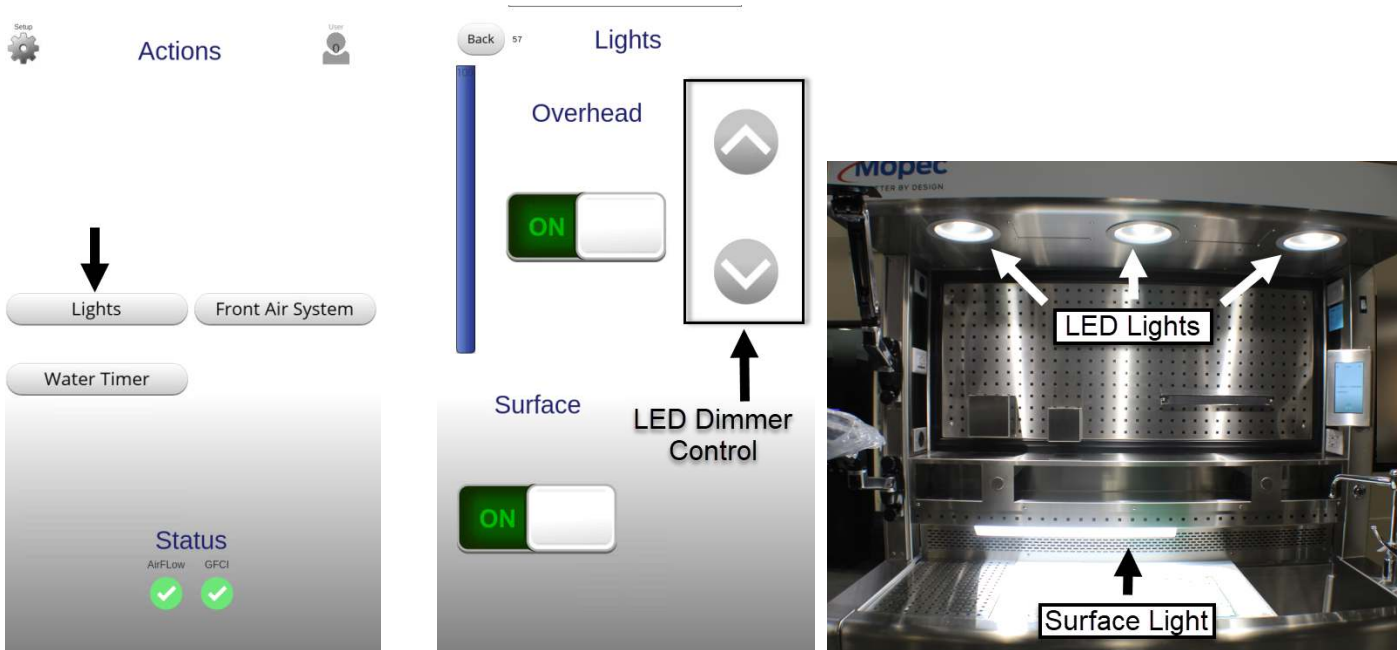
- Then save the setting per your user location.
- Selecting your user # preset at anytime it will return to all these settings.

6.2 How to Use Maestro Standard Features & Options

6.2.1 Lighting (standard)

The Maestro has recessed LED lights integrated into the hood, and a few supplemental light options available.

- Overhead LED dimmer is adjustable by touching the **Lights** action screen. Blue bar on left indicates brightness level and the up/down arrows adjust the setting.
- Any optional lighting will show buttons on this **Lights** screen as well.

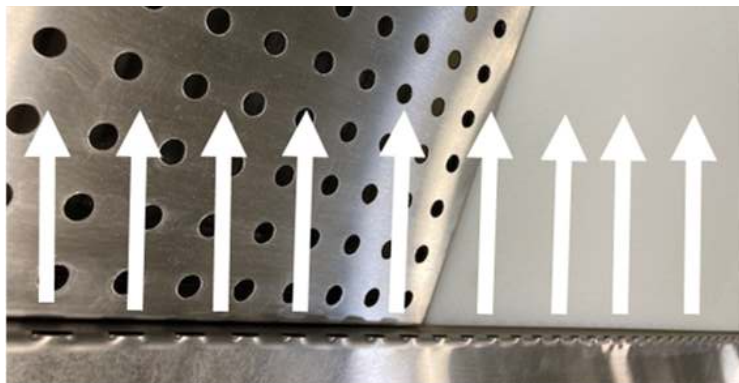


6.2.2 Front Air System (FAS) (standard)

The patented FAS system is a key safety feature on Mopec laboratory equipment. The principle of operation is simple and safe. The FAS uses a series of fans to provide supplemental airflow at the front edge of the workstation directed at the backdraft vent. This helps push and pull any outgassed fumes from the worksurface and safely away of the user.



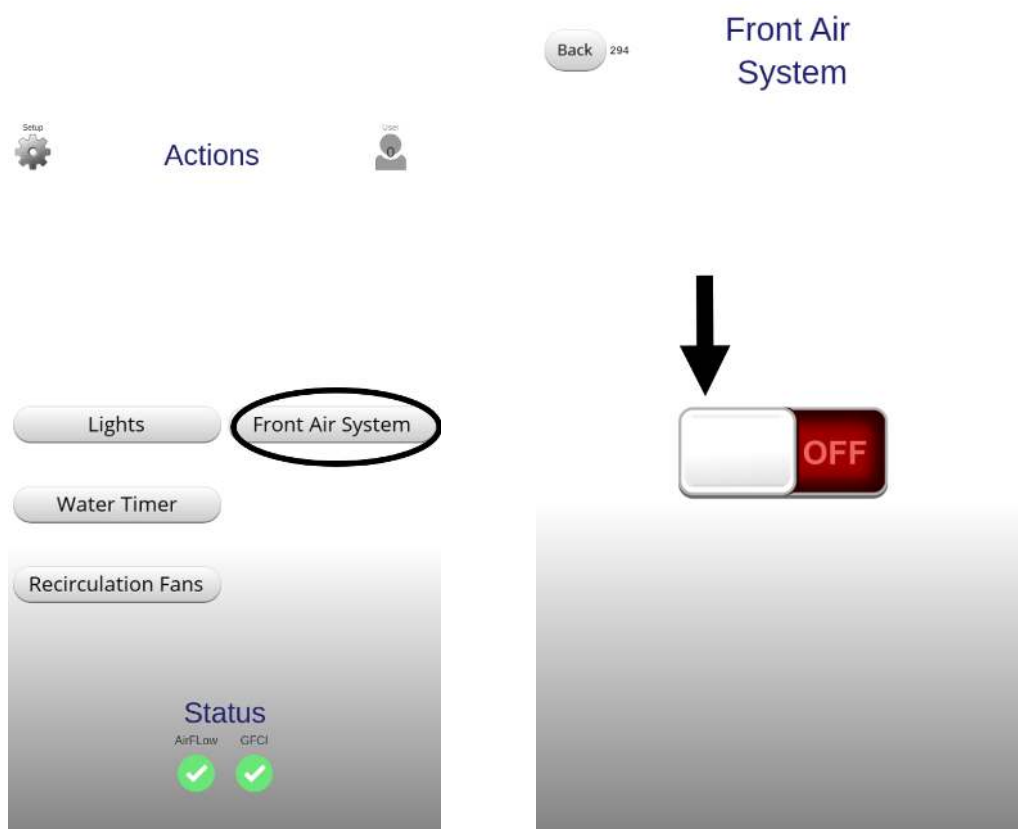
FAS Fans under front edge



FAS ports on inside edge direct flow across surface

To turn on the system:

- Select **Front Air System** from the Action screen.
- Turn on the system.



6.2.3 Faucet Controls (standard)

The Maestro utilizes a mixing valve to control flow and hot/cold temperature mix. Operation is much like any other residential or commercial faucet, rotate the lever up to start flow and push or pull lever to mix the hot and cold.

NOTICE If your Maestro is optioned with a foot pedal or infrared activated solenoid valve the mixing valve settings still apply, but nothing will flow out of the faucet until one of the other user inputs are activated.

6.2.4 Foot Pedal (Faucet) Option

The Foot Pedal option controls the on/off of mixed water to the Faucet.



Foot Pedal



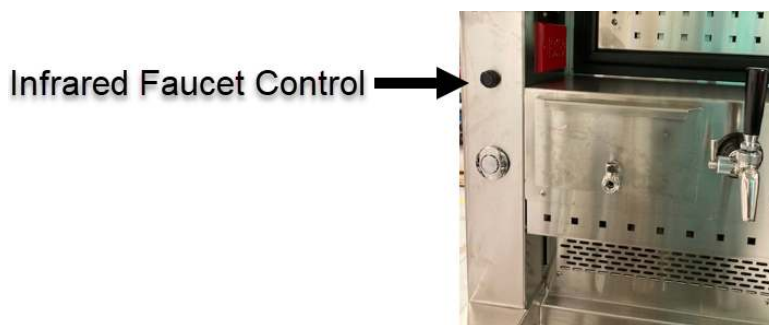
Hot/Cold Mixing Valve

- The foot pedal is mounted to a floor plate that can be positioned by the user.
- A single tap of the pedal turns the hot/cold mixed water on.
- Tap the pedal a second time to turn it off.

NOTICE The foot pedal controls a solenoid valve that is between the Mixing Valve and the Faucet, if the mixing valve lever is NOT lifted into an open position water will NOT flow when you tap the foot pedal.

6.2.5 Infrared Faucet control “Hands-Free” Option

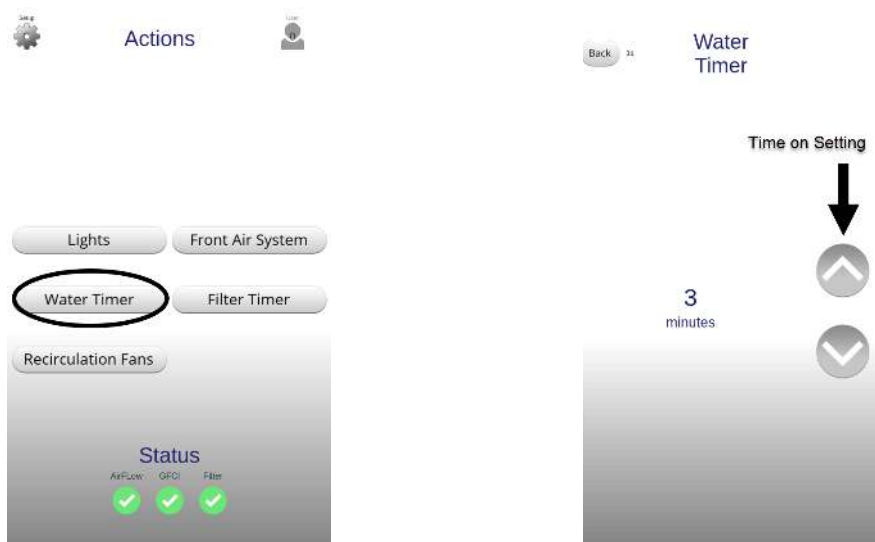
The hands-free faucet is controlled by an infrared switch located on the hood column near the disposal switch.



- If you wave your hand near the sensor the IR sensor the system will turn on the water solenoid to the faucet.
- Mixed water is still controlled by the hot/cold mixing lever and it must be rotated up and on in order for water to flow.
- The water will flow for the amount of time set on the Water Timer function mentioned in 6.2.5.

6.2.6 Water Timer Option

The water timer is used in conjunction with the foot pedal option or IR option. It controls the amount of ON time of the water solenoid after the first tap of the foot pedal. This can be set as a safety timeout or it can be used to dispense a given amount of water per a laboratory process.



