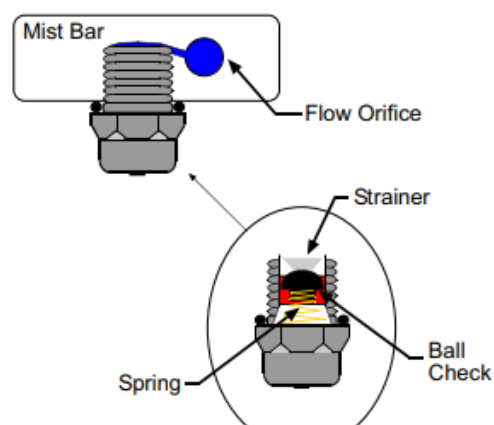


# 9124596

## Service manual Misting system

### Aviga Plus-DC



#### - NOTICE -

This service manual is prepared to be used by trained Service Technicians and should not be used by those not properly qualified. If you have attended a training for this product, you may be qualified to perform all repair procedures, replacements and adjustments described in this service manual.

The information presented in this document is only valid for standard hot and cold modular convenience counters, configurations and is not intended to be all encompassing. The individual specifications may differ.

Procedures for which you do not have the necessary tools, instruments or skills should not be performed by you.

Technical data and specifications mentioned in this manual are subject to amendment without prior notice.

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is prohibited.**

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## 1. Introduction

### 1.1 General

This manual is intended for trained technicians, performing repairs on the Misting system used in the Custom Counter.

The features and controls are being described, along with directions for the safest and most efficient way to service these units.

All pictograms, symbols and drawings in this manual apply to all available models.

### 1.2 Identification of the unit

The identification plate can be found on the outside of the machine, and contains the following data:

- Name of the supplier or the manufacturer
- Model
- Serial number
- Year of construction
- Voltage
- Frequency
- Power consumption

## 1. Introduction

### 1.3 Pictograms and symbols

In this manual, the following pictograms and symbols are used:



#### **WARNING**

Possible physical injury or serious damage to the unit, if the instructions are not carefully followed.



#### **WARNING**

Risk of Fire.



#### **WARNING**

Hazardous electrical voltage.



#### **WARNING**

Danger of getting injured by hot surfaces.



#### **SAFETY**

Wear safety gloves for installation and dismantling.



#### **SAFETY**

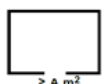
Wear eye protection when working on the refrigeration system.



Suggestions and recommendations to simplify indicated actions.



Recycling symbol.



Minimum room floor area.

## 2. Installation

### 2.1 Water Supply

Connect the water supply. After placement of the unit, cut a section of green 1/4" tube. Insert one end of tubing into the QC valve fitting and the other end into the system market "INLET" (Green). Make sure the tubing is inserted all the way into the QC collets to lock the tubing and to avoid leaks.



**Important:**

When cutting tubing, make sure the cut is straight to ensure a proper seal. A tube cutter is recommended.

### 2.2 Drain Hookup

Connect a red 3/8" drain tube to the port market "DRAIN" (Red). Run the other end to the drain supply. If draining into a floor sink drain, a 5" air gap is required. Secure drain lines to existing PVC drain pipes or case frame using 12" nylon ties, and/or black electrical tape. Make sure tubing is protected from sharp edges and there are no kinks in the lines.

**Note:**

The air gap is required for sanitation reasons when draining into a floor sink drain.

### 2.3 Mist Bar Feed Line (Canopy Case)

For top canopy installs, insert black 1/2" tube into the port marked "MIST" (black), then run the tube up behind or on top of the case to the center of the mist bar run. Secure the tubing at least 1" from the front of the canopy using the 6" black nylon ties and self drilling screws.

Attach a 1/2" QC tee branch side, to the tubing. Insert a 1/2" stem X 3/8" tube QC tube reducer into both sides of the tee. Insert 3/8" feed line tubing into each reducer and run tubing the full length of the mist bar run. Secure feed lines with 6" black nylon ties. Refer to mist bar installation guide for installing mist bar.

