

MAGUIRE PRODUCTS INC.

LowPro™ Receiver

MAGUIRE

LowPro™ Receiver

INSTALLATION • OPERATION • MAINTENANCE

Maguire LowPro™ Receivers

Model LPR-A4, A7, and A12 LowPro Receivers

Table of Contents

Principle of Receiver Operation _____	5
Principle of Controller Operation _____	5
Description of Controls _____	7
Installing the LowPro Receiver _____	8
Filter Cleaning or Replacement _____	9
MCP & 3 rd Party Pump _____	10
Wiring Diagrams _____	11
Dimensional Drawings _____	14
Warranty _____	18
Technical Support and Contact Information _____	19

Maguire LowPro™ Receivers

This document is the Original Instructions manual of the Maguire LowPro Receivers models Model LPR-A4, A7, and A12 LowPro Receivers.

The information contained within this manual including any translations thereof, is the property of Maguire Products Inc. and may not be reproduced, or transmitted in any form or by any means without the express written consent of Maguire Products Inc.

To every person concerned with use and maintenance of the Maguire LowPro Receivers, 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. Any modifications or amendments to the equipment, without prior consent of the manufacturer, may invalidate CE compliance of the equipment.

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.

Copyright © 2021 Maguire Products Inc.

Manufacturer's Contact Information

Maguire Products Inc.
11 Crozerville Road
Aston, PA. 19014

Phone: 610.459.4300

Fax: 610.459.2700

Website: <http://www.maguire.com>

Email: info@maguire.com

Principles of Receiver Operation

The LowPro is a material conveying receiver. Being that of a receiver, this unit requires the addition of a stand-alone vacuum pump. The Maguire MCP pump is specially designed for this purpose. The MCP pump is suitable for applications where conveying distances do not exceed 15 ft. A third-party pump control (part #: OPL-LPR-AVB) is also offered, so LowPro receivers can be used with larger vacuum pump systems as well.

The LowPro will also require a regulated, non-lubricated 80 psi (5.5 Bar) compressed air supply. This model incorporates a pneumatic vacuum shift valve, and filter clearing blow-off which rely on this air supply.

A unique feature of this LowPro unit is the vertical height. While many other material loaders and receivers can protrude 2 to 3 feet out the top of a hopper lid, the LowPro stands only 7-5/8" (193 mm) out of a hopper lid. Despite its low clearance, it maintains a respectable capacity.

Another unique feature of the LowPro are their large opening for material discharge. This large opening helps to provide fast, effective flow of any type of material from the receiver.

Principle of Controller Operation

The LowPro is powered with 24 VDC, which is supplied exclusively from the pump which it is connected to via its signal cable. Multiple LowPro units can be wired to other each other so that they all share a single pump (depending on throughput, on average up to 8 units, per pump). The controller logic works off a first-in, first-out priority order. Adding receivers requires no additional programming sequence or setup. Operators simply attach the next receiver's input connector to any other receiver's output connector using a signal cable.

The LowPro receiver obtains its demand signal from the positioning of its counter-weighted dump flap via a magnetic sensor. When a hopper is empty, the dump flap of the receiver will swing shut, telling the it to run a loading cycle. When a LowPro has filled the hopper, the material inside the hopper will hold the dump flap open, indicating not to run.

Alarm Routine

If a LowPro is running and material is not successfully being conveyed, an alarm will sound indicating this to the operator. The receiver is able to detect this by observing the signal from the dump flap sensor. At the end of the loading cycle, material should flow out of the receiver causing the dump flap to temporarily swing open. The controller will see this happen; thus, verifying material was successfully conveyed.

If the LowPro detects that material is not conveyed 5 consecutive times, the receiver will enter an alarm routine to alert the operator. The alarm routine consists of 5 more loading attempts with the alarm (buzzer) active, followed by a 2 min wait period. This sequence will repeat until LowPro detects material being conveyed, or the alarm routine is exited by the operator.

While the receiver is alarming, an operator can manually exit the alarm routine by pressing the "set time" pushbutton twice (1st to silence the alarm, 2nd to exit the alarm routine completely). Whether the alarm routine is exited naturally or manually, the LowPro will then resume its standard operating procedure.

Set Time

The “Set Time” pushbutton is primarily used to set the duration of time that the LowPro will convey material for during a loading cycle. The time is defaulted to 25 seconds, but can be set anywhere from 5 to 45 seconds. Depending on the material’s density, an operator may want a duration which is longer, or shorter. Adjusting this time interval is very easy. Simply wait until the loader begins conveying material normally. While it is doing this, **press and hold** the “Set Time” pushbutton. After the desired time duration has passed, **let go** of the “Set Time” pushbutton. The new conveying duration will be from when the LowPro began loading initially, to when you **released** the “Set Time” pushbutton. The LowPro will save this duration even after power has been cycled. An operator can adjust this as many times as they feel necessary.