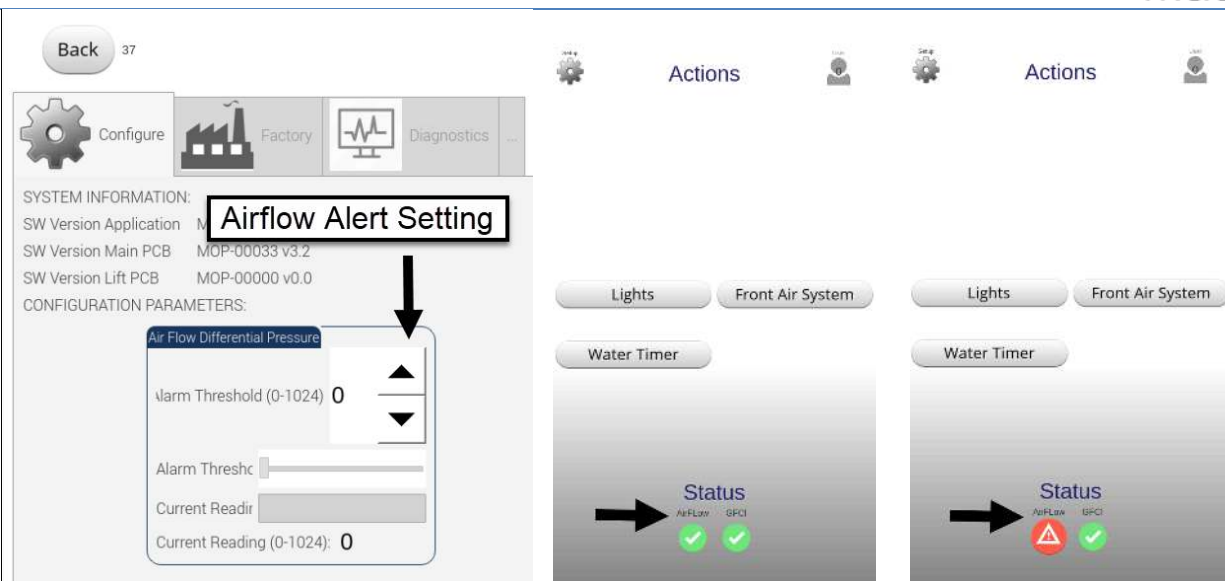
- To adjust water ON time touch the **Water Timer** button.
- Adjust the time ON setting with the up down arrows.
- The water will turn on with one tap of the Foot Pedal and turn off at the set time.

6.2.7 Air Flow Meter (standard)

The Air Flow Meter is integrated into the Maestro hood to provide a method to alarm if airflow in the facility has been impeded or adjusted out of a given range. This setting is only intended to provide an alert.

NOTICE Most Grossing stations are tested and calibrated for Air Flow by a local HVAC provider annually. This is a perfect time to adjust the Air Flow Meter setting against a calibrated setpoint.

- Touch the **Setup** button and enter into Lab Manager access with passcode “1 2 3 4”.
- On the **Configure** screen, locate the Air Flow Differential Pressure box.



Air Flow Alert Setting

Air Flow Status Good Icon

Air Flow Alarming Icon

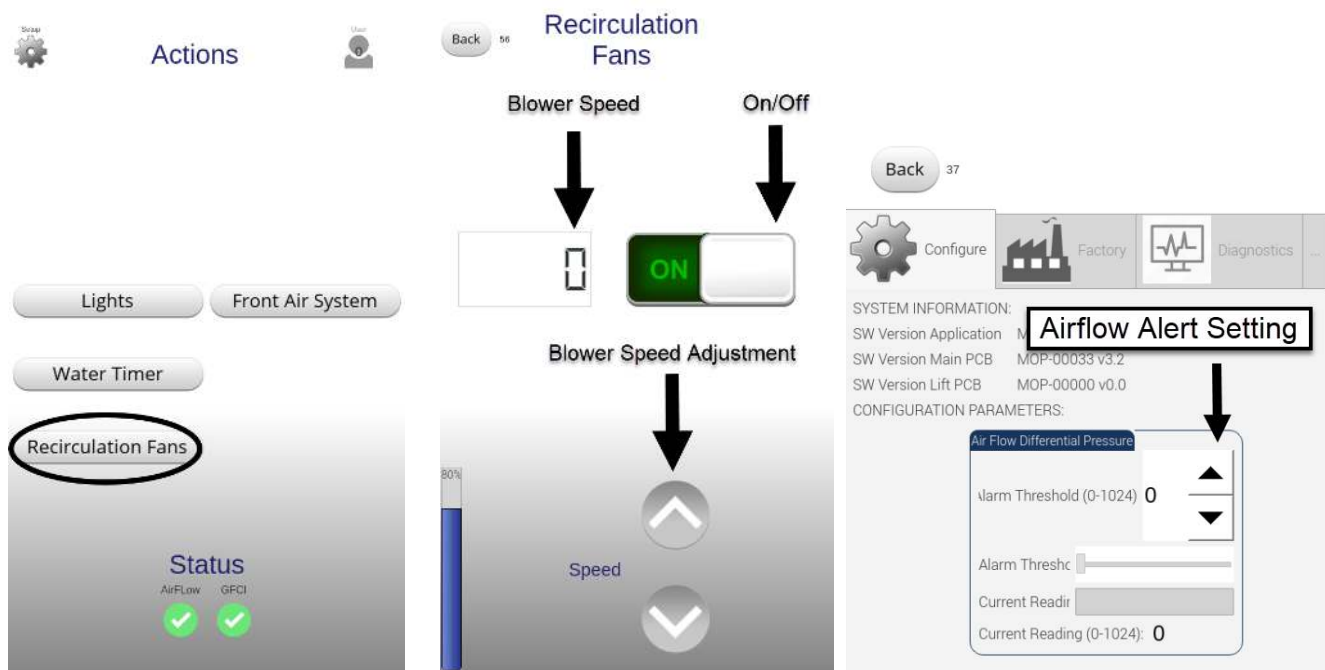
- With the facility HVAC running you will see the **Current Reading**, compare that to your calibrated setting.
- Taking in consideration any variance between the current reading and calibrated setting, set your alarm threshold. Most facilities actual airflow will vary based on door opening time and frequency to a lab so it is advisable to set the threshold at least 10% lower than the nominal air flow value.
- If the actual air flow drops below the set Alarm Threshold it will change the ICON on the Status screen and log an event in the system memory.

6.2.8 Recirculation System Option

Recirculation option is intended for facilities that do not have available HVAC exhaust flow available for temporary use or in limited use environments. The backdraft air is pulled through the hood by variable speed blowers and cycled through filters in an effort to remove particulates and fumes before exhausting back into the room at the top of the unit.

NOTICE Variable recirculating blowers are loud and operate between 65-82 decibels (dBa).

- Turn on the **Recirculation Fans** by touching the action button.
- On/Off is controlled via a button on the **Recirculation Fans** screen.
- Fan Blower speed is adjustable in 10% increments. Most users will see an appropriate flow set around 70% speed with a properly maintained filter.
- The Airflow Alert can help you determine when your filters are getting plugged with airborne particulates.
 - Set the Airflow Alert by using the lab manager access (passcode 1 2 3 4) into **Setup** and then to the **Configure** tab. See section 6.2.7 for more information.

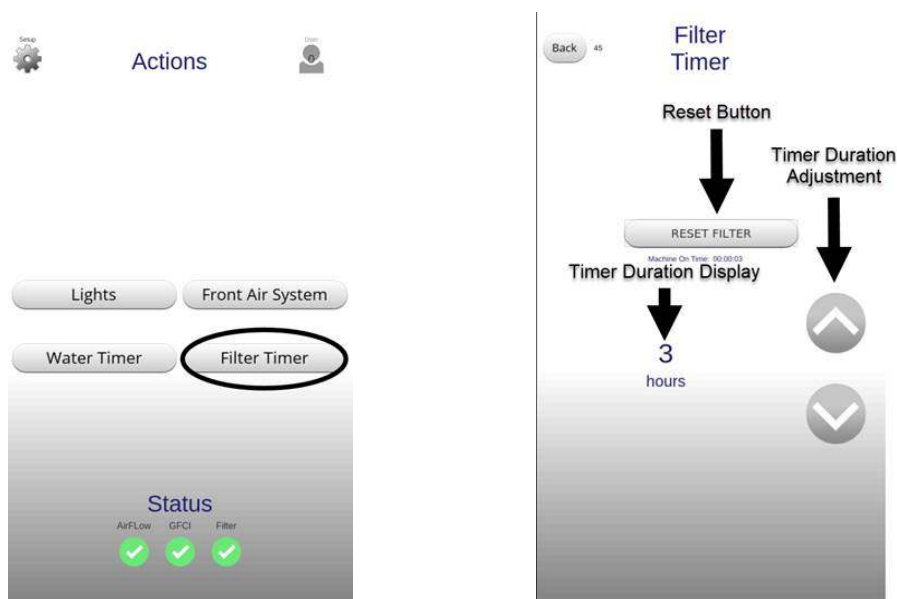


NOTICE see maintenance section 7.1 for checking and changing filters.

6.2.9 Filter Timer option

The filter timer is used in conjunction with the Recirculating system (REF 6.2.8). The filter timer function is intended to set a reminder and Alert on the touch screen when it is time to change the filters in the system.

- Set the timer by touching the **Filter Timer** button.
- Adjust the timer duration per your specific laboratory conditions (REF 7.1.2).



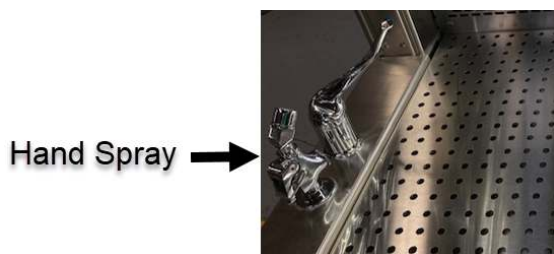
- When the set timer expires the following Alert notification will display on the Status part of the screen.



6.2.10 Hand Spray Option

The hand spray option is installed opposite the sink and intended to spray down the grid plate and cutting board surfaces.

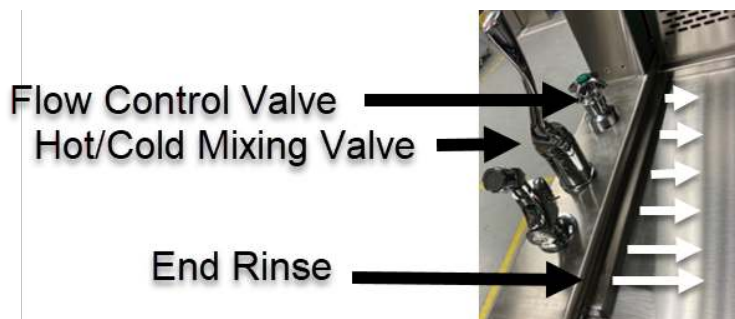
- Hand spray option comes with a hot/cold mixing valve that must be rotated up and on for it to work.
- Simply squeeze the hand spray trigger to spray mixed water. Flow rate can be adjusted by both the trigger and the mixing valve.



6.2.11 End Rinse Option

The End Rinse option is installed opposite the sink and utilizes the hand spray hot/cold mixing valve but has a separate flow control valve.

- Adjust the hot/cold Mixing Valve to the desired mixture. It is recommended to open the mixing valve up all the way. Flow can be adjusted separately at both the hand spray and end rinse control knob.
- Adjust the End Rinse Control Knob to the desired flow.
- Use the Mixing valve lever to turn the end rinse on and off.



6.2.12 Formalin Dispensing Option

The Formalin Dispense system on a Maestro utilizes a syphon hose and a transfer pump to fill up a reservoir tank located in the hood of the unit. This enables a very controllable gravity fed dispense from a simple lever pull on the spigot.

