MAGUIRE PRODUCTS INC.

MLS Clear Vu®

Model MLS Clear Vu®

Eight Component Vacuum Loading System

INSTALLATION • OPERATION • MAINTENANCE

CE

Maguire MLS Clear Vu®

Copyright

To every person concerned with use and maintenance of the Maguire MLS Clear Vu® it is recommended to read thoroughly these operating instructions. Maguire Products Inc. accepts no responsibility or liability for damage or malfunction of the equipment arising from non-observance of these operating instructions.

To avoid errors and to ensure trouble-free operation, it is essential that these operating instructions are read and understood by all personnel who are to use the equipment.

Should you have problems or difficulties with the equipment, please contact Maguire Products Inc. or your local Maguire distributor.

These operating instructions only apply to the equipment described within this manual.

Manufacturer's Contact Information

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Accuracy of this Manual

We make every effort to keep this manual as correct and current as possible. However, technology and product changes may occur more rapidly then the reprinting of this manual. Generally, modifications made to the dryer design or to the operation of the software are may not reflected in the manual for several months. The date at the footer of this manual will indicate approximately how current this manual is. Likewise, your Maguire Loading System may have been produced at an earlier time and the information in this manual may not accurately describe your system since this manual is written for the current line of Maguire Loading System in production (as of the date in the footer). We always reserve the right to make these changes without notice, and we do not guarantee the manual to be entirely accurate. If you question any information in this manual, or find errors, please let us know so that we may make the required corrections or provide you with accurate information. Additionally we will gladly provide you with an updated copy of any manuals you need at any time. We welcome comments and suggestions on ways we can improve this manual.

For additional information, or to download the latest copy of this manual or any other Maguire manual, please visit our website or contact us directly.

On the Web at: www.Maguire.com

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1 - Getting Started

Warranty – Exclusive 5-Year

MAGUIRE PRODUCTS offers **THE MOST COMPREHENSIVE WARRANTY** in the plastics auxiliary equipment industry. We warrant each MAGUIRE Loading System manufactured by us to be free from defects in material and workmanship under normal use and service; excluding only those items listed below as 'excluded items'; our obligation under this warranty being limited to making good at our factory any Dryer which shall, within FIVE (5) YEARS after delivery to the original purchaser, be RETURNED intact to us, transportation charges PREPAID, and which our examination shall disclose to our satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on our part, and MAGUIRE PRODUCTS neither assumes nor authorizes any other persons to assume for it any other liability in connection with the sale of its Dryers.

This warranty shall not apply to equipment repaired or altered outside MAGUIRE PRODUCTS INC. factory, unless such repair or alteration was, in our judgment, not responsible for the failure; nor which has been subject to misuse, negligence or accident, incorrect wiring by others, or installation or use not in accord with instructions furnished by Maguire Products, Inc.

Our liability under this warranty will extend only to equipment that is returned to our factory in Aston, Pennsylvania, PREPAID.

Please note that we always strive to satisfy our customers in whatever manner is deemed most expedient to overcome any problems they may have in connection with our equipment.

Disclaimer

Processing conditions and materials vary widely from customer to customer and from product to product. Please be aware that it is IMPOSSIBLE for us to anticipate ALL conditions and requirements, or to be certain that our equipment will perform properly in all instances. You, the customer, must observe and verify the performance level of our equipment in your plant as part of your overall manufacturing process. You must verify to your own satisfaction that this level of performance meets your requirements. We CAN NOT be responsible for losses due to equipment not performing properly, even when due to equipment malfunction or design incorrect for your requirements; and/or for any consequential losses due to our equipment not meeting your requirements.

We will only be responsible to correct, repair, replace, or accept return for full refund if our equipment fails for any reason, or we have inadvertently misrepresented our equipment for your application.

GETTING STARTED:
PROCEED TO: SAFETY WARNINGS NEXT PAGE

SAFETY WARNINGS

Pinching Hazard:

Air operated slide gates on the bottom of each receiver are the only items that raise a safety concern. The air cylinders exert a force of about 70 pounds on closing. DO NOT reach into this area when cleaning the receiver, or from below when cleaning the hopper. DO NOT use your hands to clear obstructions.

GETTING STARTED: PROCEED TO: INSTALLATION - NEXT PAGE

2 – Operation

Installation

YOUR SYSTEM consists of:

- One **FILTER/POWER STATION**, with central filter bag; dust collection container; vacuum blower/motor; 1, 2.5, or 5 HP, all on wheels for portability.
- One **EIGHT STATION CONTROLLER**, to be placed on top of the power station, with outputs to each receiver and the power unit, alarms, and an on/off switch and status light for each station.
- Up to eight **RECEIVERS**, filterless, 10 pound capacity, clear, with level sensor and vacuum sequencing valve built in.

If your application is "beside the press" using a "pick-up" lance, the following kit is provided for each receiver.

1 Lance with two 2" hose clamps in box.
12' flexible material hose, 1.5" ID

Each CUSTOMER must supply, or purchase separately:

Vacuum and material line using 1.5", 2", or 2.5" tubing, (steel, aluminum, or PVC), and tees and elbows as required.

1. **RECEIVERS:**

   Mount receivers over the hopper compartments you wish to load.

   Receivers are sized to fit over round openings as large as 10 inches in diameter. Larger openings require adaptor plates. Openings smaller then 8" diameter must be enlarged using the drawings provided on the next page.

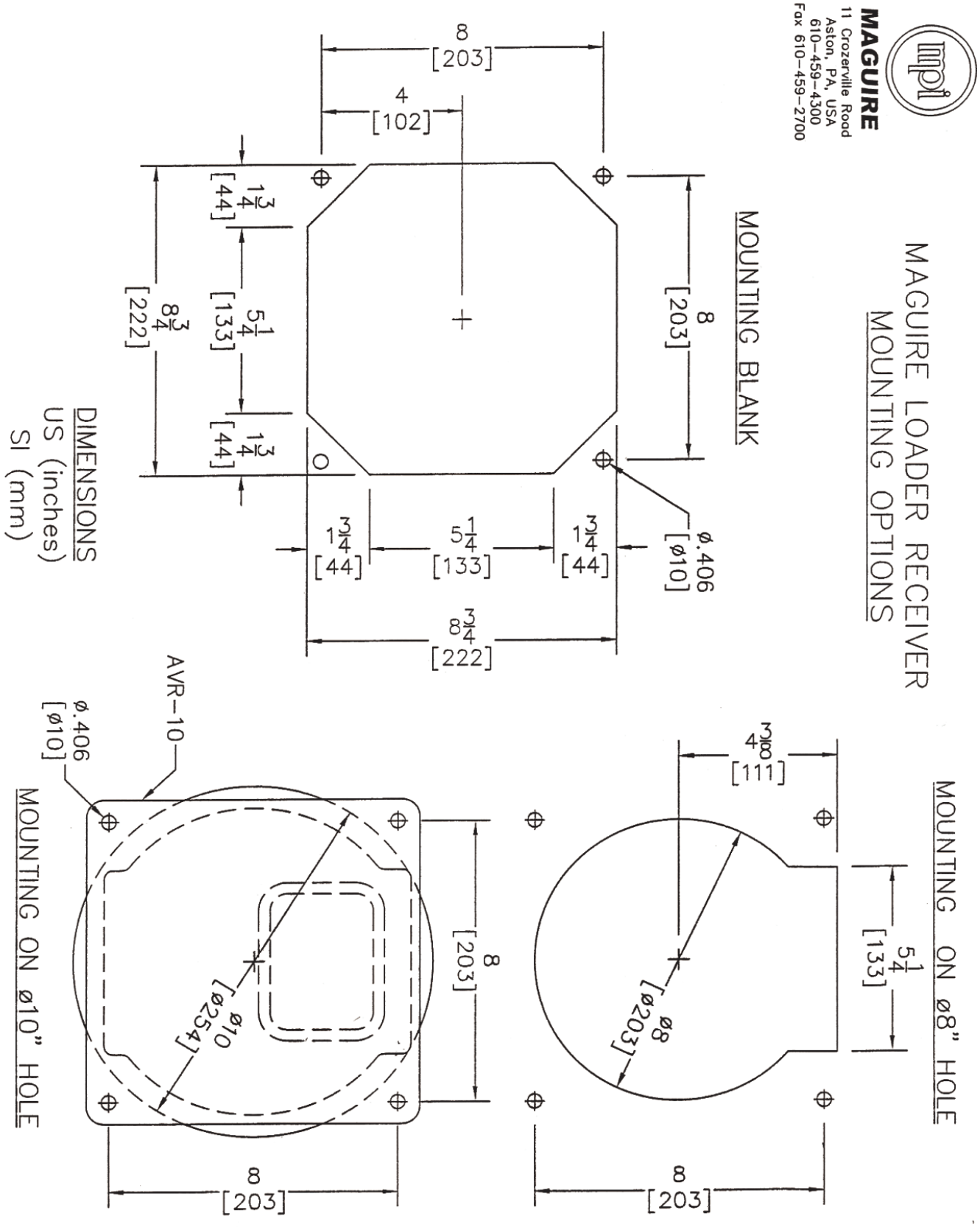
   The 8" x 8" square bolt pattern allows you to select 4 orientations for the receiver.