After the mist bar installed, cut the 3/8" mist bar feed line and attach a 3/8" tee in the line with every port on the mist bar. Then insert a QC 3/8" stem X 1/4" tube reducer into each tee. Connect each feed port on mist bar with 1/4" feed line to each tee reducer. Secure lines avoiding kinks.

## 2. Installation

### 2.4 Mist Bar Feed Line (Multi-Deck, Island Cases)

In the center of the misted run, remove the lower case panel, display rack(s), and drip pan(s). Drill (See warning below) a 1/2" hole through the case drain trough.

Try not to drill in the lowest spot of the trough because of potential standing water. Feed the 1/2" tube down trough the hole and connect it to the "MIST" port.

Run the other end of tube up to the center (multideks) of the mist run or to the top of the case back (island case). Check for kinks in the line.

Secure feed line to case using 6" black nylon ties and self drilling screws. Attache a 1/2" QC tee branch side, to the tubing. Insert a 1/2" stem X 3/8" tube QC reducer into both sides of the tee. Using 3/8" tube, connect the required amount of tubing to reach both ends of case that will be misted. Secure the lines with the 6" black nylon ties.

After the mist bar is installed (refer to mist bar installation guide) cut the 3/8" mist bar feed line and attache a 3/8" tee in line with every feed port on the mist bar.

Then insert a QC 3/8" stem X 1/4" tube reducer into each tee.

Connect each feed port on the mist bar with the 1/4" feed line to each tee reducer.

Secure lines, avoiding kinks. Seal tubing through case with Silicone.

Replace drip pan. Notch drip pan for tube if necessary, using a hacksaw or thin shears.

Attach a 1/2" QC tee branch side, to the tubing. Insert a 1/2" stem X 3/8" tube QC reducer into both sides of the tee. Insert 3/8" feed line tubing into each reducer and run tubing the full lenght of the mist bar run. Secure feed lines with 6" black nylon ties. Refer to mist bar installation guide for installing mist bar.

After the mist bar is installed (refer to mist bar installation guide) cut the 3/8" mist bar feed line and attache a 3/8" tee in line with every feed port on the mist bar.

Then insert a QC 3/8" stem X 1/4" tube reducer into each tee.

Connect each feed port on the mist bar with the 1/4" feed line to each tee reducer.

Secure lines, avoiding kinks. Seal tubing through case with Silicone.

## 2. Installation



### Warning

Before drilling into the case, make sure the electrical wires and refrigeration pipes are clear to avoid costly repairs.

### 2.5 Power Supply



Connect the low voltage power supply adapter from transformer in the female connector. Check the transformer input voltage tag located on the top of the transformer to make sure the appropriate step-down transformer matches the proper voltage supplied. Next plug the transformer power cord into the power supply receptacle (100V, 120V, or 230V 50/60 Hz).



### Warning:

The unit is operating under 24V DC, therefore only the dedicated transformer should be used.