- The Syphon Hose is intended to be connected to your formalin supply container (cut factory zip tie to uncoil hose). Most cubitainers utilize a quick disconnect. Insert the connector and pull to make sure its latched.
 - If you are pumping from a formalin barrel remove the supplied quick disconnect fitting and directly insert the end of the syphon hose into barrel. Watch for bag liners, do not suck them up in the hose.



- To start pumping simply hold down the green Dispense Pump button located just inside the knee panel. The system is equipped with level sensors and will turn off the pump when full.
 - An empty system will typically transfer 5 gallons when filling.
- The Status icons will alert you to low levels and change to green status when full.
- To dispense pull the spigot handle. The spigot also has a flow control on the side. Adjust this to your desired flowrate. With a gravity fed system the flow will be the fastest when full and the slowest when empty.

6.2.13 Formalin Collection Option

The Formalin Collection system is also a gravity system that drains from the collection funnel down to a carboy located on a dolly in the knee space. This will be behind the cabinet doors if your Maestro has that option.

- Pour off formalin waste into the collection funnel, located in the back corner of the sink.

NOTICE

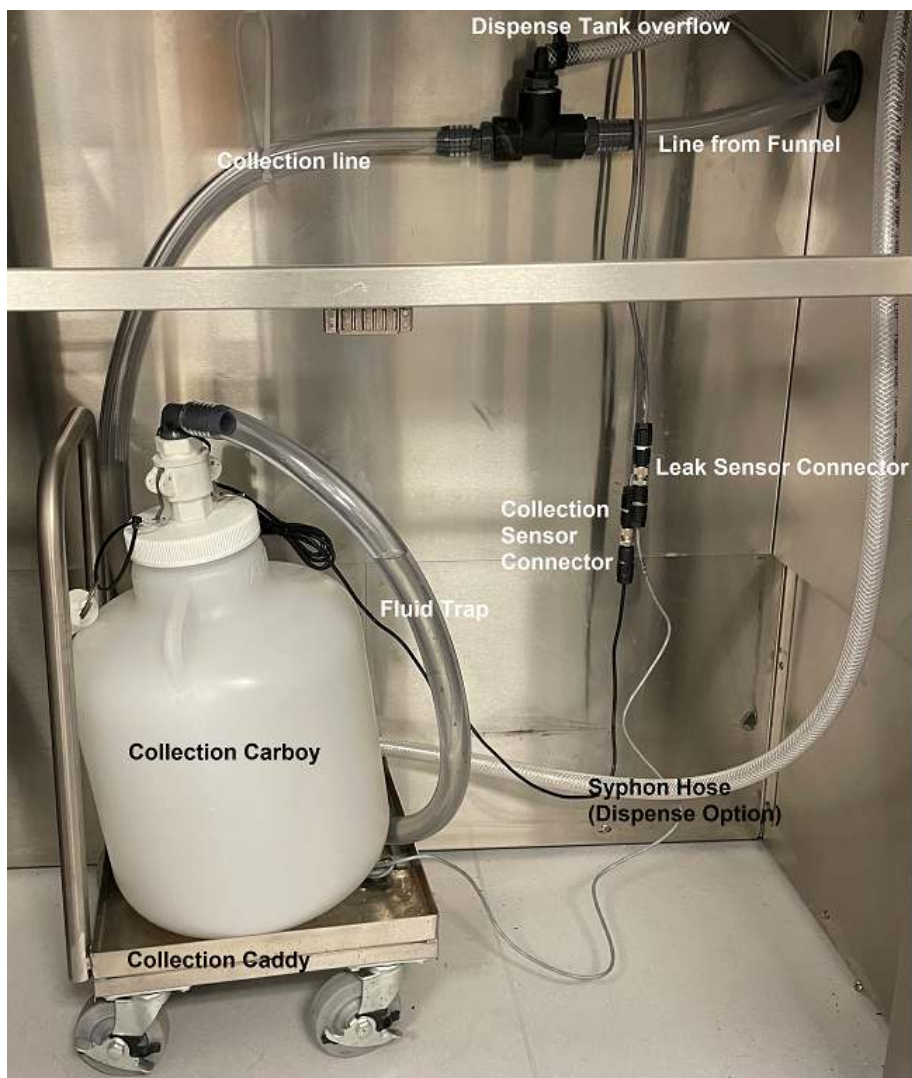
The funnel is necked down to help prevent solids from plugging the collection line. If desired Mopec does offer screens (**BA077**) for the funnel to help collect solids.



BA077



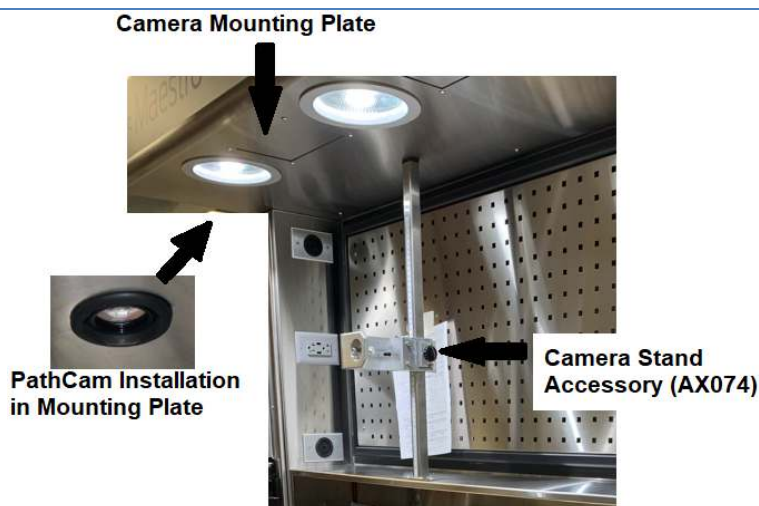
- The system will drain down and into the collection carboy. The carboy cap is equipped with a sensor and will indicate via a status icon when the system is full.
- The drain hose is supplied long enough to allow the collection dolly to be pulled out from under the knee space prior to disconnecting. This will create a small fluid trap if left at factory cut length on collection line.
 - If your preference is to eliminate the fluid trap simply trim the line back short enough that the fluid drains completely into the carboy. You will have to bend down into the knee space to disconnect now.



- Unscrew the carboy cap and remove carboy for disposal. If you prefer to wheel the collection caddy to the disposal site you will have to disconnect fitting and unscrew both the leak and collection sensors shown above.

6.2.14 Integrated Camera System Options

The Maestro is designed around the PathCam camera system but will also accept other popular pathology camera systems. The Maestro has two (2) standard camera mounting locations on the underside of the hood canopy.



- The PathCam system is available factory installed and as an accessory on existing stations. The camera itself is mounted to the back side of the plate and only the lens protrudes out of the canopy.

NOTICE

Other manufactured system protrude further down out of the canopy in order to maintain their recommended fixed focal distance from the cutting board.

- Traditional Camera Stands, like the **AX074** Accessory shown above, are available for mounting handheld point and shoot type cameras.
- PathCam Camera Systems are covered in their own product specification and user manual. See www.mopec.com for the latest information.

6.2.15 BMS (Building Management System) Connection

Mopec BMS (Building Management System) connection, option MB1022, is a simple output signal intended to be connected to a hospital remote management system. The function is a dry contact relay output that is triggered by an alert condition on the Maestro.

- This signal informs the hospital's management system that the station has an alert condition.
- The BMS signal wires are coiled up and located on the top of the hood in a cutout on the same side of the unit as the touch screen(sink side). Pull the wires out, trim them to the desired length, and connect them to your BMS signal wires from the facility.



6.2.16 Fume Detection

Mopec's Fume Detection system (patent pending) utilizes an electrochemical volatile organic compound (VOC) sensor to detect the presence of formaldehyde fumes. The sensor itself is located on the underside of the hood such that any fumes that escape the ventilation system will be detected.

The VOC sensor is tuned and individually calibrated in the range to detect formaldehyde/formalin fumes but is capable of detecting other common laboratory chemicals that emit VOC's. Please be conscious of using other VOC emitting chemicals around this sensor in your process or in cleaning the Maestro as it will cause false positive alerts and reduce the sensor's operating life.



*Mopec Fume detection (option **MB1019**) operation is covered separately in its own manual.

See www.mopec.com for the latest.

6.3 What to Do in Emergency and Exceptional Situations

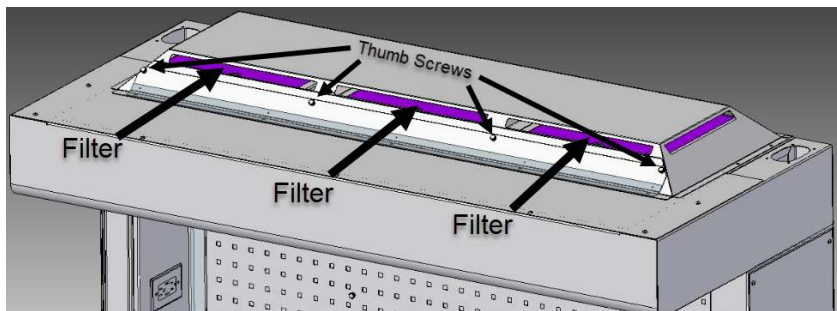
First follow your laboratory safety procedures. Reference below protocol for unit situations.

- Suspected electrical issue
 - Turn off the main power switch
 - Any faucets or fixtures that are controlled by solenoids will close automatically
 - Turn off unit facility breaker if further electrical issues are detected.
- Suspected plumbing issue
 - Turn off all water fixtures, typically the mixing valve levers will do this.
 - Turn off the End Rinse or Foot pedal if the leak continues.
 - Turn off facility water supply to unit if further plumbing issues are detected.
- Air Flow Alert
 - Check for facility flow, alert laboratory management.

7 MAINTENANCE

7.1 How to Maintain the Product

7.1.1 Changing Filters - Recirculating equipped units only (MB1009 option)



- Filter change frequency is based on laboratory HVAC settings and Formalin fume exposure and therefore variable in life
- To change the filters in your station, you will need to remove the thumb screws that hold the door closed.
- The filter door may now be opened. It is hinged at the bottom and may need minor prying to open if operated in a dusty environment.
- Depending on your model the recirculating unit may have 3-6 filters.

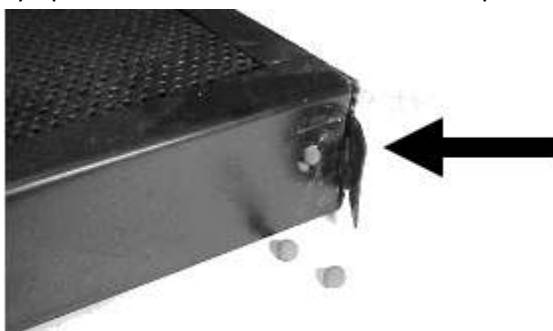
NOTICE All replacement filters will use a Mopec **BF035 Potassium Permanganate Filter** in each slot.

- Install the new filters with the white side down and black mesh up top.
- Close filter door and tighten thumb screws.

7.1.2 Checking Filters

Filter life is dependent on the amount and concentration of formalin fumes passing through it. This section describes how to check a filter so that a proper filter life can be predicted and planned in a lab.

- The potassium permanganate (KMnO₄) filters change color from bright purple to a dark brown with the amount of exposure. To check this please remove a used filter per section 7.1.1 above.
- Pry open the corner of the filter and dump out some pellets for examination.



- To determine if the potassium permanganate has been exhausted remove a pellet and cut it in half.