   Select an orientation so the VACUUM line is located best for your installation. The material inlet line swivels 180 degrees

2. **LEVEL SENSOR:**

   The LEVEL SENSOR is mounted into the base of the receiver. It is placed directly under the flow of material. If you select another location, be sure that it is not uncovered before material is completely empty from the receiver.

   The sensor LED is ON when COVERED, OFF when UNCOVERED. See ADJUSTMENTS, page 13, if you suspect it needs adjustment.


MAGUIRE
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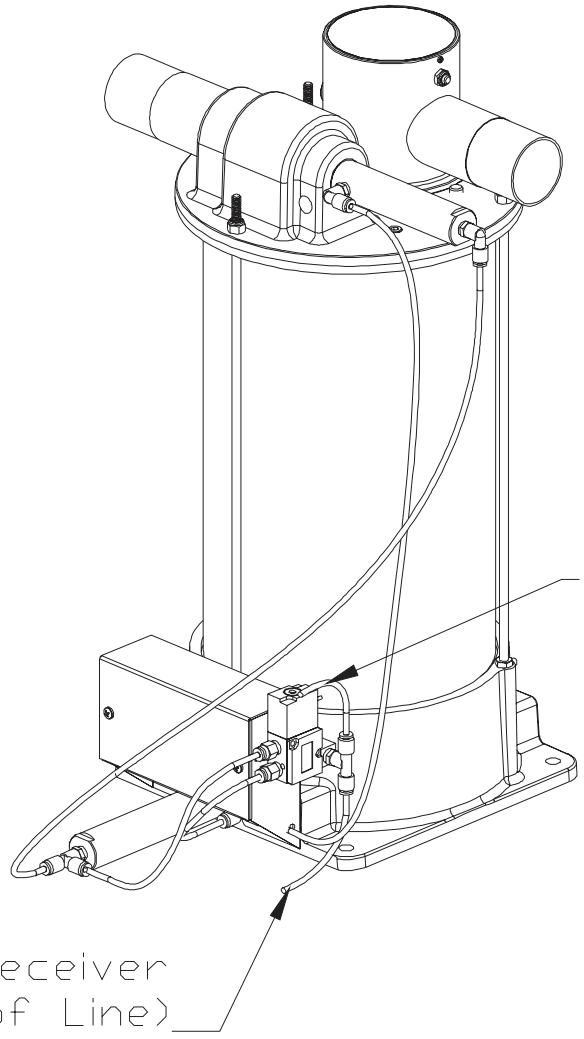
MAGUIRE LOADER RECEIVER
MOUNTING OPTIONS
MOUNTING BLANK
DIMENSIONS
US (inches)
SI (mm)
8 [203]
4 [102]
1 3/4 [44]
5 1/4 [133]
8 3/4 [222]
ø.406 [ø10]
MOUNTING ON ø8" HOLE
4 3/8 [111]
ø8 [ø203]
MOUNTING ON ø10" HOLE
AVR-10
ø10 [ø254]

AVR
Plumbing Diagram

Upper Solenoid Port [A]
connects to:
—End of Bottom Air Cylinder
—Nose of Upper Air Cylinder

Lower Solenoid Port [B]
connects to:
—Nose of Bottom Air Cylinder
—End of Upper Air Cylinder

Solenoid Air Intake uses a Tee Fitting in order to daisy chain the receivers.
The last receiver requires a plug.