Operational Modes

Out of the box, the LowPro receiver is set to run anytime a demand signal is present. This demand signal is determined by the hanging position of the dump flap. For conveying applications where material may not always be available (such as regrind), the operator may want to set the receiver to one of the 4 additional non-continuous, or “regrind” modes.

These additional modes differ from the standard operating mode such that a delay is incorporated in between loading cycles. Additionally, the alarm routine is disabled when set to any of the 4 regrind modes.

Properly using one of these modes can help to prevent unnecessary vacuum motor operation.

Directions on how to set, or exit regrind mode in the LowPro are as follows:

- 1) Power LowPro controller off (rocker switch on front panel switched down)
 - 2) While holding the “SET TIME” button down, turn controller power on.
 - 3) Continue to hold the “SET TIME” button down until the status LED blinks once, then immediately let go of the “SET TIME” button.
 - 4) LED blinks once after a few seconds.
 - 5) Release set time button.
 - 6) Immediately press set time button 1 through 5 times to enter one of the 5 different modes.
- Here is a list of what operating parameters are associated with:

- (Pressed 1 time) - Exit Re grind mode (default, alarm active, zero delay)
- (Pressed 2 times) - 2 min delay after each cycle (alarm disabled)
- (Pressed 3 times) - 4 min delay after each cycle (alarm disabled)
- (Pressed 4 times) - 8 min delay after each cycle (alarm disabled)
- (Pressed 5 times) - 16 min delay after each cycle (alarm disabled)

After the set time button has been pressed the desired amount of times, there will be a pause for several seconds, and then the receiver’s status light will blink back what was just set (example: 3 blinks for 3 button presses).

Following this, nothing else is required from the operator. The receiver will boot up in the mode that was just set. The receiver will remember this setting if power is cycled. An operator can adjust this as many times as they feel necessary.

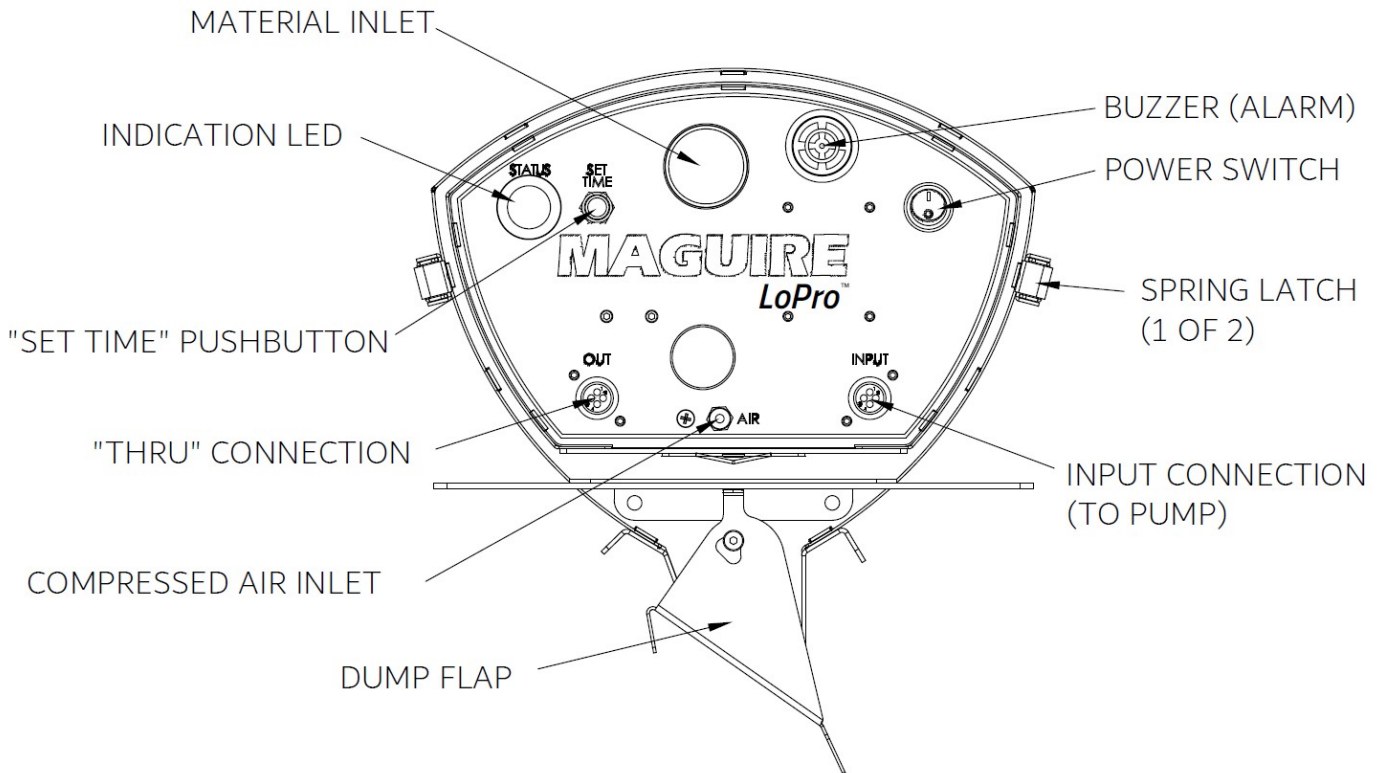
Status Indicator

The LowPro's status indicator is a green LED located on the front panel of the controller. Primarily, this is used to indicate if the unit is powered up, but also serves several other purposes. As mentioned earlier, the status indicator is an integral part of setting the LowPro's running mode.