- With the pellet on a white paper towel add a few drops of water to the pellet. The water running off the pellet should be purple and then turn a deep iodine color.
- The filter should be considered 80% used when the purple color diminishes from the core of the pellet and 100% depleted if there is no color present.

NOTICE use this pellet examination method only in typical laboratory conditions. Highly concentrated solutions or excessive formalin pouring operations will prematurely deplete the pellets and give a false sense of filter life.

7.1.3 Health Hazard information & Disposing of Filters

Health Hazard Data - Alumina Permanganate Filter Media

- Effects of Exposure – The filter media is non-toxic upon oral, skin, and inhalation exposure and is non-irritant of the skin. Breathing of dust may cause sneezing. Skin may feel dry after contact. The filter media is an eye irritant.
- Emergency Treatment – Flush eyes with large quantities of water and seek medical attention.

Filter Disposal - Dispose of contaminated filters in accordance with your facility, state and federal procedures for hazardous materials disposal. See the SDS for the chemicals exposed to the filters for further directions.

7.1.4 Resetting/Leveling the Elevation system

Should your station become unlevel for any reason follow the steps below to reset the elevation system

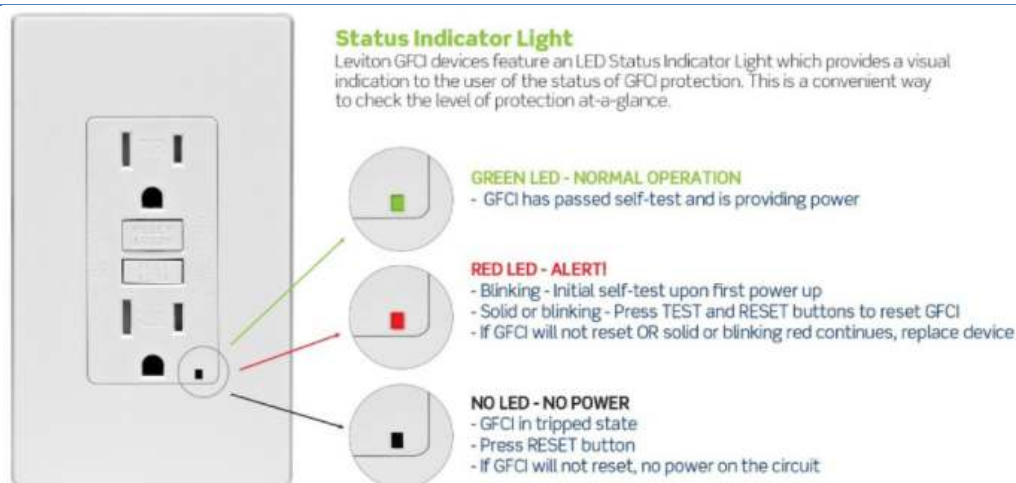
- Press and **hold** both the up/down arrows at the same time.



- While holding both buttons, the unit will then move to the lowest position and synchronize and level out.
- Continue to hold for another 3 seconds and then release both buttons.
- Adjust the unit up and down and confirm the unit has remained leveled. Repeat the reset procedure multiple times if you suspect it has not fully leveled out.

7.1.5 Resetting the Main GFCI

Should the unit trip the Main GFCI the controls the touch screen and auxiliary power outlets will no longer be powered. First check that your unit has actually tripped by referencing the image below.



NOTICE the GFCI will only reset if power is supplied to the station. Check that your Main Power switch is on and that your facilities circuit breaker is not tripped.

- Press the TEST and RESET buttons on the GFCI and confirm operation or status lights per diagram above.
- If the GFCI has reset and shows a green light the unit is ready to operate.
- If the GFCI fails there may still be a ground fault in the system or the GFCI unit may need to be replaced. See the section on Troubleshooting (8.0) or call Mopec Service (7.3)

7.1.6 Resetting the Auxiliary GFCI

The Maestro is equipped with an auxiliary GFCI power outlet for uninterrupted supply on a computer system or other auxiliary devices plugged into the side panel. For this the unit only needs power supplied to the unit from the facility and operates independently from the Main power switch. The reset procedure is the same as section 7.1.3 above.

7.2 Stainless Steel Maintenance & Cleaning

7.2.1 Disinfecting Stainless steel

All stainless steel surfaces can be cleaned with soap and water to remove tissue and debris. The stainless steel surfaces can be disinfected with a non caustic disinfectant.

- Always wipe in the direction of the stainless steel grain.
 - We suggest using BE045 Path Cloud or BE047 Bench Wipe for cleaning purposes.
- Most disinfectants must be followed up with a water rinse to remove the salts that remain after these products dry. Always follow up a disinfection cleaning with a thorough rinse of water.
- DO NOT USE a straight bleach solution to clean your unit. Bleach will eventually erode stainless steel if not thoroughly rinsed.
 - Erosion from chlorine bleach is detectable and will void the warranty.
 - If your process must use chlorine bleach it must not exceed 10% and must be rinsed immediately after disinfection to avoid damage to the metal.

7.2.2 Stainless Care and Maintenance

To maintain your stainless steel product, follow these steps:

- Rinse the surfaces with water frequently.
- Do not touch the surfaces with oily hands.
- Always use soft abrasive fine grit pads to clean grime in the direction of the metal grain.
- Once clean, condition your stainless surfaces with WD40 lubricant or Stainless steel polish.

7.2.3 Use of DECAL

When Decal solution is used a brown rust ring along with a milky white substance can deposit on the surface. Decal is very harsh, even the fumes can cause staining on stainless steel. Consider placing the Decal container you currently use inside a plastic base that will help catch drips that might occur.

- Clean and rinse your station after every use of Decal solution.

7.2.4 Rust and Oxidation Formation

Rust can and will occur on stainless if it is not maintained properly. The most common cause of rust is from using a ferrous material on or near the unit. This is referred to as "transfer rust". Salts from cleaners or disinfectants can extract ferrous materials and deposit or transfer them to the stainless steel. Always rinse all disinfectants before they dry. Decal solutions and fumes are very aggressive and can deposit rust if not cleaned. Formalin use has not been shown to cause rust but it does contain salts and therefore can deposit rust.

There are a few ways to remove rust should you develop it.

- Vinegar – Pour White Vinegar on the rust and let it soak for 5 minutes. Scrub with a soft brush (like a toothbrush) Rinse with water and wipe dry.
- Lemon Juice & Baking Soda – Mix equal parts of each into a paste and spread over affected area. Let it set for 30 minutes before washing away with a damp sponge. Repeat as necessary.
- Rust Remover – as a last resort try a chemical cleaner like Magica Rust Remover [Magica Rust Remover | Best Rust Removal Products](#), and follow instructions.

7.2.5 Scratch Repair

A surface scratch can be repaired using the following technique. Completely removing the scratch will depend on how severe it is.

- Use 120 grit emery cloth or paper and firm pressure to sand the scratch.
- Sanding must always go in the direction of the grain. Sand in a perfectly straight line, avoiding the natural tendency to sand in an arc. Sand the surface until the scratch is gone.
- Polish using a very fine grade of 3M scotch-brite pads. Use the same motions as with sanding. Polish the surface until the original finish is restored.

7.2.6 Fingerprints and solvent cleaning

The most common surface contaminants that occur from normal use are fingerprints and mild stains. These usually affect only appearance and do not have an effect on corrosion resistance. They can easily be removed by a variety of simple cleaning methods.

- Fingerprints can be removed with a common glass cleaner or by gently rubbing with a paste of soda ash (sodium carbonate) and water which would be applied with a soft cloth. It is best to follow with a warm water rinse.

7.3 Mopec Service

PLEASE have the following Information available BEFORE you call from your station ID tag or original order or quote. Reference the ID tag located near the Power Switch under the GFCI outlet. Older unit may have this ID tag in the knee space on the sink side.



Product Model Number:

Example: MB1060

Product Serial Number:

Example MB1060RG19001(older stations)

MB1060-0-140203-001 (newer stations)

Call 1-800-362-8491 and follow the prompts. Or email us at customerservice@mopec.com

8 TROUBLESHOOTING AND REPAIR

8.1 How to Identify and Solve Problems

WARNING: Trouble shooting section is for reference only. Any repairs should be made by skilled and trained persons following proper facility safety protocols

Error / issue / Failure	Cause	Solution
Power up Failure		
My Station does not turn "ON"	G.F.C.I. has been tripped	Reset G.F.C.I. There are two per station. One above shelf, and one in "Cord Wrap" area on side of machine. NOTE: Station must have main power "ON" to reset GFCI.
	Facility breaker has been tripped	Reset facility breaker
	Power system short	Check connections at the wire whip or power cord and plug connector Disconnect power check circuits & harness connections (REF 9.2)
Elevation Failures		
My Station does not elevate	Station not turned "ON"	Turn station "ON" at main power switch
	G.F.C.I. has been tripped	Reset G.F.C.I. (station power must be "ON")
	Elevation system needs to be reset	Reset elevation system (REF 7.1.4)
	Damage to Elevation system	Replace linear actuator control box & button
Station tilting towards side, front or back	Station not leveled correctly	Check leveling feet Check for obstructions limiting travel in and around the station
	Station elevation system sagging or drifting	Check for excessive weight on the unit in the direction of the tilt Reset elevation system (REF 7.1.4) Replace linear actuator nearest tilt (operate in lowest position pending service)

Water Fixture Failures		
My station's faucets do not work	Facility water turned "OFF"	Turn "ON" facility water supply
	Mixing valve (pressure/temp control turned "OFF"	Turn mixing valve "ON"
	Water system plugged	Check Y Strainers for debris Check for kinked supply lines Check backflow prevention devices (REF 8.2.5)
My foot pedal will not cause water to dispense	Mixing valve (pressure/temp control turned "OFF"	Turn mixing valve "ON" and leave "ON"
	Water timer set to "0" minutes	Set water timer to 1 minute or above (REF 6.2.6)
	Foot pedal air hose Disconnected from Air switch	Re-connect Air hose to Foot pedal or Air switch (REF 8.2.3.4)
My hand rinse or end rinse are not working	Hand spray hose kinked	Un-kink hand spray hose Check in lower skirting for interference
	Mixing valve "OFF"	Turn mixing valve "ON"
	Gate valve for end rinse "OFF"	Turn gate valve "ON"
	Water system plugged	Check Y Strainers for debris Check for kinked supply lines Check backflow prevention devices (REF 8.2.5)
Station is leaking water	Leak at facility connection	Check strainer drain plug Check flex lines from strainer Check drain line connection Check P-trap to facility connection
	Leak internal to station	Shut off all mixing valves and turn off hot/cold separately to isolate leak circuit (REF 9.3) Service water lines & connections (REF 9.3)
LIGHTING		
No lights will come on	G.F.C.I. has been tripped	Reset G.F.C.I. (station power must be "ON")
Individual 7" overhead light not working	Bad Light driver or loose connection at driver	Check for loose connection at driver, replace if necessary
	LED failure	Replace LED light
Surface light not working	Surface light not turned "ON" in touch screen	Turn surface light "ON" in touch screen lighting menu

	power supply issue	Check connections at harness for LED Check connections at distribution blocks/DIN Check DC power supply function/output
	LED failure	Replace fixture
Shelf-mounted task light not working	Power switch in light base not turned "ON"	Turn power switch in light base "ON"
	LED failure	Replace fixture
Hanging task light not working	Power switch in light head not turned "ON"	Turn power switch on back of light head "ON"
	LED failure	Replace LED light head
Lights are too dim or bright	Brightness not properly adjusted	Adjust brightness to user preference in light menu in touch screen
	LED driver issue	Check connections in hood at driver Check driver output Replace driver
GARBAGE DIPOSAL		
Garbage Disposal/Garburator not working	Disposal is jammed	turn off facility breaker and remove jam (REF 8.2.3)
	Facility breaker is tripped	Reset facility breaker
	Breaker on disposal itself is tripped	Press reset button (REF 8.2.3)
	Air hose disconnected from button to air switch	Reconnect hose to both button and switch
	Disposal has locked up/failed	Replace disposal
FORMALIN DISPENSING/TRANSFER PUMP SYSTEM		
Pump shuts off when I press the green button	User not pressing and holding button to transfer formalin	Press and hold green button to transfer formalin
	System/internal storage tank is full	Use formalin inside internal storage tank
Pump will not transfer any more formalin/stops while pumping	System/internal storage tank is full	Use formalin inside internal storage tank
Pump will not pump fluid	Pump is clogged	Clean out salt deposits in pump