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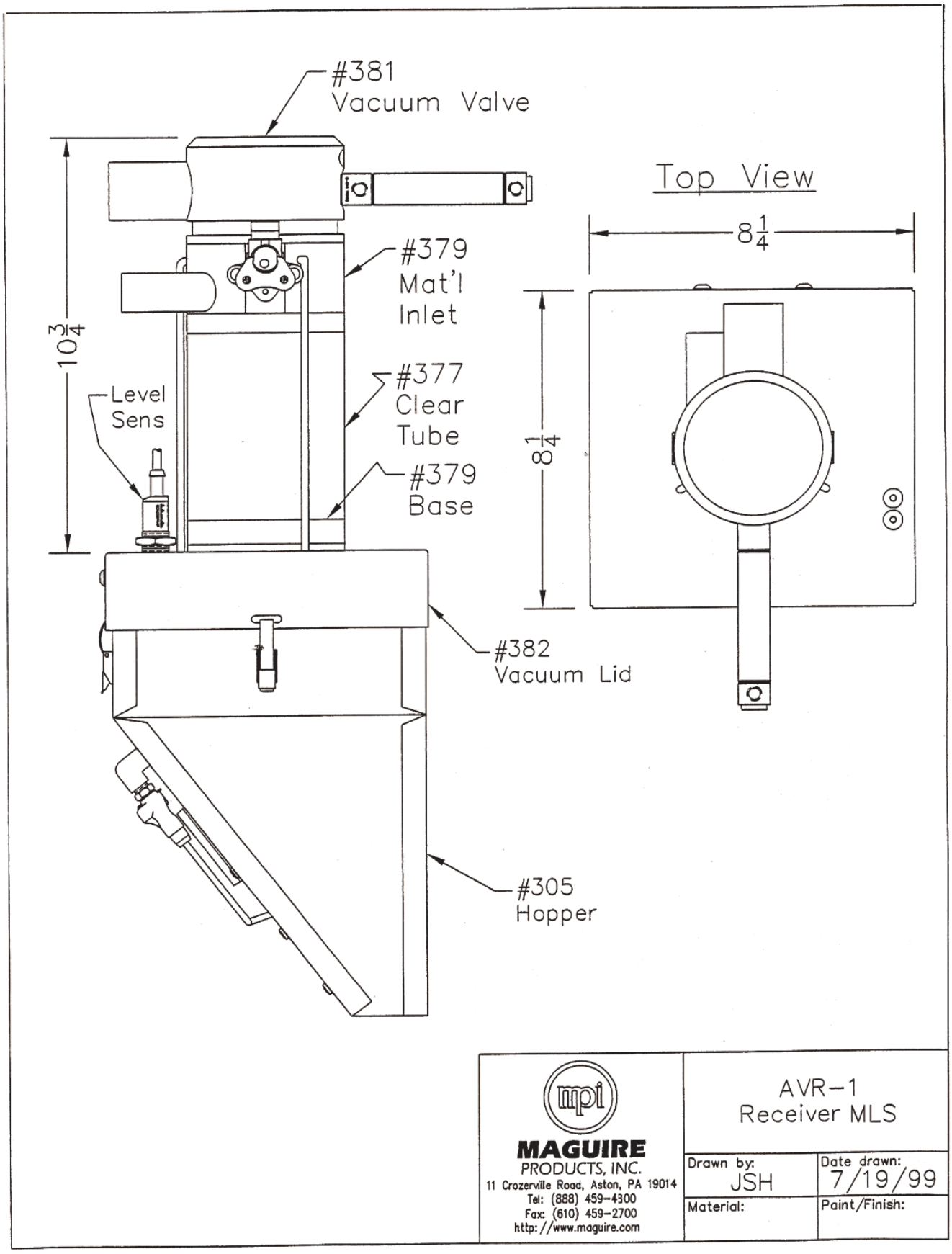
#381
Vacuum Valve
Top View
8 1/4
#379
Mat'l
Inlet
#377
Clear
Tube
#379
Base
10 3/4
Level
Sens
8 1/4
#382
Vacuum Lid
#305
Hopper
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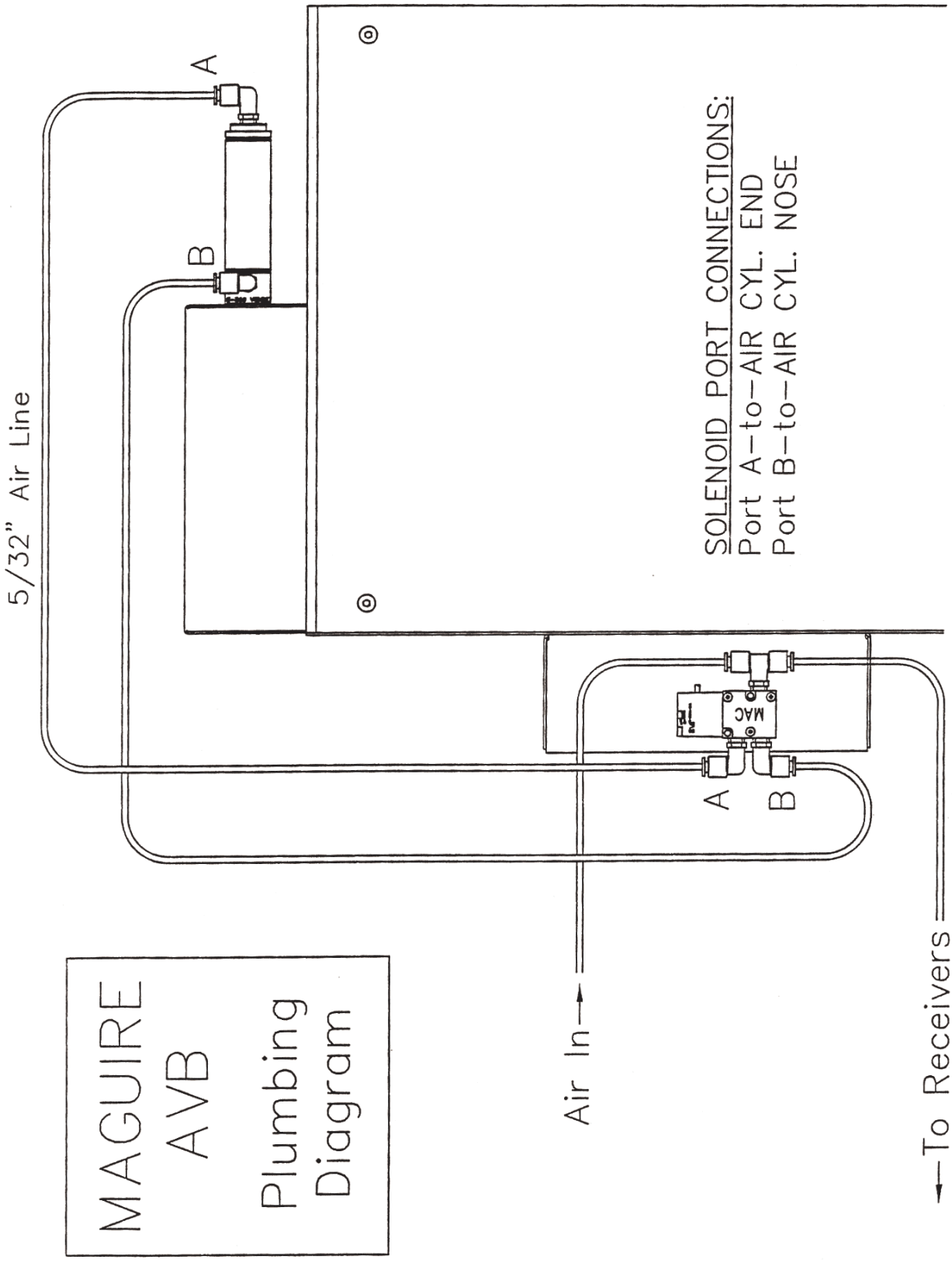
http://www.maguire.com
AVR-1
Receiver MLS
Drawn by:
JSH
Date drawn:
7/19/99
Material:
Paint/Finish:


MAGUIRE
AVB
Plumbing
Diagram
5/32" Air Line
A
B
SOLENOID PORT CONNECTIONS:
Port A–to–AIR CYL. END
Port B–to–AIR CYL. NOSE
A
B
Air In
To Receivers

3. VACUUM/POWER STATION:

Position power station for easy access to the filter compartment and controller.

Consider the following:

a. 1 HP units:
1 HP units require a STRONG 120 volt power source. DO NOT use an extension cord, unless it is 12 gauge or better. Be sure the outlet is rated for 20 amps minimum.

On startup, the blower requires a surge of over 40 amps and should be able to pull this high current to start properly. If supply wire size is not adequate, the blower will be unable to pull full startup amperage. The higher the initial amp draw, the faster the motor reaches full speed and, subsequently, the cooler it runs.

If the blower does not come up to full speed within 6 seconds power supply is not as strong as it should be.

Slow starting may be OK, depending on the duty cycle of the blower. 120 volt single phase blower motors have automatic overheat protection and will stop operating if they become too hot due to an inadequate power supply. If you experience this problem, read SETUP OPTIONS, Routine 5.

b. 2.5 and 5 HP units:
These units require 3 phase current (230 or 460) volts) with lower amp requirements. Typically 3 phase motors reach full speed in a fraction of a second.

Unless you specified otherwise, we have wired and tested these units for 460 volt, 3 ph. If you rewire them for 230 volts, you will have to change the overload protection heaters in the motor starter for higher amp draw.

4. CONTROLLER:

Place the controller in the tray provided on top of the Filter/Power station. Secure the controller with the screw provided in the back of the tray. Hand tighten only.

Plug the CONTROLLER into the 120 volt outlet on the back of the Filter/Power station.

NOTE

If you are controlling more then 8 stations, you have more then one controller. Place all controllers near each other, side by side, MASTER controller on the LEFT. All others are SLAVE controllers. Connect them together using the special cable we have provided, which should be marked for correct connection. Normal sequencing will begin on the Left, with the Master, then sequence Right, to the slave(s). Addresses must be set correctly, 78 for Master, 178 for the first slave, 278 for the next. We should have done this already. If you are uncertain, see SETUP ROUTINES, #2 for instruction.

5. SIGNAL/CONTROL LINES - 24 VOLT:

a. Each receiver has a 30 foot signal/control cable. These plug into the back of the controller. Receivers can be plugged into any one of the eight station "ports". Connect receivers in a number sequence that makes sense for your installation.