The status indicator will provide information about the LowPro during standard operation. This can be a useful tool for troubleshooting. At any point when the LowPro is turned on, the status indicator should be displaying 1 of 4 conditions. The following list describes each, and explains what each one means:

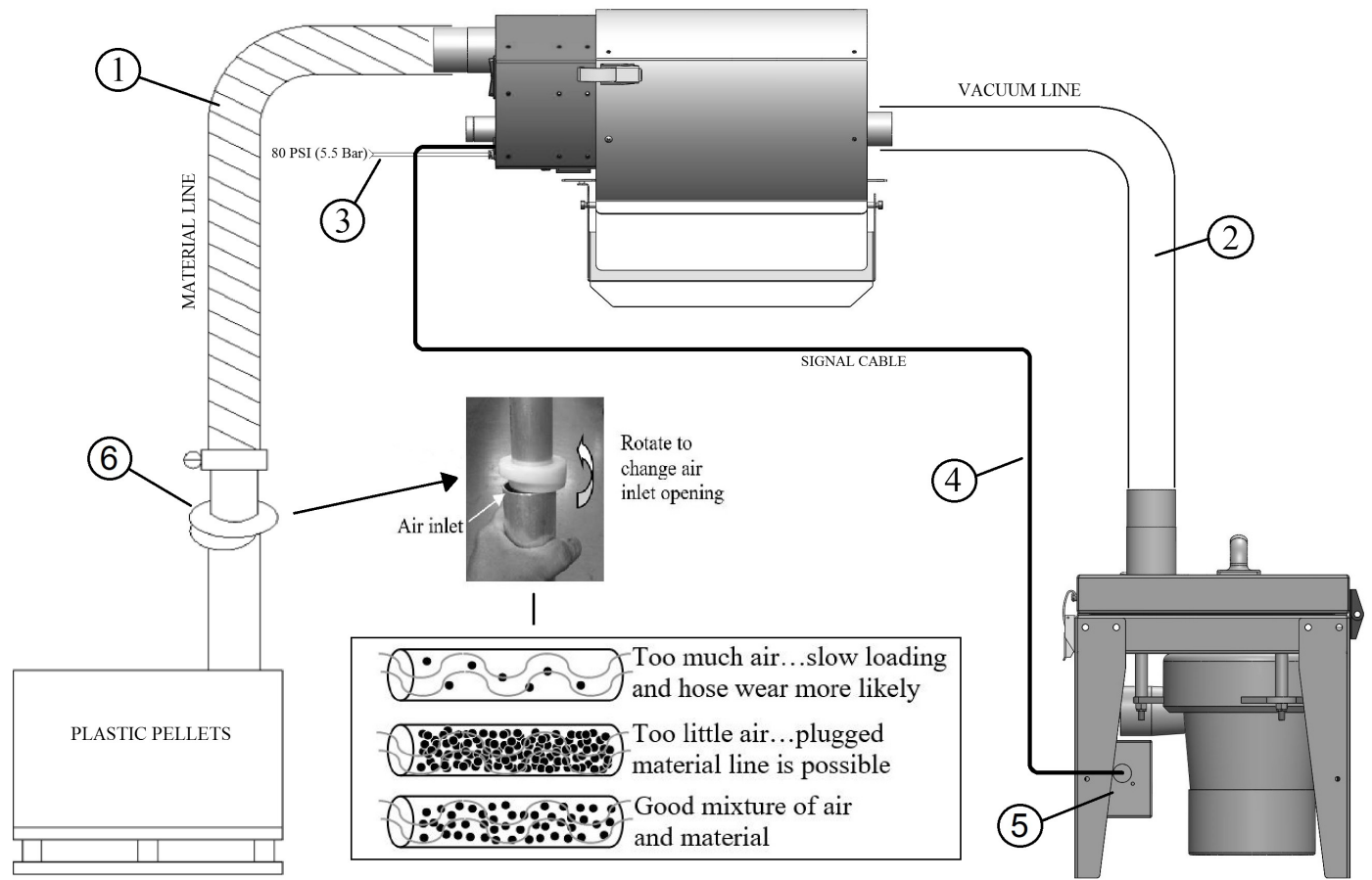
- Constantly Illuminated: Satisfied. Not calling for material, presumably hopper full.
- 1-Second flash rate: Waiting. Calling for material, but line is currently in use by another receiver.
- ¼ Second flash rate: Loading. In the process of conveying material.
- Rapid (1/20th second) flash rate: Alarming. Could be anywhere within the alarm routine (see description on page 4).