### Note

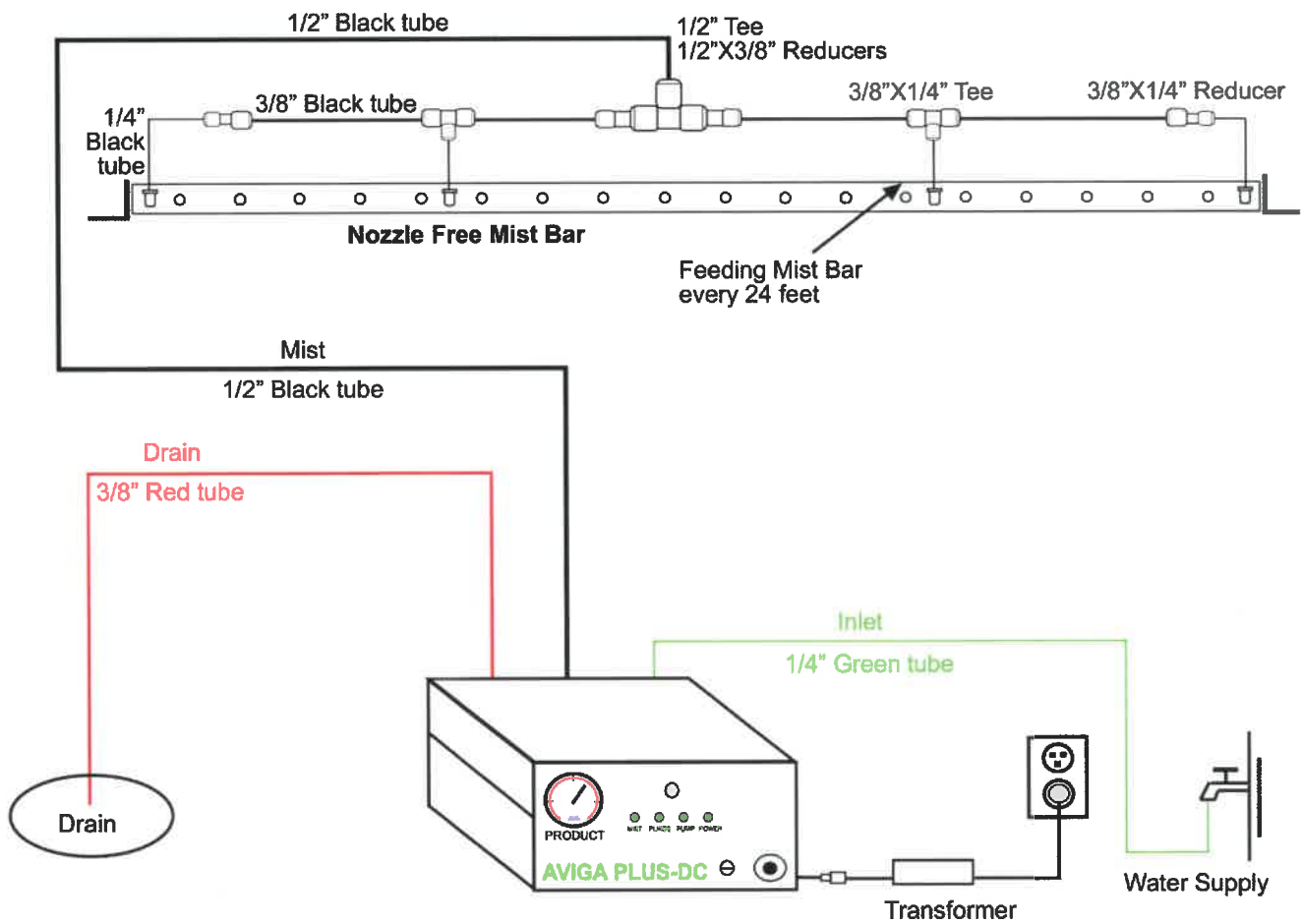
When system is turned on for the first time it might take about 20 - 40 minutes to charge the system.  
(In some cases if the system is too far from the mist bar, could take more than one hour).

We can reduce the charging time by increasing the OFF time to its clockwise highest position (25 minutes) and setting the mist time from the module to the maximum (15-20 minutes)



Do not forget the rest these settings!





## 3. Maintenance

### 3.1 Maintenance Requirments

During a visit for any reason, the following should be checked.

1. Mist times are set to achieve full coverage of produce.
2. Inlet steamer in picture number 1 (exploded view) is removed and cleaned.

**Note:**

First inlet water supply must be turened off.

3. All mist tips are functioning properly, if not replace them.
4. Tank pump gauge is operating approximately between 6,5 to 8,6 Bar (95 to 125 psi).
5. Red purge line does not have continuous water running (Some, briefly after mist cycle).
6. System is reviewed for any leaks.



**Note:**

Mist times are to be short cycles, typically on 1 or 2 seconds and off for only one or two minutes for best hydration.