NOTE

24 volt extension cables are available if required to reach the controller. Connectors have 7 pins. Earlier units had 4 pins. If your plugs don't match the receptacles, call us.

a. A short cable comes from the junction box on the back of the Vacuum Power Station. Plug this into the right side of the controller.


NOTE

If you are controlling more then 8 stations, you have an additional controller. Plug the Vacuum Power Station cable in the MASTER controller.

6. AIR SUPPLY:

The receivers and the power station both require air pressure to operate. When mounted on a Weigh Scale Blender, receivers can get their air supply from the extra "pressure gauge" port on the blender's air pressure regulator.

Each receiver has a tee connector to allow chaining the air supply to another receiver. Receivers near each other can be chained together.

The Power station also requires an air line. This may be supplied independently or by running an air line from one of the receivers to the Vacuum Power Station. It is easy to bundle an air line with one of the 24 volt signal lines that runs from each receiver to the power station.

7. VACUUM LINES:

Using aluminum tubing, PVC tubing, or EMT steel conduit, connect the vacuum ports of all receivers to the power station.

1 HP:	**Use 1.5" or larger vacuum lines. Receivers have either 1.5" or 2" vacuum ports. Use 1.5" or 2" tubing.**
2.5 HP:	**Use 2" or larger vacuum lines. Receivers must have 2" vacuum ports.**
5 HP:	**Use 2" or 2.5" vacuum lines. Receivers must have 2" vacuum ports.**

Use tees as required. See the diagrams provided in this manual for suggestions. Use hose clamps to secure all flexible lines.

REMEMBER: Performance is reduced by:
Inadequate diameter line, Longer length lines, Elbows, and corrugated flex tubing, Restrictions or "neck down" points, Clogged filters, Vacuum leaks.

Recommended Vacuum Tubing sizes

1 HP: 1.5" diameter tubing up to 100 equivalent feet.
2" diameter tubing up to 200 equivalent feet.

2.5 HP: 1.5" diameter tubing up to 100 equivalent feet.
2" diameter tubing up to 200 equivalent feet.

5 HP: 2" diameter tubing up to 200 equivalent feet.
2.5" diameter tubing up to 300 equivalent feet.

10 HP: 2.5" diameter tubing up to 300 equivalent feet.
3" diameter tubing up to 500 equivalent feet.

8. MATERIAL LINES

LOADING BESIDE THE PRESS:

Twelve foot lengths of flexible hose are provided for beside-the-press conveying of material. Connect one length to each receiver.
Each line should connect to a pick-up lance in a barrel or gaylord.
Use hose clamps provided to secure the lines.

1 HP units can use 1.5 inch lines.
2.5 and 5 HP units may require larger lines to achieve rated throughputs.

LOADING OVER LONGER DISTANCES:

When calculating the STANDARDIZED LENGTH of the material line distance, you must add for vertical runs, elbows, and flexible tubing. All of these reduce conveying efficiency.

To calculating STANDARDIZED or "EQUIVALENT FEET" conveying distances:

Start with 1 foot for every foot of HORIZONTAL run.
Add: 2 feet for every foot of VERTICAL run.
3 feet for every foot of FLEXIBLE tubing.
30 feet for every 90 degree BEND.

Following are conveying rates over equivalent distances, based on actual testing, conveying styrene pellets.

		40 ft	90 ft	140 ft	240 ft
1 HP	**1.5" line**	**1400**	**--**	**--**	**--**
2.5 HP	**2" line**	**2400**	**1000**	**--**	**--**
5 HP	**2" line**	**3000**	**2500**	**1850**	**1200**

REMEMBER: Performance is reduced by:
Inadequate diameter line, Longer length lines, Elbows, and corrugated flex tubing, Restrictions or "neck down" points, Clogged filters, Vacuum leaks, Bulk density and flow characteristics of the material.

CHECK OUT PROCEDURE

1. Confirm all air line connections are correct:

   With POWER OFF, and AIR PRESSURE connected:

   - All receiver slide gates should be OPEN, allowing material to flow out of the receiver.
   - The vacuum valve on top of each receiver should be CLOSED, extended, blocking the vacuum line.
   - The vacuum relief valve on top of the POWER UNIT should be OPEN.

2. Turn on main power. Confirm switch light is lit.

3. Turn each station on one at a time, testing each separately.

   Switches with receivers CONNECTED will light and blink slowly indicating the sensor is calling for material. With these stations, the blower will start.

   If a single station does not start:
   Be sure the sensor is in place.
   Be sure the sensor is not covered.
   Be sure the signal cord is properly connected.
   Adjust sensor if necessary.

   Stations NOT connected to receivers will light, but will NOT start the blower.

OPERATION

1. Turn power ON.
2. Turn on each station you wish to load.

   The controller will sequence through all stations that are turned on until all hoppers are full, sensors covered.

   The blower motor remains on 15 seconds after all stations are satisfied. The vacuum relief valve, on top of the filter/power station, allows air to circulate through the vacuum blower during any "idle" time.

   If there is no demand for loading after 15 seconds, the blower shuts down. (This delay shutdown time is adjustable).

AIR MATERIAL MIX:

The mix of air with material has a dramatic effect on conveying rate.
You should adjust this for each receiver.

Our pick up lances incorporate a disk to regulate air flow.
Our vacuum take-off assemblies (VTA's) allow air adjustment by rotating the probe, or rotating an air regulator sleeve.
While each station is loading watch the flow of material into the CLEAR-VU receiver.
Adjust air flow for best smooth flow.

RECEIVER LOAD TIME:

As each receiver fills, observe the material level in the receiver. Load time is correct if the station stops loading when about 75 percent full, or just below the MAGUIRE logo.

If the load time is NOT correct, reset the timer for that station.

To RESET THE TIMER for one station:

1. PRESS and HOLD the "SET LOAD TIME" button AFTER station has started to load. Load time can be set ONLY while station is loading.

2. RELEASE the button when correct level is reached
   The correct time is now set.

For very dusty materials, fill receiver to a LOWER level. This will help keep the filter clear.

LOW fill levels are safer then filling to a level that is too HIGH.

FILTER:

Individual stations contain only a very course screen filter. The single bag filter in the power station traps all dust before it can reach the vacuum pump.

To check filter:

1. Turn Controller power OFF to stop blower motor.
2. Open the door on the front of the Filter/Power station. Release the lift handle. Lower the filter bucket.

3. Remove container. Empty if necessary.

4. Examine the filter bag. Clean if necessary. If the container has an excessive amount of material in it, you may be loading a receiver to too high a level. Shorten load times so receivers do not overfill.

   Smaller loads will NOT significantly reduce conveying rate. Stations simply load more frequently.

   For very dusty materials, adjust fill time to fill to a LOWER level. This will help keep the filter clear.

5. Lift container platform back into place. BE SURE top edge of bucket engages gasket properly for vacuum.

TOGGLE SWITCH LIGHTS indicate:

SOLID ON:	FULL
SLOW BLINKING:	LOW
RAPID BLINKING:	LOADING
VERY FAST BLINKING:	ALARMING, failed to cover sensor last cycle.

TROUBLESHOOTING

If loading is a problem:

1. Be sure: Filter dust collector is "in place" and vacuum tight.

2. Be sure: The material fill "turret" in the top of each receiver is properly in place.

3. Be sure: Air pressure is reaching all the cylinders as well as the Vacuum Blower Station. Without air pressure, the system will not develop vacuum.

4. Be sure: All signal lines are connected properly at the controller.

5. Be sure: The level sensor, at the bottom of each receiver, is adjusted correctly so it does not send back a false "covered" signal. See ADJUSTMENTS to adjust sensor.

6. Check Filter: If the container has an excessive amount of material in it, you may be loading a receiver to too high a level. Shorten load times so receivers do not overfill.