Description of Controls



Installing the LowPro Receiver

1. Install flexible hose, secured with hose clamps at both ends, from feed tube to material inlet tube on the controller-side of the receiver. Convey distance should be 15 ft. or less if powered with MCP.
2. Install flexible hose, secured with hose clamps at both ends, from vacuum pump to vacuum inlet of receiver (opposite side as material inlet).
3. Install 5/32" (4 mm) air line into the fitting and connect to clean, dry 80 psi (5.5 bar) compressed air supply. **DO NOT** apply direct air pressure to the LowPro fitting. Damage or an air leak could result. A compressed air filter (sold separately) is recommended for protection of pneumatic components.
4. Connect the 4-pin power/signal cable to the receptacle labeled "INPUT" on the front panel of the LowPro. Connect other end of cable to pump (or another LowPro's "OUT" receptacle that has already been attached to a pump).
5. Attach pump (shown with Maguire MCP) to electrical power source (120 or 230 volts AC depending on model), then turn on.
6. Rotate the feed tube ring for the best air to material mixture. The best mixture of air and material will allow material to flow efficiently, with the right proportion of conveying air, without clogging and without rapid hose wear.

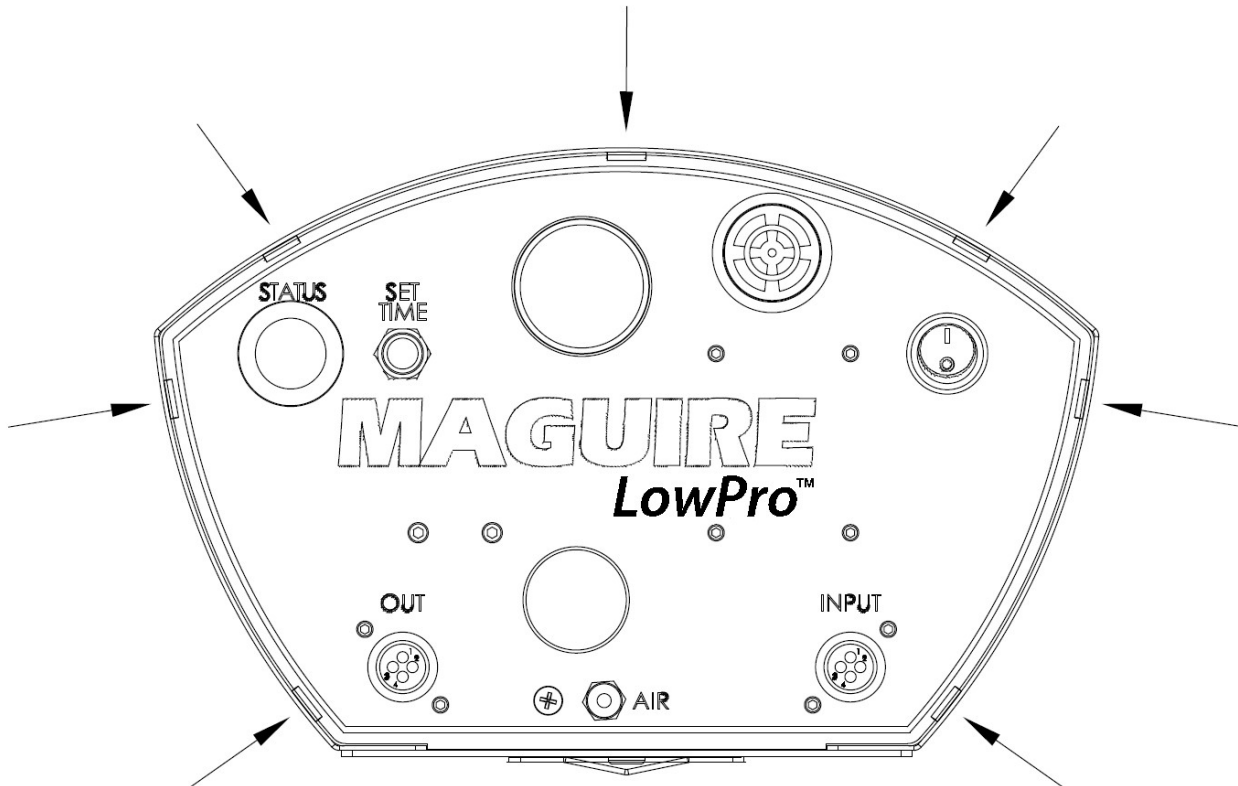


Filter Cleaning or Replacement

- 1) Turn off power on loader.
- 2) Disconnect the material line, signal cable, and compressed air.
- 3) Release spring latches and remove controller portion.
- 4) Remove / replace filter (Maguire part #: hfdd4-R). Dome side of filter facing toward the material portion.
- 5) When reinstalling the controller portion of the receiver, make sure that the material inlet is lined up and inserts smoothly into the respective panel hole. Then, fasten the 2 spring latches.