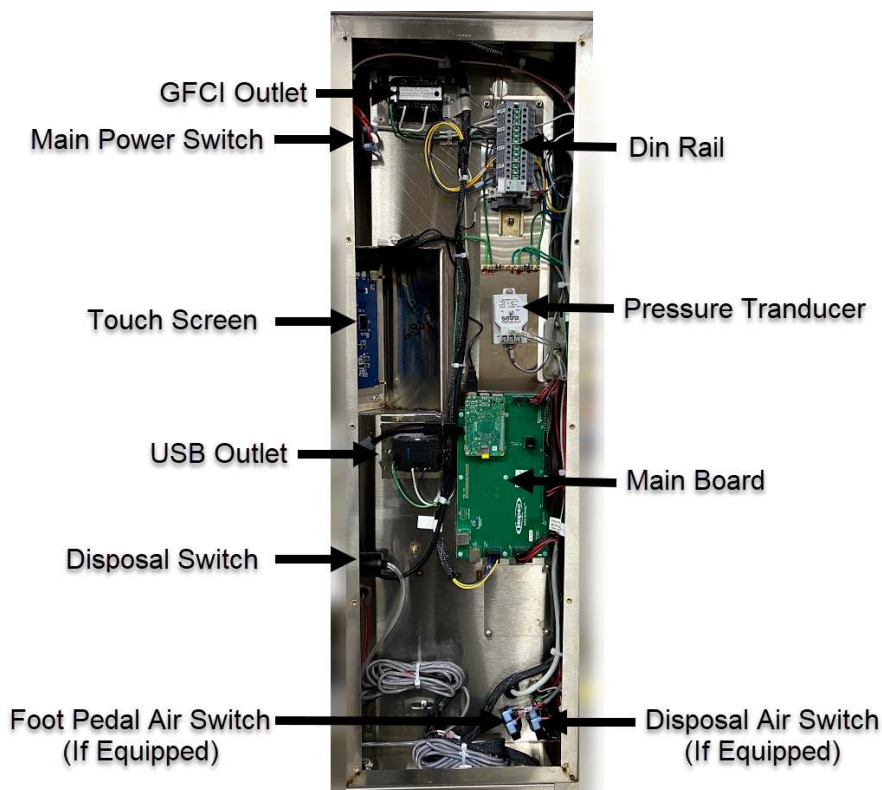
		Replace pump if damaged
	Internal float switch stuck or bad	Un-stick or replace internal float switch
	Green Button is bad	Replace green button
Icon on touch screen says “!” with “Formalin Low” at bottom of screen	Internal Formalin storage Tank is low	Add formalin to internal tank using transfer pump
Leak Icon (sensor #1, inside station, beneath formalin storage tank) showing on screen	There is a formalin leak or sensor is faulty	Repair leak or replace faulty sensor
FORMALIN COLLECTION SYSTEM		
Formalin collection “!” icon showing on touch screen	Formalin collection Jug/Carboy is full	Empty formalin Jug/Carboy
	Float switch disconnected	Plug float switch into station Check wires in connector are not pulled out
	Float switch “bulb” is stuck in the “full” (up) position	Unscrew cap on Jug/Carboy and make sure metal “bulb” on float switch can move up and down the rod without getting stuck. Or replace float switch.
LEAK “!” Icon showing on touch screen (sensor #2, located in formalin collection cart)	Sensor disconnected	Plug sensor into station Check wires in connector are not pulled out
	There is an active leak/spill in the bottom of the cart	Clean up spill/repair leak

8.2 How to Repair Product Components

8.2.1 Electrical Panel Service

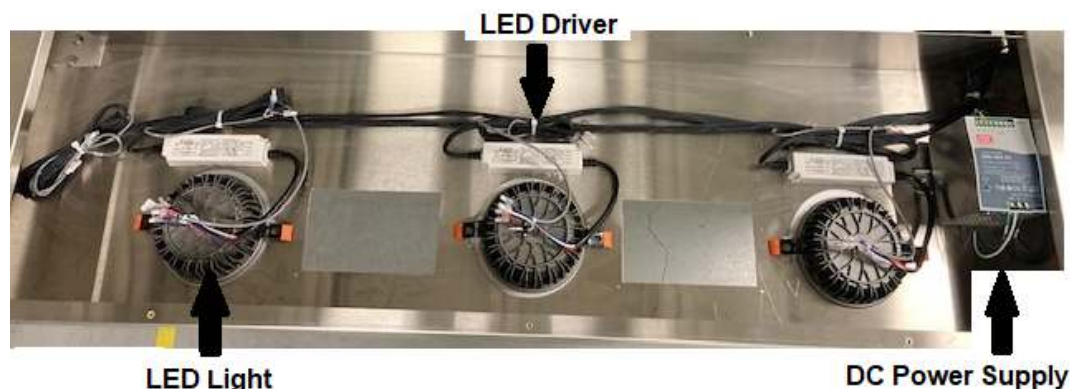
The Maestro has an electrical service panel located on the sink side of the unit. This panel is where all the power is distributed to the Maestro. Use a Phillips screwdriver to remove the 10 fasteners.

NOTICE It is important to leave 8 inches of clearance in order to access this panel as it houses the main circuit board and various switches and relays that may need service.



8.2.2 Lighting/Power Supply Panel Service

The top of the hood houses the DC power supply and LED lighting components. To service this part of the hood use a Phillips screwdriver to remove the top cover.



8.2.3 Garbage Disposal Jams

The most common disposal failure is a Jam. Turn off the power to the station and check the disposal with a piece of wood, like a broom handle. Attempt to rotate the rotor both clockwise and counterclockwise to confirm the motor is not locked up. If there was debris locking rotor is it possible it tripped a breaker, see section 8.2.1.2

8.2.4 Checking Disposal Breakers

The garbage disposal on a Maestro is wired into one leg of the multibranch circuit. Meaning the rest of the unit can operate unaffected by a disposal jam and a tripped breaker.

- Check the Facility breaker that powers the station, it is quite possible a jam could trip it.
- Check the breaker that is built into the side of the disposal housing, press to reset. Access to this button may require removal of the base skirting panels. If the disposal will not reset you may need to replace the disposal or check the air line, see section 8.2.1.3 & 8.2.1.4



8.2.4.1 Replacing Garbage Disposal

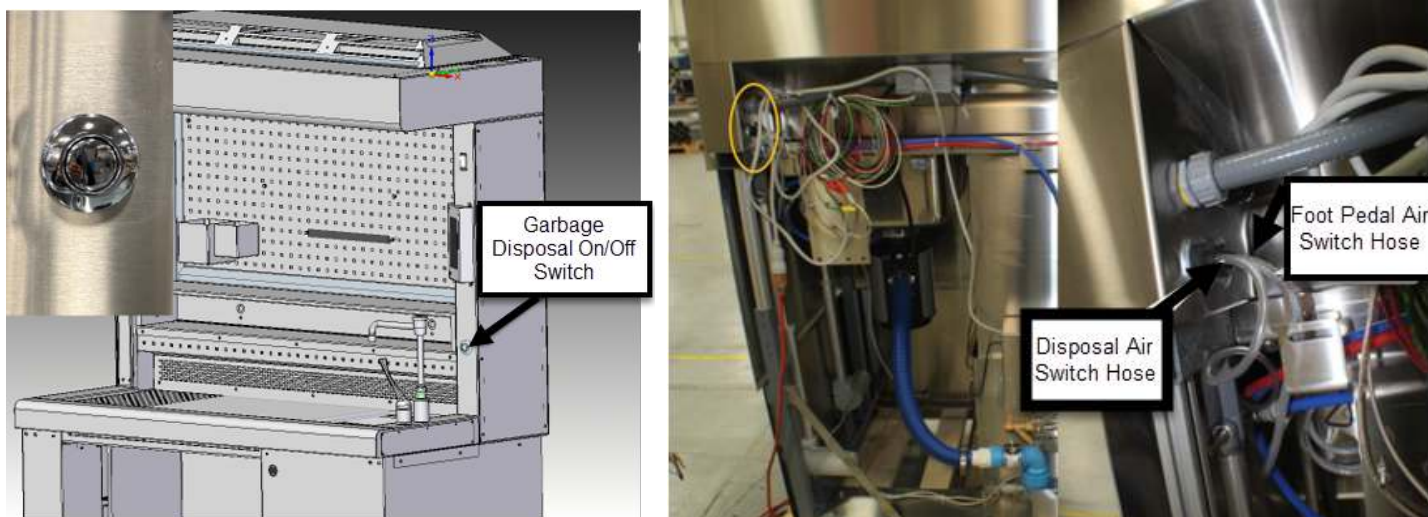
- Standard Models use a ½ HP disposal Mopec part PP1029 – (Moen GX50C)
 - <https://manualzz.com/doc/51091831/moen-gx50c-specifications-sheet>
 - Disconnect the power cord, loosen hose clamp and disconnect the flexible drain line. Lastly remove the lock ring on the disposal. Reference Moen GX50C specification for more information.
- MB1021 Optioned Models use a 1 HP disposal Mopec part PP0944 – (Moen GX100C)
 - <https://manualzz.com/doc/53171928/moen-gx100c-gx-series-1-hp-continuous-feed-garbage-dispos>
 - The MB1021 option includes a water injection feature. Disconnect the water injection line by loosening the hose clamp at the disposal inlet.

NOTICE If the above links don't work try <https://www.moen.com/> and enter the Moen model number.

8.2.4.2 Garbage Disposal Air Switch service

The garbage disposal is operated via an air switch. This is a safety device that enables the disposal to be turned on with an air pulse versus running electricity.

- Check that the air switch is functioning properly. Make sure it pushes in completely and does not stick due to debris or grim build up.



- Check the airline connection to the switch has not become dislodged or completely disconnected due to shipping and handling or service in the area. The airline is located on the back of the unit behind the sink.

NOTICE the foot pedal is also operated via an airline take note which one you are inspecting.

8.2.5 Faucet, Hand Spray & End Rinse Service panel

The water fixtures can be serviced on the Maestro by removing the small rectangular service panel on each side cap of the worksurface. Use a Phillips screw driver to remove all (5) screws. Fixtures can be removed here water lines drop through the frame and have connections below inside the lower skirting.



8.2.6 Backflow prevention and Service

The Maestro utilizes two types of products for backflow prevention.