   Smaller loads do NOT significantly reduce conveying rate.
   Stations simply load more frequently.

7. Excessive high vacuum will overheat the blower. A thermal switch is provided in the exhaust air steam, which trips out at 190F, opening the air bypass valve. This cools the blower, but loading cannot occur during this time. If this happens, check main filter and receiver screens for blockage.

MECHANICAL ADJUSTMENTS

SENSOR There is a small screw in the rear of the sensor to adjust the sensitivity of the sensor. Turning it Clockwise (CW) will increase sensitivity. CCW will decrease. (Some sensors have a plug in front of the adjustment screw, which must first be removed. The adjusting screw is recessed.)

The LED light is ON when the sensor is COVERED. It is OFF when UNCOVERED.

To adjust: Make sure sensor is UNCOVERED.
Turn screw inward (CW) until the LED goes ON.
Turn outward slowly (CCW) until it just comes OFF.
Turn 1/4 turn more (CCW).

Now TEST for correct operation.
Cover with hand, LED should light.
Uncover, it should go OFF.

SETUP OPTIONS - SUMMARY LIST

Select ROUTINE number, hold "SET TIMER", and turn POWER ON.

ROUTINE 0. Display Software Version.

Lighted Switch:	1	2	3	4	5	6	7	8
Add Values:	1	2	4	8	16	32	64	128

Power OFF to EXIT

ROUTINE 1. Reset Default Load Times - Selected Stations.
Select Stations to Reset, Press "SET TIMER".

ROUTINE 2. Controller Address - Master / Slave Designation

Lighted Switch:	1	2	3	4	5	6	7	8
Add Values:	1	2	4	8	16	32	64	128

Enter NEW ADDRESS, Press "SET TIMER".
Switches 7 and 8 on, designate Master.
Switches 1, 7, and 8 on, designate Slave.

ROUTINE 3. Disable / Enable Alarm - Selected Stations.
Select Stations to ALARM, Press "SET TIMER".

ROUTINE 4. Delay the Retry Time - Selected Stations
Select Stations to change, Press "SET TIMER".
Select 0 to 8 minute delay, Press "SET TIMER".

ROUTINE 5. Set Blower OFF DELAY Time, seconds.

Select:	1	2	3	4	5	6	7	8
Delay=	15	30	45	60	90	120	150	180

Press "SET TIMER".

ROUTINE 6. Set Delay before loading starts.

Lighted Switch:	1	2	3	4	5	6	7	8
Add Values:	1	2	4	8	16	32	64	128

Enter NEW DELAY time, Press "SET TIMER".

ROUTINE 12345678. CLEAR to default values.

SETUP OPTIONS - DETAILED EXPLANATIONS

There are several SETUP routines that allow you to customize your controller for your installation.

ROUTINE 0. Display current software version.

Turn POWER OFF.
Turn ALL STATION switches OFF.
While pressing "SET LOAD TIME" button, turn POWER ON.
Hold for 3 seconds, while all lights blink rapidly.
Release when blinking stops.

The lighted switches represent the software version number in binary format.

For switch numbers:	1	2	3	4	5	6	7	8
Assign values of:	1	2	4	8	16	32	64	128

Add up the values of the lighted switches to obtain the version number.
To EXIT, turn power off.

ROUTINE 1. Reset selected stations to default load times.

Turn POWER OFF.
Turn STATION 1 switch ON, all others OFF.
While pressing "SET LOAD TIME" button, turn POWER ON.
Hold for 3 seconds, while all lights blink rapidly.
Release when blinking stops.

Turn ON all stations you want to reset.
Turn OFF all stations you want unchanged.

Press and hold "SET LOAD TIME" button for 1 second.
All lights will flash and then go off.
Release button to resume normal operation.

ROUTINE 2. Enter an address for this controller.

If you are controlling 16 (or more) stations, two (or more) controllers are linked together with a specially wired communication cable that we supply. This cable connects the computer ports of the controllers. There can only be one "Master" controller, all others are "Slaves". The address of the Master must be 78. The Master runs the blower. The blower control cable is connected to the Master. Single units are always addressed as Masters; address 78. First slave addressed with a 1 in front (178).

Here is the routine to change the address.

Turn POWER OFF.
Turn STATION 2 switch ON, all others OFF.

While pressing "SET LOAD TIME" button, turn POWER ON.
Hold button until all lights stop blinking (about 3 secs).
Release when blinking stops.

The lighted switches represent the current controller address.
Normally, switches 7 and 8 will be lit.

To CHANGE this address:
Turn ON the correct combination of switches for the new address.
Turn OFF all other switches.
For a Slave unit, set switch 1, 7, and 8 on, others off.

Press and hold "SET LOAD TIME" button for 1 second.
All lights will flash and then go off.
Release button to resume normal operation.


NOTE

The wiring schematic refers to addresses as binary numbers.
A Master is shown as address 11000000, a Slave as 11000001
These numbers are switches 7,8 and 1,7,8. Here is why.

For switch numbers:	1	2	3	4	5	6	7	8
We assign values of:	1	2	4	8	16	32	64	128

Add up the values of the lighted switches to obtain the address number in binary format. Switches 7 and 8 total 192. The binary representation of 192 is 11000000. Switches 1, 7 and 8 total 193, which is 11000001 in binary format.

ROUTINE 3. Disable / Enable alarms on selected stations.

Turn POWER OFF.
Turn STATION 3 switch ON, all others OFF.
While pressing "SET LOAD TIME" button, turn POWER ON.
Hold for 3 seconds, while all lights blink rapidly.
Release when blinking stops.

Turn ON all stations you want to alarm when they fail to load.
Turn OFF all stations you do NOT want to alarm.

Press and hold "SET LOAD TIME" button for 1 second.
All lights will flash and then go off.
Release button to resume normal operation.

ROUTINE 4. Delay the retry time for selected stations

This option allows you to delay the retry of a single station or stations from 1 to 8 minutes. This is useful when using the system to keep a grinder evacuated, without having the unit cycle continuously. When the source of material is limited, you know the sensor will seldom be satisfied. For the same reason continuous running is unnecessary. This option allows a station to cycle less frequently.

Turn POWER OFF.
Turn STATION 4 switch ON, all others OFF.
While pressing "SET LOAD TIME" button, turn POWER ON.
Hold for 3 seconds, while all lights blink rapidly,
Release when blinking stops.

Turn ON all stations you want to change.
You may change more then one, but all you select will be changed to the same new delay time.
Turn OFF all stations you do NOT want to change.

Press and hold "SET LOAD TIME" button for 1 second.
All lights will flash and then the selected stations will light.

Now turn OFF all switches.

Now turn ON one switch to equal the number of minutes the selected stations will stay idle before loading again. This can be from 1 to 8 minutes.

Turn OFF all other station switches.
Having ALL stations OFF will cause the selected stations to reset to normal operation of running with no delays.

Press and hold "SET LOAD TIME" button for 1 second.
All lights will flash and then the selected stations will light.

Release button to resume normal operation.

ROUTINE 5. Set blower OFF DELAY time.

When all stations are satisfied the blower shuts down. However, if a station calls for material within a set time period (default is 15 seconds), then the next time all stations are satisfied, the blower will keep running. This is due to anticipation that the blower will be called on again within the time period. Therefore it is kept running.

By the same token, if the blower is not required within the time period, it shuts down and the next time all stations are satisfied, the blower shuts off immediately. This is due to anticipation that the blower will not be called on again within the time period. Therefore it is shut down immediately.

The 15 second time period is adjustable.

1 Horsepower blowers running on 110 volts, may take a long time to come up to speed, depending on the strength of the power source. This can cause overheating if these slow startups occur too frequently. In this case a longer delay time (2 minutes or more) is better.