Accessing electronics, valves for service

To access the electronics of the LowPro receiver, remove the (7) sheet metal screws holding in the front panel. Remove only the front panel.



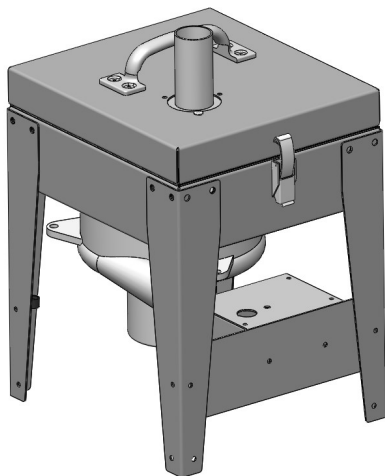
Replacement Parts

Part Description	Maguire Part Number
4.5" dia. Dome Dacron filter	hfdd4-R
Solenoid, 3-way, 24 VDC	nv91
Circuit Board	eab-LPL-R
"Status" Indicator LED, 22mm, 24V Green	ehl-24G
"ON/OFF" Rocker Switch	eswr06
Piezo Alarm Buzzer, 24VDC	ehb-2

MCP Pump & 3rd Party Control Options

Maguire MCP

The MCP pump is a simple, compact vacuum system specifically designed for LowPro receiver systems. Suitable for applications where material convey distance is 15 ft. or less.



- Features a brushless motor which last 4 to 5 times as long as equivalent motors with brushes.
- Capable of providing vacuum power for systems up to 1,000 lbs/hr.
- Hinged lid for quick cleanout.
- 1-1/2" Vacuum inlet
- Available in both 120V and 230V models.

3rd Party Pump Control Module

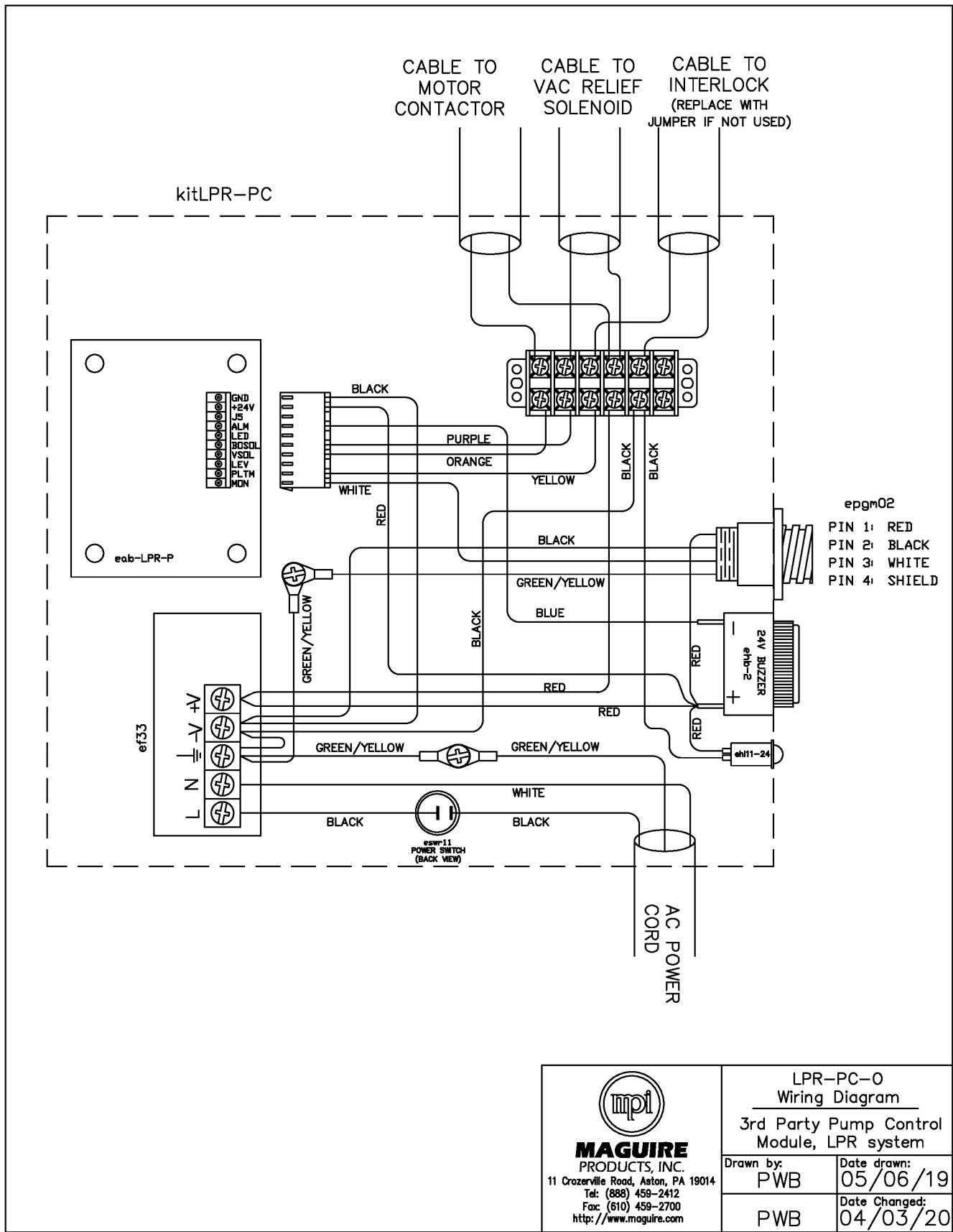
LowPro receivers can be run with a 3rd party pump by using the 3rd party pump control module.