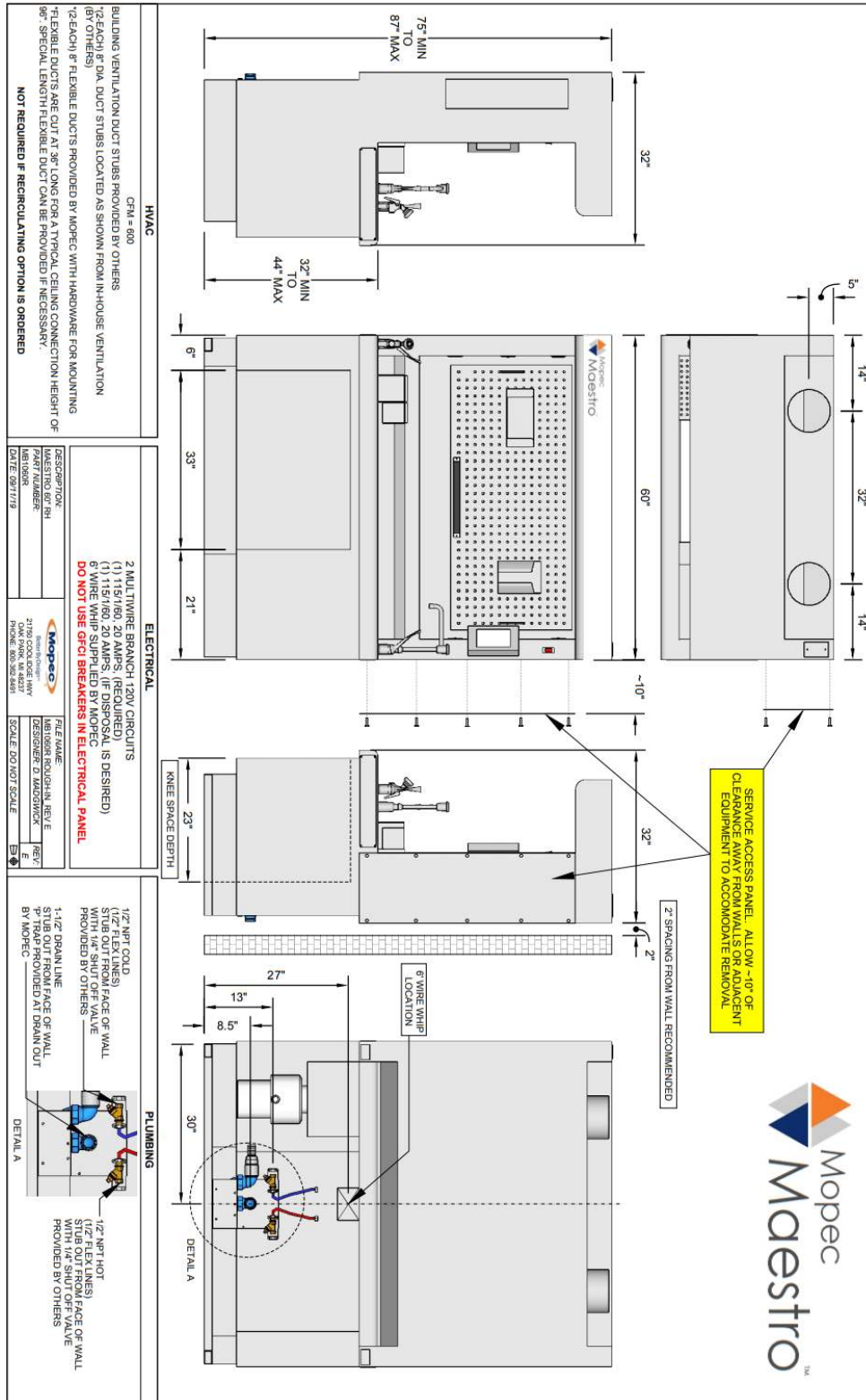
- Atmospheric Vacuum Breaker equipped faucets – Chicago Faucets #GN8BVBJKABCP
 - [8" rigid/swing gooseneck spout with atmospheric vacuum breaker | Chicago Faucets](#)
- In-line Dual Check valve backflow preventer. Used on hand sprays, end rinses & water injected disposal units.
 - [LF7 - Watts](#)



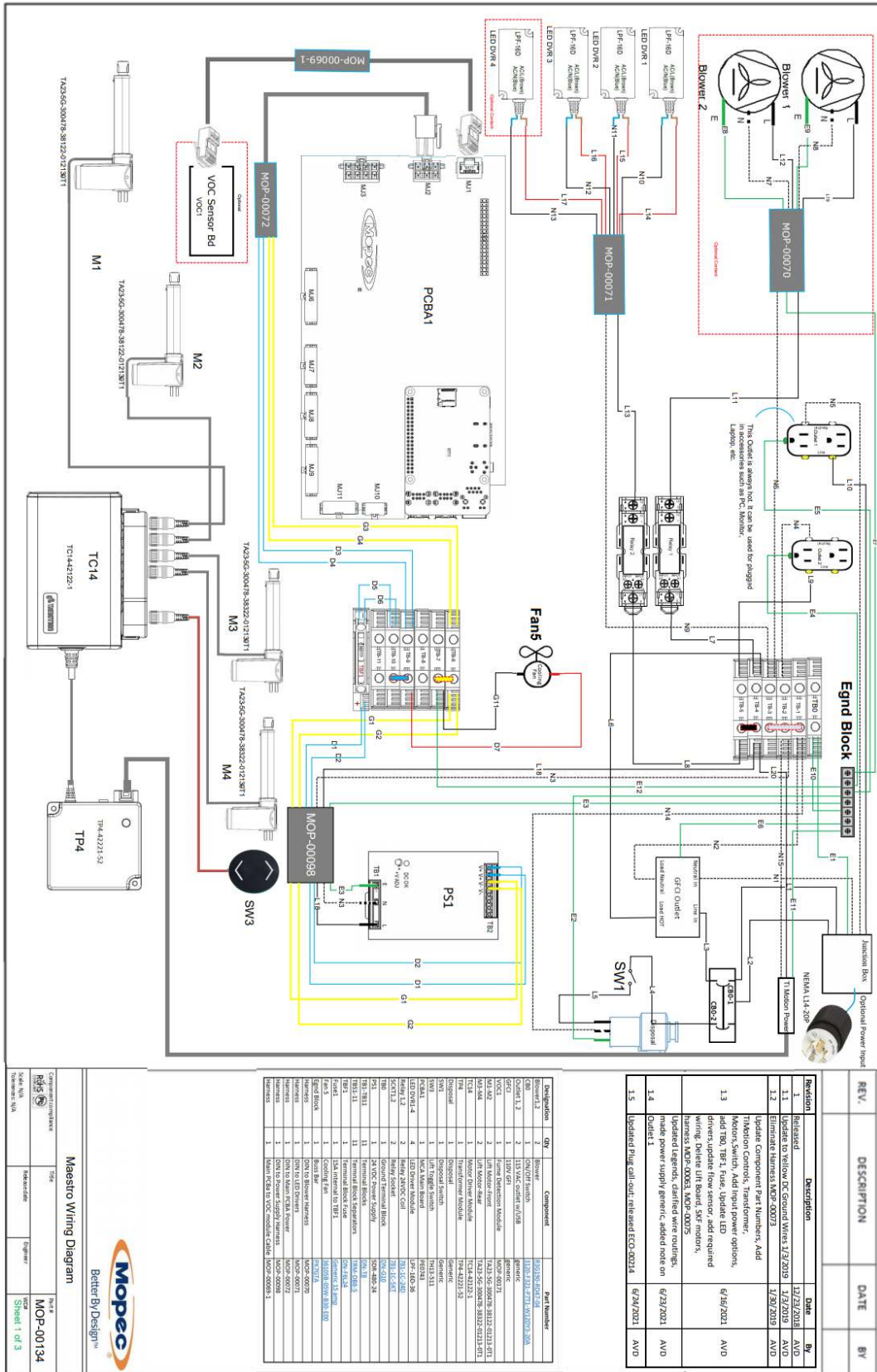
Consult the manufacturers recommendation for testing and service intervals and your local ordinances.