## 4. Trouble Shooting

Problem	Solution
<p>Some tips are dripping after mist cycle.</p> <p>Most of the tips are dripping after mist</p>	<p>Replace tips with new ones. Bad ball checks.</p> <p>This suggests purge valve is not opening or a line restriction exist. Verify that no tubing is kinked between the system and the bar, along with no kinks in the red tubing.</p> <p>Check red Drain/Purge line to verify water is dumping to release pressure in the mist bar after each mist cycle.</p> <p>Adjust the purge valve ON time to at least 2 seconds to see if the issue is resolved.</p> <p>Check to see if valve is getting an electric pulse after mist cycle. If not check wiring connections or replace timing module. If electric 24V pulse exists then purge valve will need to be replaced.</p> <p>If water is existing in the red line after each mist then a line restriction must exist. This will sometimes cause a slow on for mist as well.</p> <p>This could be caused by feed ports on mist bar being overtightened. They are supposed to be loose without leaking.</p> <p>About two full turns is all. If not search for a pinched line going to the mist bar, or possible the purge valve is not open fully.</p>

## 5. Trouble Shooting

Problem	Solution
Solenoid Valve is buzzing or skipping mist cycles .	In this case the solenoid valve need to be replaced. First check to see if the valve is recieving approximately 24V signal from timer, if not, timer should be replaced.
Timing for mist times is inconsistent.	Replace timing module. In rare cases it may require the replacement of the dial pot for OFF time.
Pump never turns off.	<p>If product pressure (tank pump pressure) gauge rises substaintially above 10 Bar (145 psi), replace high pressure switch.</p> <p>If pumps never reach normal operation pressure 7,5 - 9,5 Bar (110-140psi) and inlet water water exists then replace the faulty pump(s)</p>
Pumps never turn on.	<p>Check fuse, high pressure switch, transformer, or replace the faulty pump. (Check electrical outlet power).</p> <p>Check manual reset pressur switch. It will pop up and turn off the pumps when pressure in the unit will rise above 10 Bar (145 psi). This may happen when the main pressure switch fails. In this case the high pressure switch has to be replaced and the manual reset pressure switch needs to be reset by pressing the red knob on the bottom of the prssure switch. The manual reset pressure switch can be reset only when the pressure in the unit is below 7 bar (100psi)</p>
Mist for split second and begins dripping or only drips.	<p>Watch tank pump gauge during mist. If it drops near 0 bar (0 psi), then pressure tank has lost air pressure. All water will need to be drained from the tank and refilled with air to 4,5 bar (65 psi). If the air pressure is not holding, replace the tank.</p>

## 6 Technical Specifications

<b>Model</b>	Aviga Plus-DC
Maximum length for mist on	124meter (72 feet)

<b>Location requirements</b>	
Electrical source	100 / 115 / 230 V AC, 50-60 Hz
Water Supply	½" FPT Adapter with Shutoff Valve
Inlet Pressure	30 psi (2bar) minimum
Drain	Floor Drain or ½" Drain pipe

<b>Specifications</b>	
Height	15 cm (5,75 inch)
Width	32,5 cm (12,75 inch)
Depth	31 cm (12,25 inch)
Weight	14,5 kg (32 lbs.)
Operating voltage	24 V DC
Unit power consumption	120V, 4A / 480W 230V, 2A / 460W
Pressure tank	1,5 Ltr. (20,4 gallon)
Pumps	Diaphragm

<b>Solenoid valve</b>	
Mist	Plastic ¼" FPT
Purge	Plastic ¼" FPT

<b>Tubing</b>	
	Color coded
	Polyethylene
	High pressure rated

<b>Mist Bar</b>	
Materials	PVC – UV Stabilized
Dimensions	1,27 H x 2,54 W cm (0,5 H x 1 W inch)
Bar flow Orifice	Approx. 0,156 cm (5/32")