Part number: **LPR-PC-O**

This module can be used to run most vacuum pumps.

It will interfaces using 24 Vdc outputs to operate a motor contactor and vacuum bypass valve.

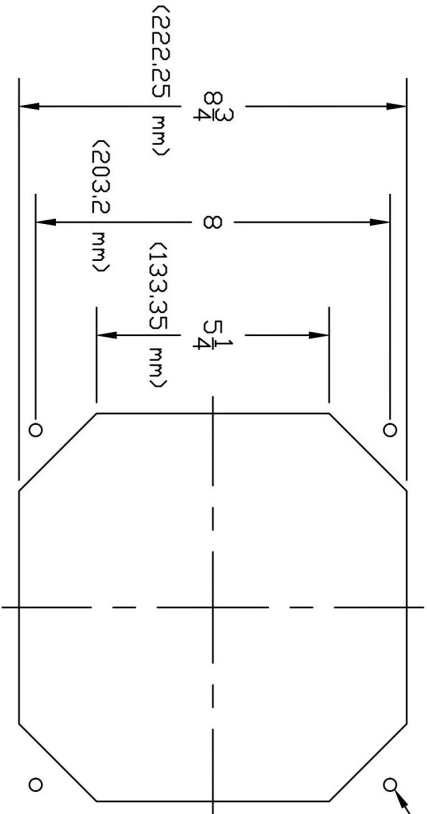
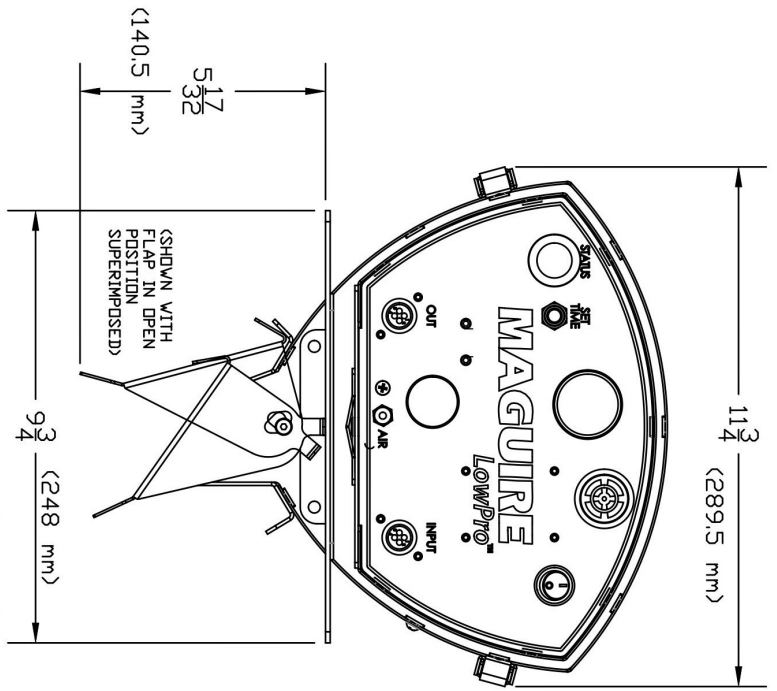
3rd Party Pump Control Module



 MAGUIRE PRODUCTS, INC. 11 Crozerville Road, Aston, PA 19014 Tel: (888) 459-2412 Fax: (610) 459-2700 http://www.maguire.com	LPR-PC-0 Wiring Diagram	
	3rd Party Pump Control Module, LPR system	
Drawn by: PWB	Date drawn: 05/06/19	
PWB	Date Changed: 04/03/20	