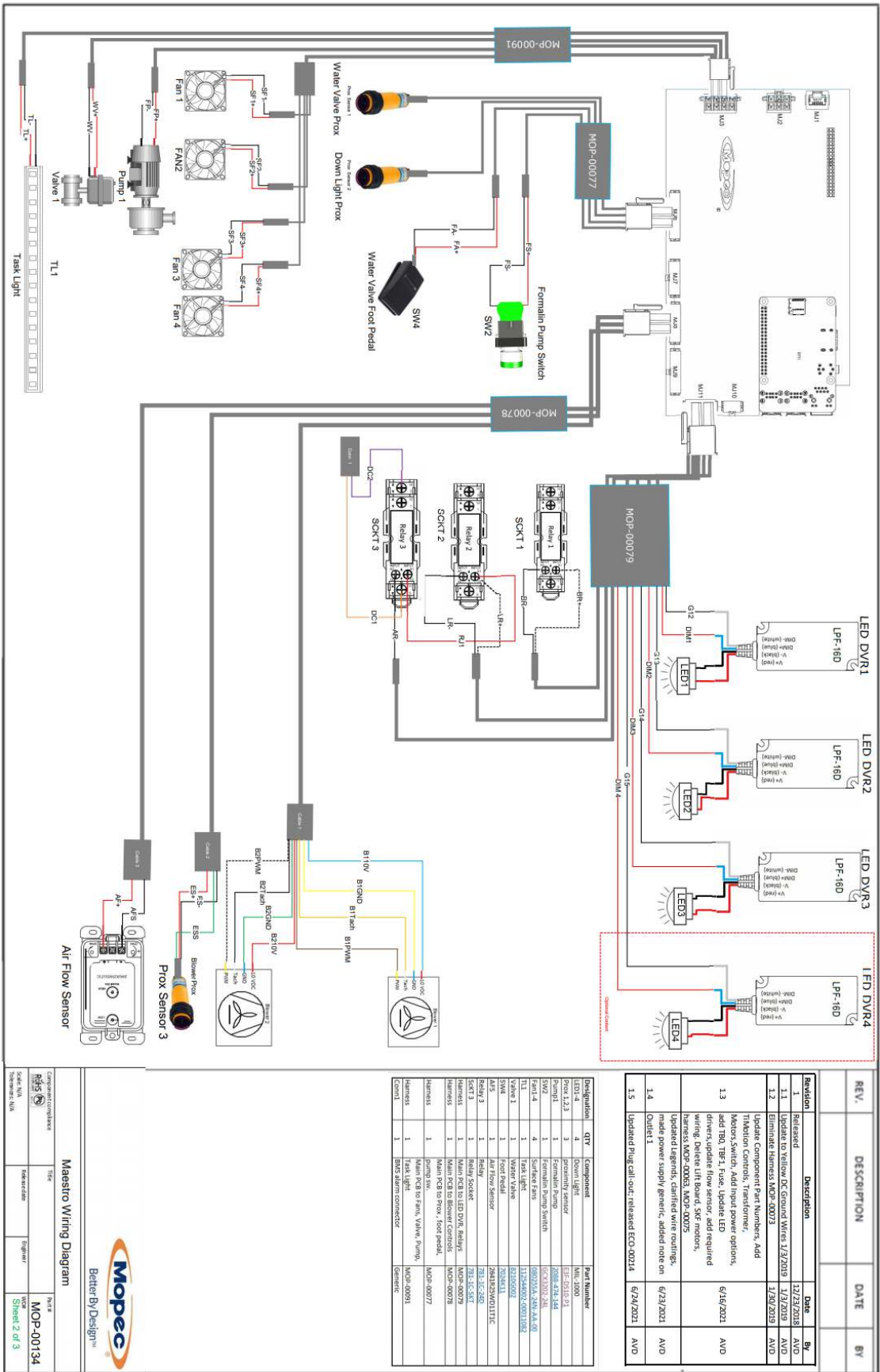
9 Documentation

9.1 Sample Rough in Drawing



9.2 Electrical diagrams

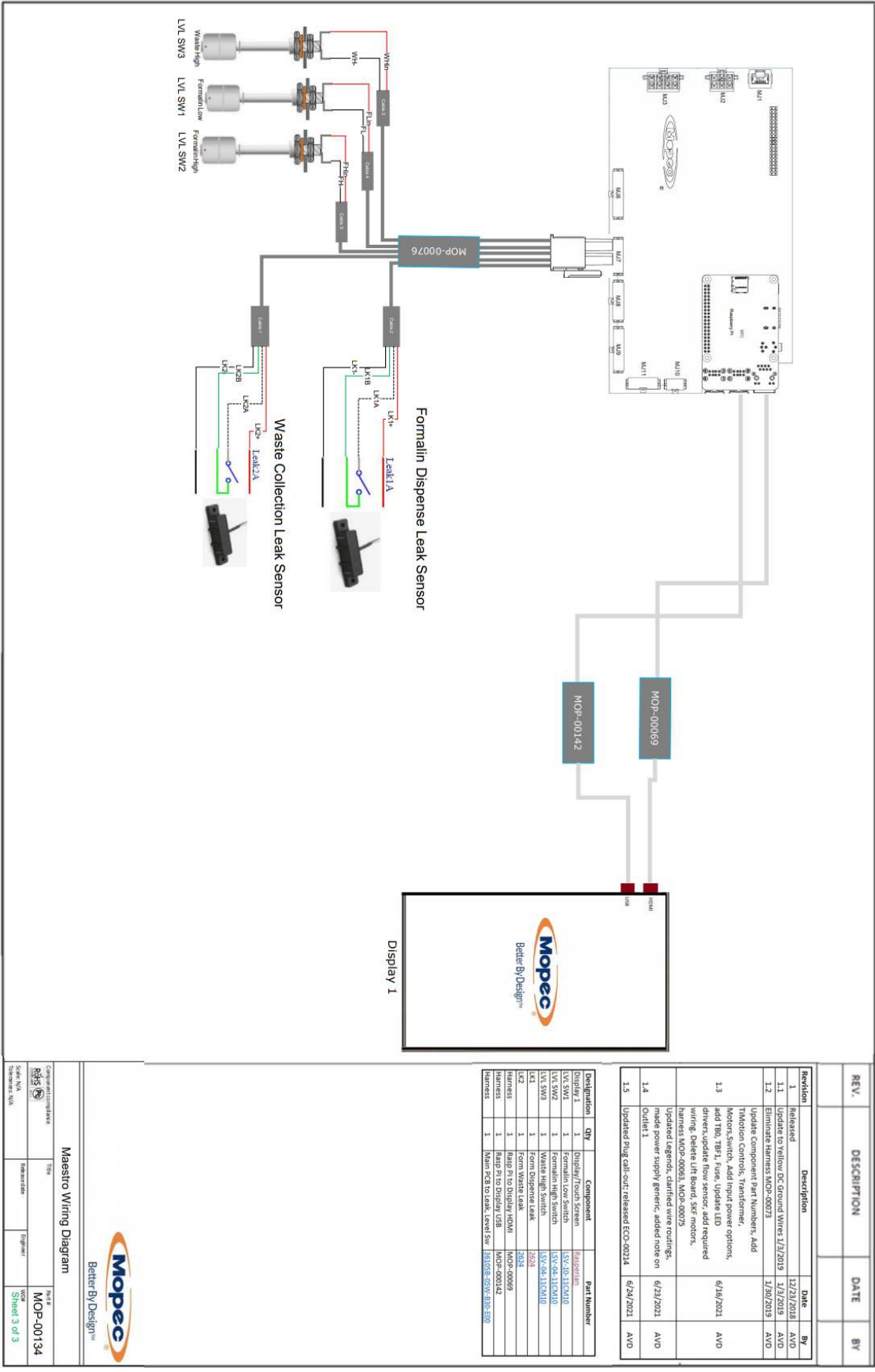




REV.	DESCRIPTION	DATE	BY
1.0	Released	10/29/2018	AVD
1.1	Updated to Yellow DC Ground Wire 1/24/2019	1/24/2019	AVD
1.2	Eliminate Harness MOP-00023	1/28/2019	AVD
1.3	Update Component Part Numbers. Add Throttle Controls, Transformer, Motor Switch. Add input power options, add TB0, TB-1. Fuse, Update LED drivers, update flow sensor, add required wiring, Delete Lift Board, SWF motors, Harness MOP-0003, MOP-0005	6/16/2021	AVD
1.4	Updated legends, clarified wire routings, made power supply generic, added note on Outlet 1	6/23/2021	AVD
1.5	Updated Plug call out, released ECO-02014	6/24/2021	AVD

Component/Company	Maestro Wiring Diagram	Part #
Logo	Manufacturer	MOP-00134
Scale: N/A	Designer	Sheet 2 of 3
Scale: N/A	Engineer	





REV.	DESCRIPTION	DATE	BY

Revision	Description	Date	By
1	Released	12/21/2018	AVD
1.1	Update to yellow DC Ground Wire 1/2/2019	1/2/2019	AVD
1.2	Eliminate Harness MOP-00073 Update Component Part Numbers, Add Throttle Controls, Transformer, Motor Switch, Add Input power options, add TB0, TB1, Fuse, Update LED drivers, update flow sensor, add required wiring, Delete Lift Board, SFC motors, harness MOP-00053, MOP-00075	1/29/2019	AVD
1.3	Updated legends, clarified wire routings, made power supply generic, added note on Outlet 1	6/29/2021	AVD
1.4	Updated Plug call-out, released FCC-00214	6/24/2021	AVD

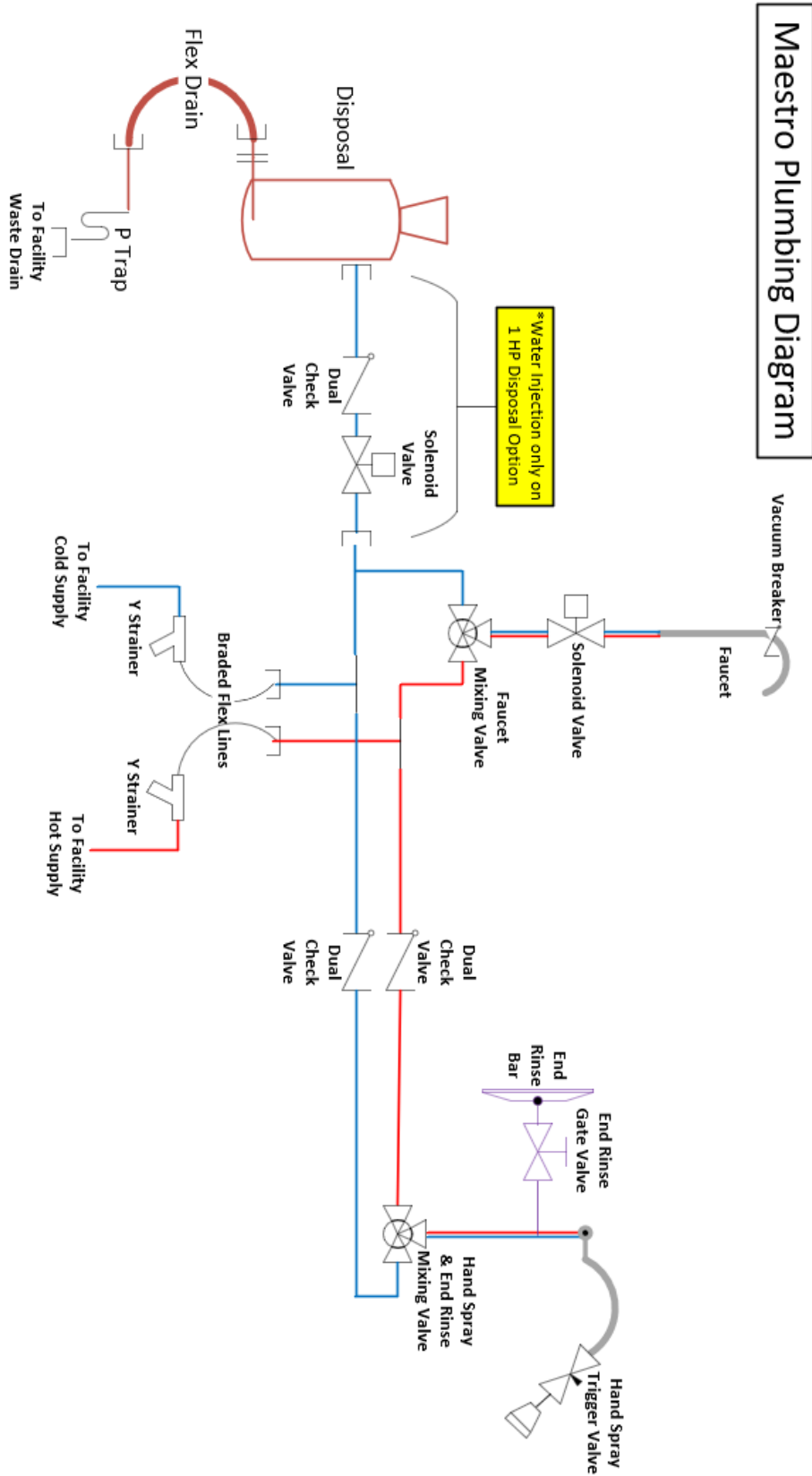
Designation	Qty	Component	Part Number
Display 1	1	Display/Flow Sensor	830V-01-ICOM10
LVL SW1	1	Formalin Low Switch	83V-04-11C0M10
LVL SW2	1	Formalin High Switch	83V-04-11C0M10
LVL SW3	1	Waste High Switch	83V-04-11C0M10
LK1	1	Form Dispense Leak	2024
LK2	1	Form Waste Leak	2024
Harness	1	Plug P1 to Display USB	MOP-00069
Harness	1	Plug P2 to Display USB	MOP-00042
Harness	1	Main PCB to Leak, Level Sw	83100P-SW-818x-500