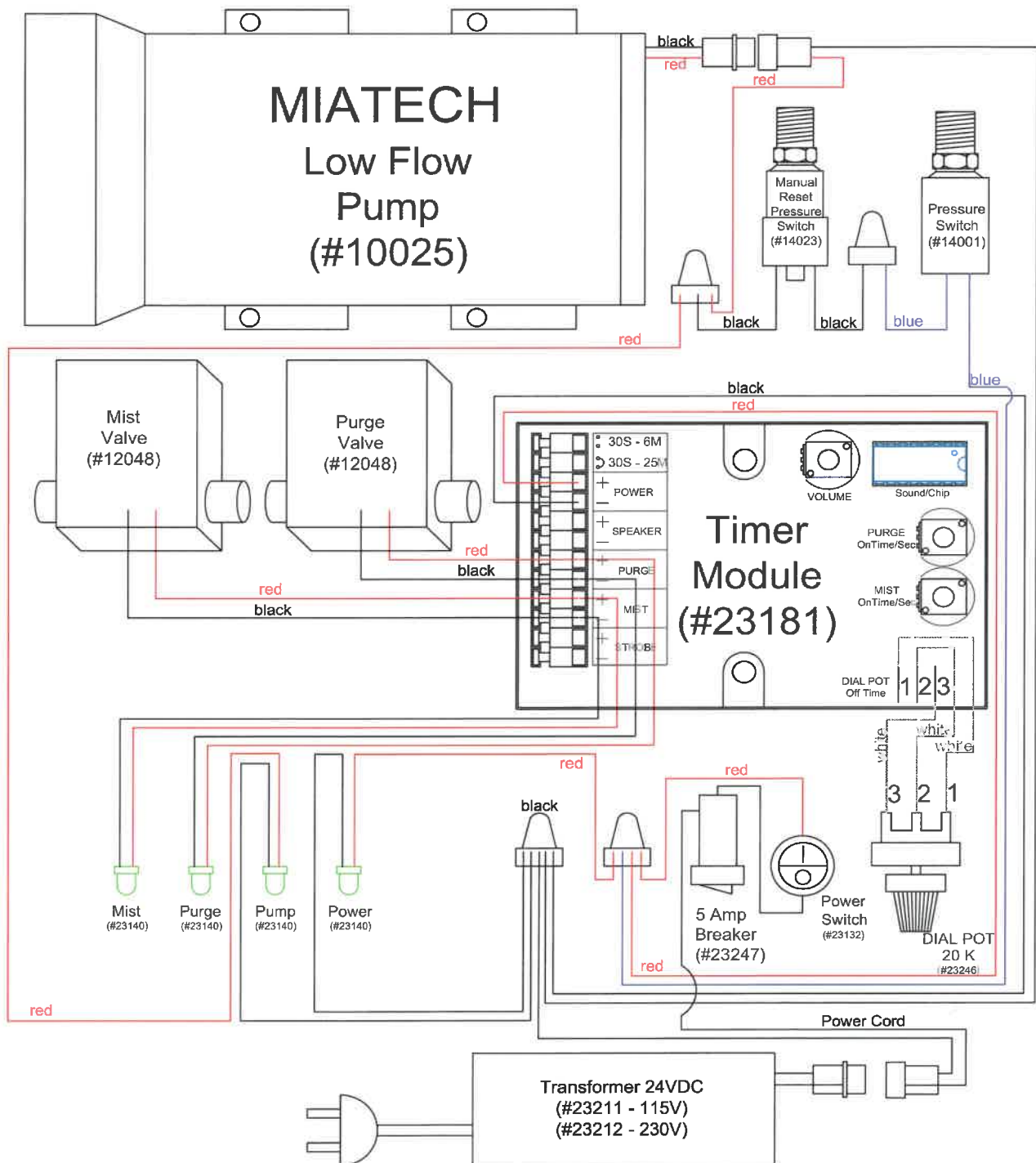
<b>Mist Tips Materials</b>	
Tip	Polyacetal Plastic
Check Valve	Rubber
Spring	Stainless steel
Valve seat	Nylon Plastic
O-Rings	Rubber
Header tube	Polypropylene

## 7. Exploded view



1. Inlet Stainer.
2. 24 V DC Transformer 2A (115V or 230V)
3. High Pressure Switch
4. 1,5 Ltr (0.4 gallon) Pressure tank
5. Purge Valve
6. Low Flow Pump
7. Mist Valve
8. Power Switch
9. Dial Pot 20K
10. Timer Module
11. Green Led Panel mount
12. 5 Amp. reset Breaker
13. Product gauge
14. Manual reset pressure switch

## 8. Electrical schematic





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