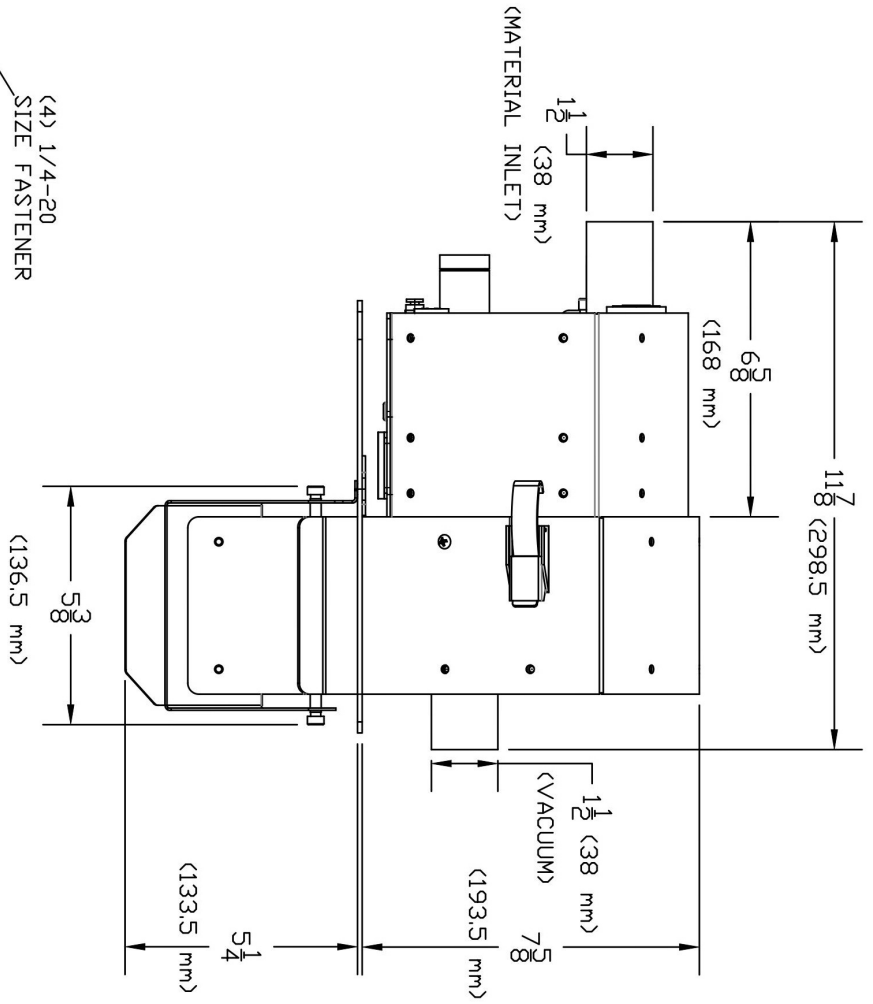
Dimensional Drawings

WEIGHT: 16.2 LBS (7.4 Kg)