Turn POWER OFF.

Turn STATION 5 switch ON, all others OFF.
While pressing "SET LOAD TIME" button, turn POWER ON.
Hold for 3 seconds, while all lights blink rapidly.
Release when blinking stops.

Turn ON a single station switch to indicate the time delay you want. Turn OFF all other stations

Switch number: Will produce this delay:

1	15 seconds	
2	30	
3	45	
4	60	
5	90	
6	120	If more then one switch is on,
7	150	or no switches are on,
8	180	no change will occur.

Press and hold "SET LOAD TIME" button for 1 second.
All lights will flash and then go off.
Release button to resume normal operation.

ROUTINE 6. Enter a new delay time for starting to load.

When the sensor in a receiver becomes uncovered, the loader will usually begin loading that station right away... zero delay. When station loading must be synchronized with a blender dispense operation, as in the case of our CVB style blenders with Synchronized loaders, then we must delay the start of loading for a short time, usually about 10 seconds, to be sure the dispense is complete. Loading with this style receiver interferes with dispensing, and dispensing also interferes with loading. Loaders are normally shipped with zero delay. When synchronized loading is required, change this delay to 10 seconds.

Here is the routine to change the address.

Turn POWER OFF.
Turn STATION 6 switch ON, all others OFF.
While pressing "SET LOAD TIME" button, turn POWER ON.
Hold for 3 seconds, while all lights blink rapidly.
Release when blinking stops.

For switch numbers:	1	2	3	4	5	6	7	8
We assign values of:	1	2	4	8	16	32	64	128

The lighted switches represent the current delay. Normally, no switches are lit.

To CHANGE this delay:
Turn ON the correct combination of switches for the new delay time in seconds.
Turn OFF all other switches.
For 10 seconds, turn on switch 2 and 4 (2+8=10)

Press and hold "SET LOAD TIME" button for 1 second.
All lights will flash and then go off.
Release button to resume normal operation.

ROUTINE 12345678. CLEAR ALL.

Clear ALL programmed data and reset all numbers and timers to original default values.

Turn POWER OFF.
Turn ALL STATIONS ON.
While pressing "SET LOAD TIME" button, turn POWER ON.
Hold button until all lights stop blinking (about 8 secs).
Release when blinking stops.

All values, flags, timers, etc. are now cleared and set to their original programmed default values.

3 – General Information

Warranty

MAGUIRE PRODUCTS offers THE MOST COMPREHENSIVE WARRANTY in the plastics auxiliary equipment industry. We warrant each MAGUIRE Loading System manufactured by us to be free from defects in material and workmanship under normal use and service; excluding only those items listed below as 'excluded items'; our obligation under this warranty being limited to making good at our factory any Dryer which shall, within FIVE (5) YEARS after delivery to the original purchaser, be RETURNED intact to us, transportation charges PREPAID, and which our examination shall disclose to our satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on our part, and MAGUIRE PRODUCTS neither assumes nor authorizes any other persons to assume for it any other liability in connection with the sale of its Loading Systems.

This warranty shall not apply to equipment repaired or altered outside MAGUIRE PRODUCTS INC. factory, unless such repair or alteration was, in our judgment, not responsible for the failure; nor which has been subject to misuse, negligence or accident, incorrect wiring by others, or installation or use not in accord with instructions furnished by Maguire Products, Inc.

Our liability under this warranty will extend only to equipment that is returned to our factory in Aston, Pennsylvania, PREPAID.

Please note that we always strive to satisfy our customers in whatever manner is deemed most expedient to overcome any problems they may have in connection with our equipment.

DISCLAIMER - PRODUCTION of FAULTY PRODUCT

This dryer is of a new design. We have had excellent results in all tests performed to date, but we HAVE NOT tested every material available to the plastics industry. We have not anticipated all possible materials, processing conditions, and requirements. We are not certain that our equipment will perform properly in all instances. You must observe and verify the performance level of this equipment in your plant as part of your overall manufacturing process. You must verify to your own satisfaction that this level of performance meets your requirements. We CANNOT be responsible for losses due to product not dried correctly, even when due to equipment malfunction or design incorrect for your requirements; and/or any consequential losses due to our equipment not drying material to your requirements.

We will only be responsible to correct, repair, replace, or accept return for full refund, our equipment if it fails to perform as designed, or we have inadvertently misrepresented our equipment for your application. If for any reason this disclaimer is not acceptable, we will accept return of the equipment for full refund, including freight costs both ways.

MLS Clear Vu Features

VACUUM UNIT:

The ring compressor vacuum power unit is QUIET, RELIABLE, and LONG LASTING. A single power unit supplies 8 stations, keeping costs low.

POSITIVE OPERATION OF VALVES:

All valves are positively operated by air cylinders. There are no weighted flaps that might not close properly. Valves close with a sliding action so "Static cling" pellets are wiped clear.

STROBE LIGHT and audible ALARM:

STROBE LIGHT and audible ALARM activate whenever a load cycle does not satisfy the sensor.

STATION ALARMS:

On total system power up, or after turning power on for a given station, the "alarm" function for that station is not active. Filling the hopper for the first time, and covering the sensor, activates the "alarm" function for that station.

After this "full hopper" initialization, the alarm will sound if the sensor is not immediately satisfied after a load cycle.

Alarms may be selectively disabled for each station.

ALARM SILENCE BUTTON:

The silence button silences the alarm until any new event starts it up again. The covering of the sensor of an alarming station will also silence the alarm, (unless another station is also in an alarm state).

STATION TIMERS:

Each receiver has a LOAD TIME associated with it. Initial default load times are 10 seconds and may be altered using the "SET LOAD TIME" button.

SET TIMERS BUTTON:

A TIMER button is provided as an input to the processor. During any single load time, if the button is pressed, the loading time will continue to run until the button is released. When released, the station will stop loading immediately. The time of release establishes the NEW load time for that station.

One button serves to set times for all stations.

FILTERLESS RECEIVERS:

Individual receivers are filterless. A central dust filter protects the blower unit. This eliminates the need to service filters on top of hoppers, and places the only filter in easy reach.

UNLIMITED EXPANSION:

Your controller can sequence through 8 receivers. However, additional controllers can be "linked" to your first, allowing up to 256 receivers to operate off one single vacuum pump. If you should exceed the capability of this single vacuum pump, you can then return back to several smaller systems each with its own vacuum pump.

In either case, you retain unlimited flexibility.

MAGUIRE CLEAR-VU LOADING SYSTEMS

MODELS:

Typical model: MLS 183 1= 1 HP vacuum blower
8= 8 component controller
3= 3 receivers supplied.