Moppec
Better By Design™

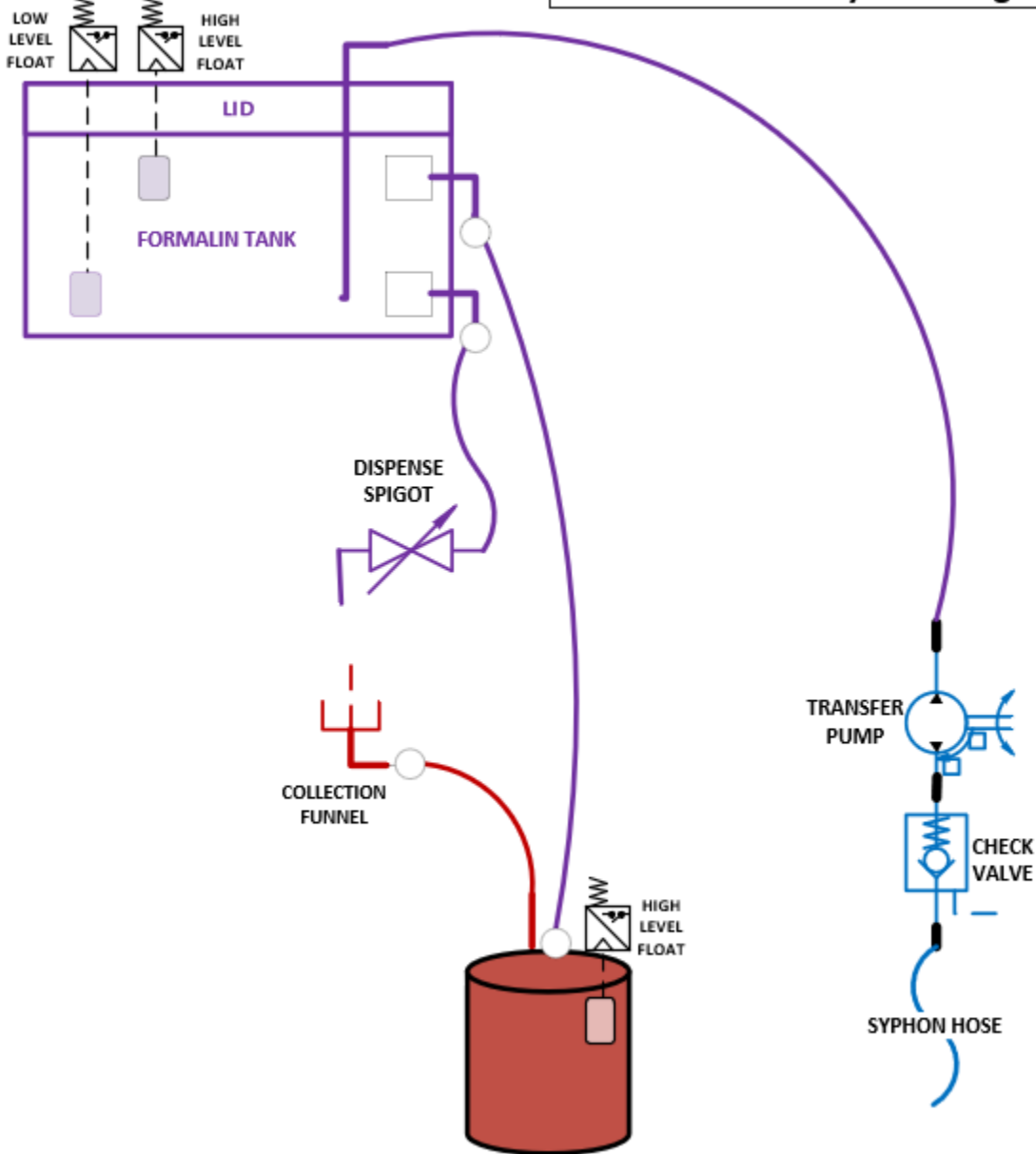
Maestro Wiring Diagram

Company/Location	Title	Rev #
8155 S Salem, VA, USA	Manufacturer	MOP-00134
8155 S Salem, VA, USA	Engineer	Sheet 3 of 3

9.3 Plumbing diagrams

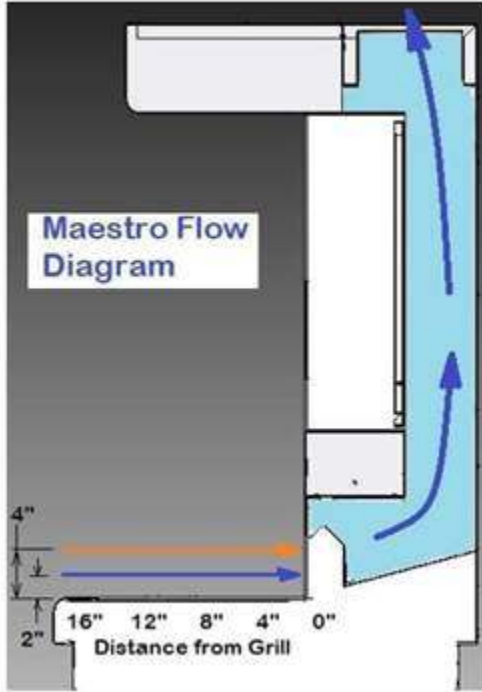


Maestro Formalin System Diagram



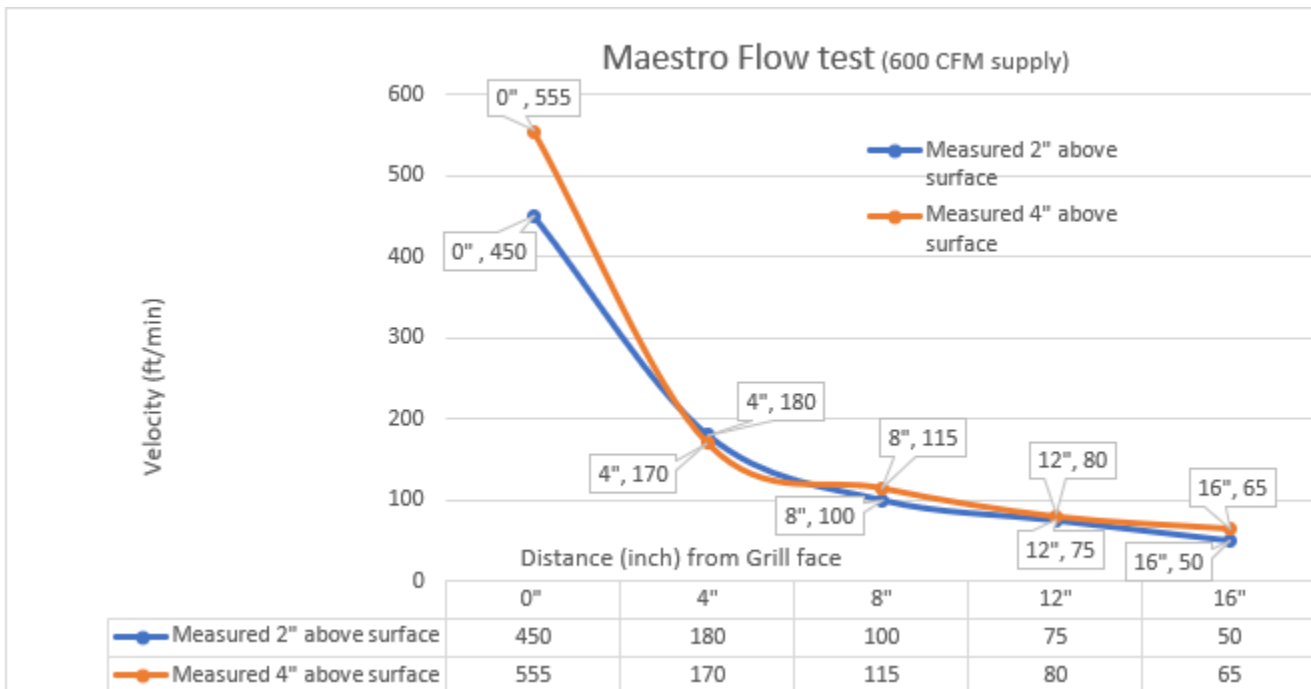
9.4 HVAC / Ventilation diagram

The following is a graphic representation of airflow on an in-house ventilated Maestro.



MAESTRO STANDARD PRODUCT DIMENSIONS					
W	48in	54in	60in	66in	72in

EXHAUST REQUIREMENTS: TOTAL CFM = 10 X W W= OVERALL WIDTH OF UNIT



10 Appendices

10.1 Spare Parts & Consumables

10.1.1 Spare Parts

General Part Description	Mopec #	OEM #	Use(s)
Casters, 3" Swivel Brake	PD0003	Colson 1-03056-441 W/BRK3	Formalin collection caddy, ventilated trash can
Leveling Foot	PL0041	McMaster 23015T66	Machine base
Screw 8-32 Truss ½" lg.	PB0039	McMaster 91770A194	various
Plumbing Part Description	Mopec #	OEM #	Use(s)
Collection Carboy	PM0141	US plastics #73003	Formalin collection
Collection Cap assembly	5850	n/a – custom to Mopec	Formalin collection
Collection tubing (¾" Vinyl)	PP0045	McMaster 5233K71	Formalin collection
Disposal ½ HP	PP1029	Moen GX50C	Garbage disposal
Disposal 1 HP	PP0944	Moen GX100C	Garbage disposal
Disposal Button assembly	PP1027	Moen AS-4201-CH	Garbage disposal
Disposal Air Switch controller	PP1028	Moen ARC-4200	Garbage disposal
Water Solenoid Assembly (3/8")	PP1023	Parker C11123P3	Foot pedal, 1 HP disposal, Hands Free
Air Switch	PE0374	Linemaster #41DH12	Foot pedal or garbage disposal
Funnel, SS small	PM0159	US plastics 85151	Formalin collection
Quick Disconnect (¾" tube)	PP0606	Colder 96400	Formalin collection
Dispense Spigot	PP1048	Perlick 650SS	Formalin dispensing
Flexible Drain Hose (1-1/2")	PP0614	Haviland PA00313-HSCS50	Disposal drain
Lever, Mixing Valve	PP0079	Delta 24T0003	Faucet & Hand spray mixing valve
Electrical Part Description	Mopec #	OEM #	Use(s)
Touch Screen	PE0741	Waveshare 11199	Display
Main PCB	PE0743	n/a – custom to Mopec	Machine control
SD Card, Programmed	PE0835	n/a- programmed	Software upgrades
Water Solenoid Coil (24vdc)	PP1021	Parker C111P9	Foot pedal, 1 HP disposal, Hands Free
Transfer Pump (24vdc)	PE0769	SHURflo 2088-474-144	Formalin dispensing

Pump Button, Green	PE0770	Automation Direct GCX3202-24L	Formalin dispensing
Float Sensor, 6.5" lg.	PE0285	n/a – custom to Mopec	Formalin Collection Sensor
Float Sensor, 18" lg.	PE0768	n/a – custom to Mopec	Formalin dispensing
Leak Sensor	PE0805	n/a – custom to Mopec	Formalin dispensing
LED Light fixture, 7"	PE0719	n/a – custom to Mopec	Lighting Hood
LED Driver	PE0591	TRC MeanWell LPF-16D-36	Lighting Hood
Airflow Sensor	PE0598	n/a – custom to Mopec	Ventilation Hood
Airflow Signal Controller	PE0597	Setra 2641R25WD11T1C	Ventilation Hood
Power Supply, 24VDC 480W	PE0745	Automation Direct PSB24-480	Ventilation Hood
Fan, FAS	PE0750	DigiKey 08025SA-24N-ET-00-ND	Ventilation Worksurface
GFCI Power Outlet, 20a	PE0510	Leviton 034-N7899-HGG	Power Hood

10.1.2 Consumables

Part Description	Mopec #	Use(s)
Filter, Potassium Permanganate	BF035	Recirculating Ventilation system (multiple required check unit)
Cleaning and Disinfecting Kit	BE125	Cleaning and disinfection of your Maestro
Formalin Adsorbent pad MEDIUM	BE094	Fume reduction pad
SaniPath Disinfecting Wipes	BE036	Disinfection wipes
SaniPath Disinfecting Spray	BE047	Disinfection spray cleaner
ClearSteel Stainless Spray	BE048	Stainless steel cleaner and polish spray
SaniPath Disinfectant Foam Spray	BE045	Disinfectant foaming spray
ClearSteel Stainless Wipes	BE039	Stainless steel cleaner and polishing wipes

11 GLOSSARY

Term	Meaning
Maestro	Trademarked name of Mopec's flagship grossing workstation
FAS	Acronym for the Patented technology, Front Air System , where an extra burst of air is blown across the front of the worksurface to help protect the user from dangerous outgassed fumes of the tissue sample they are dissecting
Grossing	Gross examination process by which pathology specimens are inspected with the bare eye to obtain diagnostic information while being processed for further microscopic examination.
Pathology	the science of the causes and effects of diseases, especially the branch of medicine that deals with the laboratory examination of samples of body tissue for diagnostic or forensic purposes
Decal	Refers to decalcification agents used as a technique for removing minerals from bone or other calcified tissue. Typically strong acids, weak acids or ethylenediaminetetracetic acids(EDTA).
Garborator	Alternate term for Garbage Disposal
GFCI	Acronym for Ground Fault Circuit Interrupt. Safety device that senses the slightest amount of current across the hot input side and the neutral side of the output on a power outlet in an effort to protect a user from electrical shock.
VOC	Acronym for Volatile Organic Compounds, an organic chemical compounds that evaporate easily at room temperature.
Cubitainer	A semirigid cubical plastic container typically used within a cardboard box. Commonly used to store Formalin.