Models:

1 HP	MLS 181 through 188
2.5 HP	MLS 281 through 288
5 HP	MLS 581 through 588

COMPONENT PARTS:

Controller:	AVC-8	8 component controller
Receiver:	AVR-10	10 pound receiver
Blower/Filter:	AVB-1	1 HP blower motor
	AVB-2	2.5 HP blower motor
	AVB-5	5 HP blower motor
	AVB-10	10 HP blower motor

Conveying capacity over equivalent distances:
(conservative rates basted on actual testing)

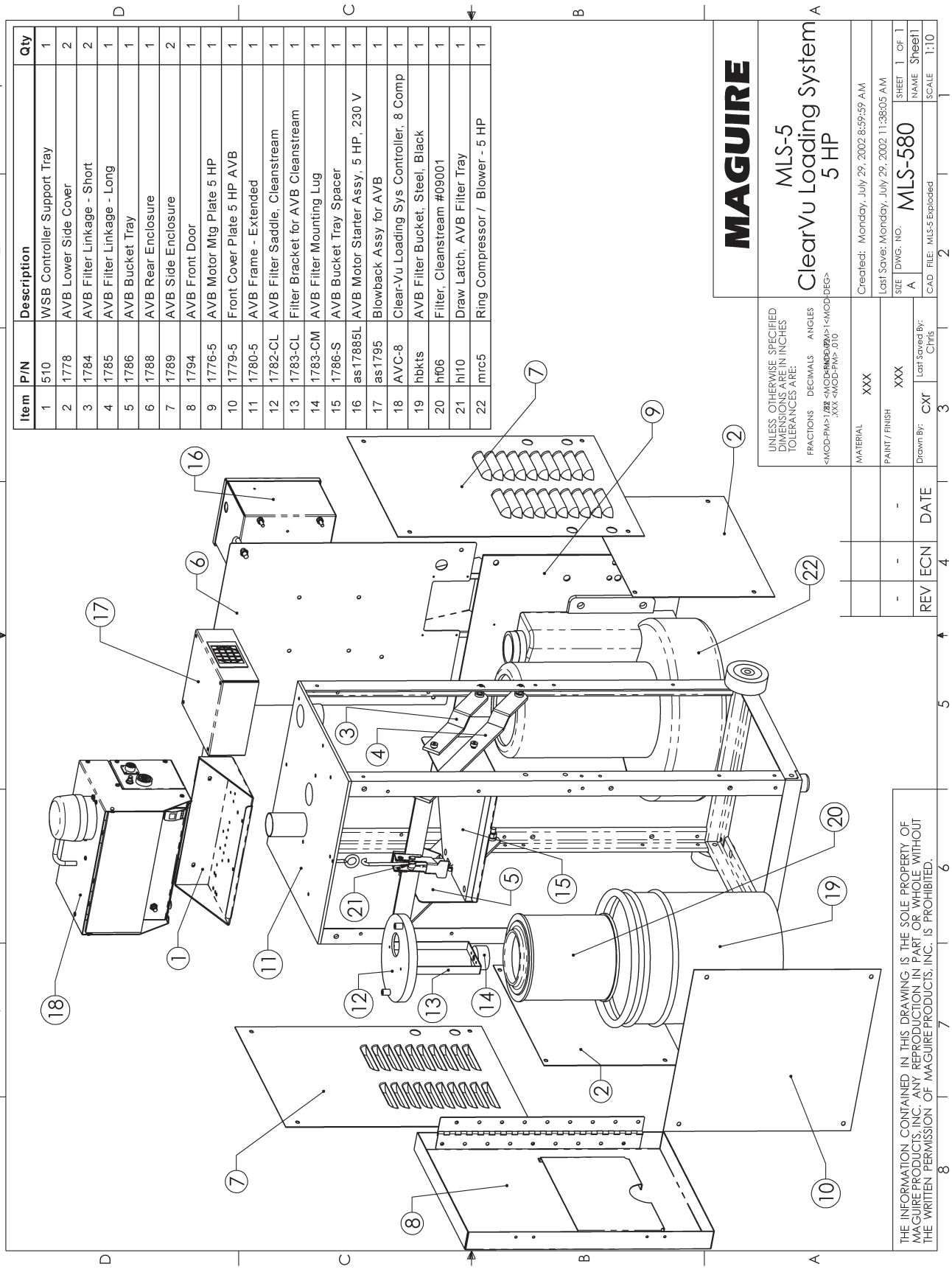
		40 ft	90 ft	140 ft	240 ft
1 HP	**1.5" line**	**1400**	**--**	**--**	**--**
2.5 HP	**2" line**	**2400**	**1000**	**--**	**--**
5 HP	**2" line**	**3000**	**2500**	**1850**	**1200**

PERFORMANCE is reduced by:
Inadequate diameters,
Longer lengths,
Elbows, and corrugated tubing,
Restrictions or "neck down" points,
Clogged filters,
Vacuum leaks.

When calculating the STANDARDIZED LENGTH of the material line distance, you must add for vertical runs, elbows, and flexible tubing. All of these reduce conveying efficiency.

To calculating STANDARDIZED or "EQUIVALENT FEET" conveying distances:

For 1 foot of HORIZONTAL run: add 1 foot.
For 1 foot of VERTICAL run: add 2 feet.
For 1 foot of FLEXIBLE tubing: add 3 feet.
For 1 90 degree BEND: add 30 feet.



Item	P/N	Description	Qty
1	510	WSB Controller Support Tray	1
2	1778	AVB Lower Side Cover	2
3	1784	AVB Filter Linkage - Short	2
4	1785	AVB Filter Linkage - Long	1
5	1786	AVB Bucket Tray	1
6	1788	AVB Rear Enclosure	1
7	1789	AVB Side Enclosure	2
8	1794	AVB Front Door	1
9	1776-5	AVB Motor Mtg Plate 5 HP	1
10	1779-5	Front Cover Plate 5 HP AVB	1
11	1780-5	AVB Frame - Extended	1
12	1782-CL	AVB Filter Saddle, Cleanstream	1
13	1783-CL	Filter Bracket for AVB Cleanstream	1
14	1783-CM	AVB Filter Mounting Lug	1
15	1786-S	AVB Bucket Tray Spacer	1
16	as17885L	AVB Motor Starter Assy, 5 HP, 230 V	1
17	as1795	Blowback Assy for AVB	1
18	AVC-8	Clear-Vu Loading Sys Controller, 8 Comp	1
19	hbkts	AVB Filter Bucket, Steel, Black	1
20	hf06	Filter, Cleanstream #09001	1
21	hl10	Draw Latch, AVB Filter Tray	1
22	mrc5	Ring Compressor / Blower - 5 HP	1

MAGUIRE

MLS-5
ClearVu Loading System
5 HP

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMALS ANGLES
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MATERIAL XXX
PAINT / FINISH XXX
Drawn By: cxr
Last Saved By: Chris

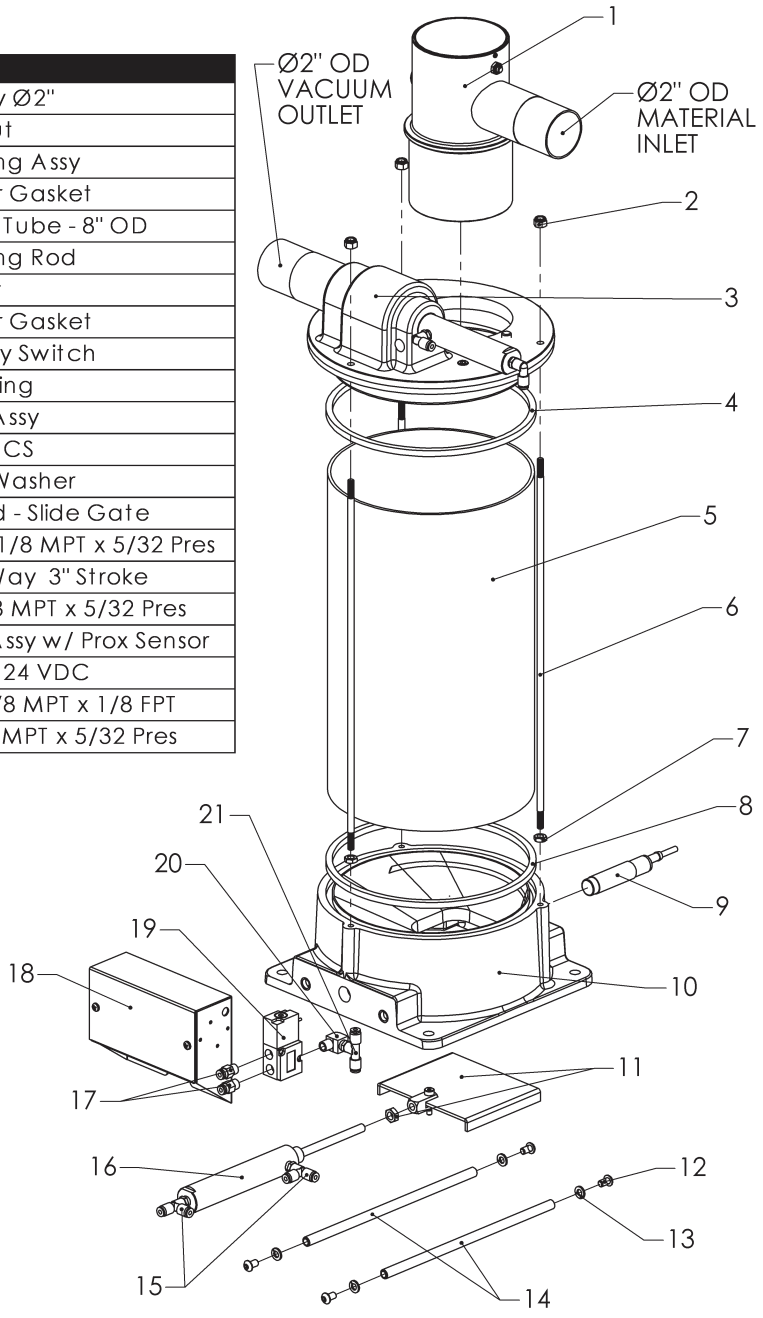
Created: Monday, July 29, 2002 8:59:59 AM
Last Save: Monday, July 29, 2002 11:38:05 AM

SIZE A | DWG. NO. MLS-580 | SHEET 1 OF 1
CAD FILE: MLS-5 Exploded | NAME Sheet1 | SCALE 1:10

REV	ECN	DATE
-	-	-

AVR-102 CLEAR-VU RECEIVER

Item	P/N	Description
1	as1771T2	AVR Turret Assy Ø2"
2	snn4	1/4-20 Nylok Nut
3	as1771	AVR Top Casting Assy
4	rsq04	1/4" Sq. Rubber Gasket
5	1772	Clear Receiver Tube - 8" OD
6	1771-R	AVR Connecting Rod
7	snj4	1/4-20 Jam Nut
8	rsq04	1/4" Sq. Rubber Gasket
9	ehsx03	18 mm Proximity Switch
10	1770	AVR Base Casting
11	as1770-V	Slider & Clevis Assy
12	sb4-08	1/4-20 x 1/2" BHCS
13	swL4	1/4" Split Lock Washer
14	1770-R	AVR Guide Rod - Slide Gate
15	fptr5/32	Male Run Tee, 1/8 MPT x 5/32 Pres
16	ncy29	Air Cylinder 2-Way 3" Stroke
17	fpc-5/32	Male Conn, 1/8 MPT x 5/32 Pres
18	as1790	AVR Solenoid Assy w/ Prox Sensor
19	nv51	Solenoid Valve 24 VDC
20	fbe2	Street Elbow 1/8 MPT x 1/8 FPT
21	fpt-5/32	Swivel Tee, 1/8 MPT x 5/32 Pres



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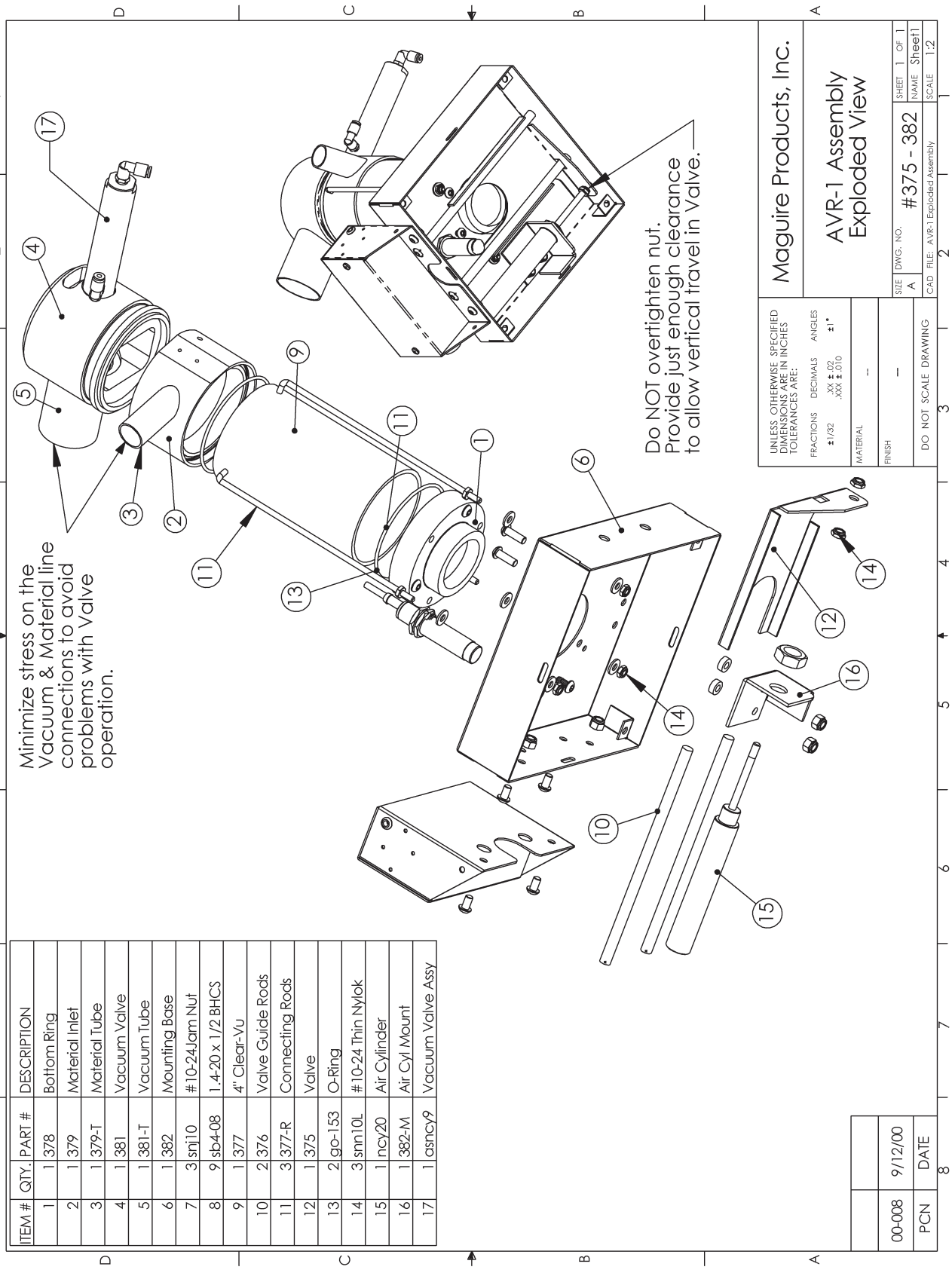
03-31-03



ITEM #	QTY.	PART #	DESCRIPTION
1	1	378	Bottom Ring
2	1	379	Material Inlet
3	1	379-T	Material Tube
4	1	381	Vacuum Valve
5	1	381-T	Vacuum Tube
6	1	382	Mounting Base
7	3	snj10	#10-24Jam Nut
8	9	sb4-08	1.4-20 x 1/2 BHCS
9	1	377	4" Clear-Vu
10	2	376	Valve Guide Rods
11	3	377-R	Connecting Rods
12	1	375	Valve
13	2	go-153	O-Ring
14	3	snn10L	#10-24 Thin Nylok
15	1	ncy20	Air Cylinder
16	1	382-M	Air Cyl Mount
17	1	asncy9	Vacuum Valve Assy

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