LID CUTOUT

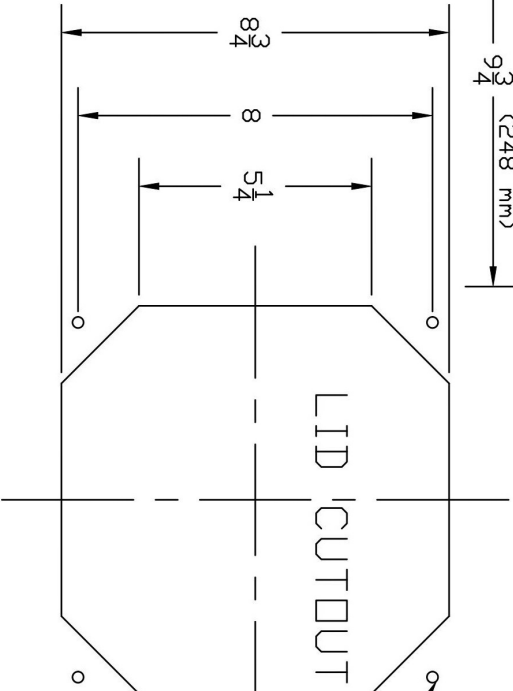
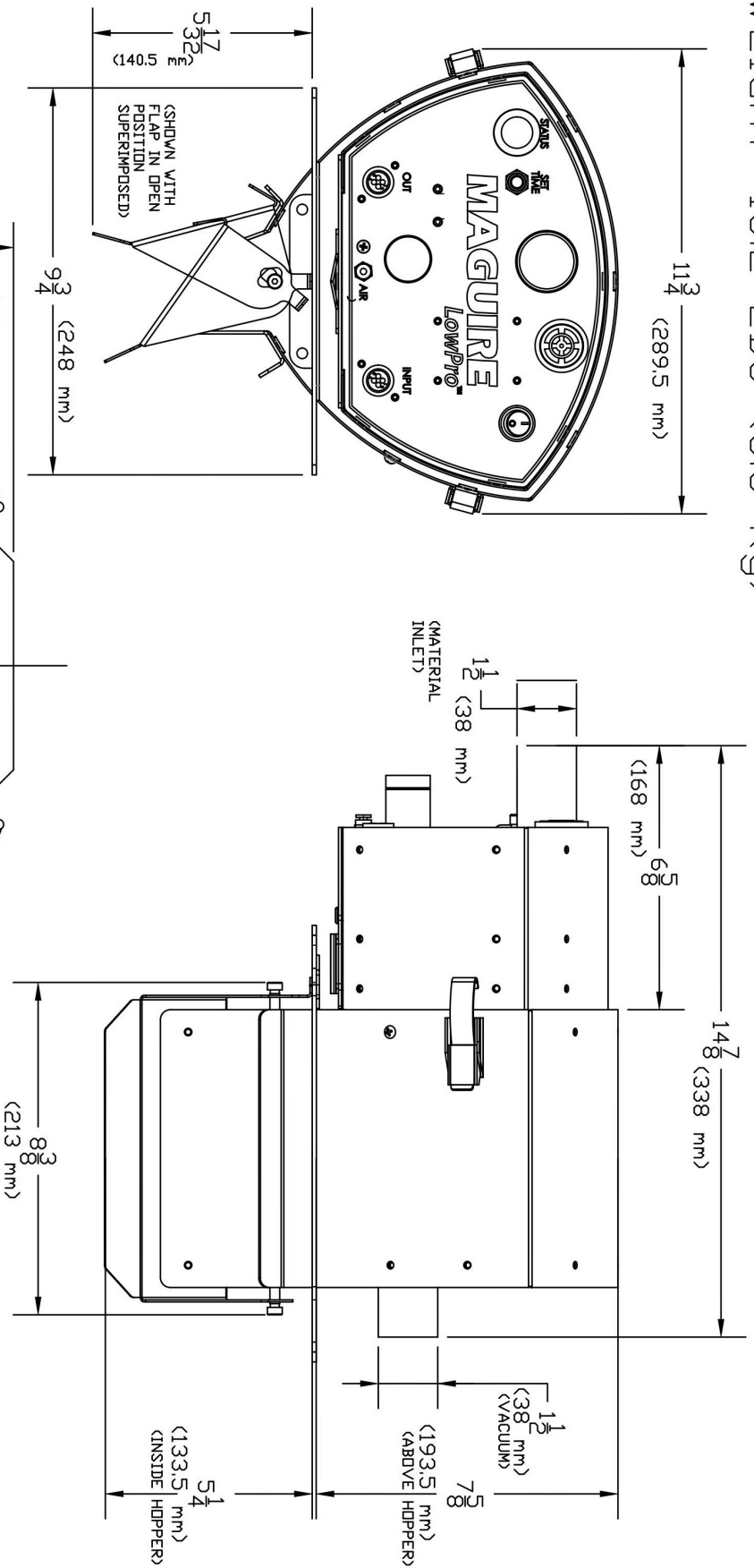
(4) 1/4-20
SIZE FASTENER



REV.	ECN	REVISIONS	DESCRIPTION	DATE

<p>BUILD TO DATA PART TO BE FABRICATED AND DIMENSIONS ARE DEFINED IN DRAWING</p>	<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMALS ANGLES XXX ± .02 XXX ± .00</p>	<p>MAGUIRE LPR-A4 DIMENSIONS</p>
<p>FLAT BLANK SHOWN IS SUPPLIED FOR REFERENCE PURPOSES ONLY. ALL DETAILS AND DIMENSIONS REST WITH THE FABRICATOR.</p>	<p>BREAK ALL SHARP EDGES AND CORNERS MATERIAL</p>	
<p>THE INFORMATION DRAWING IS THE PROPERTY OF MAGUIRE PRODUCTS, INC.</p>	<p>PAINT / FINISH paint/finish</p>	<p>Created: 8/14/19 Last Save: 9/10/21</p>
<p>Drawn By: PWB</p>	<p>Last Saved By: PWB</p>	<p>SIZE DWG. NO. Dwg #</p>
<p>FILE: LPR-A7 Block</p>	<p>SHEET 1 OF 1 NAME: Sheet1</p>	<p>SCALE: 1:5</p>

WEIGHT: 18.2 LBS (8.3 KG)



(4) 1/4-20
SIZE FASTENER

BUILD TO DATA
PART TO BE FABRICATED
ADDITIONAL PARTS
AND REQUIREMENTS
DEFINED IN DRAWING

FLAT BLANK SHOWN IS
SUPPLIED FOR REFERENCE
DEVELOPERS RESPONSIBILITY
RESTS WITH THE FABRICATOR

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMALS ANGLES
E1/64 XXX ± .002 ±1/16

BREAK ALL SHARP EDGES AND CORNERS
MATERIAL

PAINT / FINISH
paint/finish

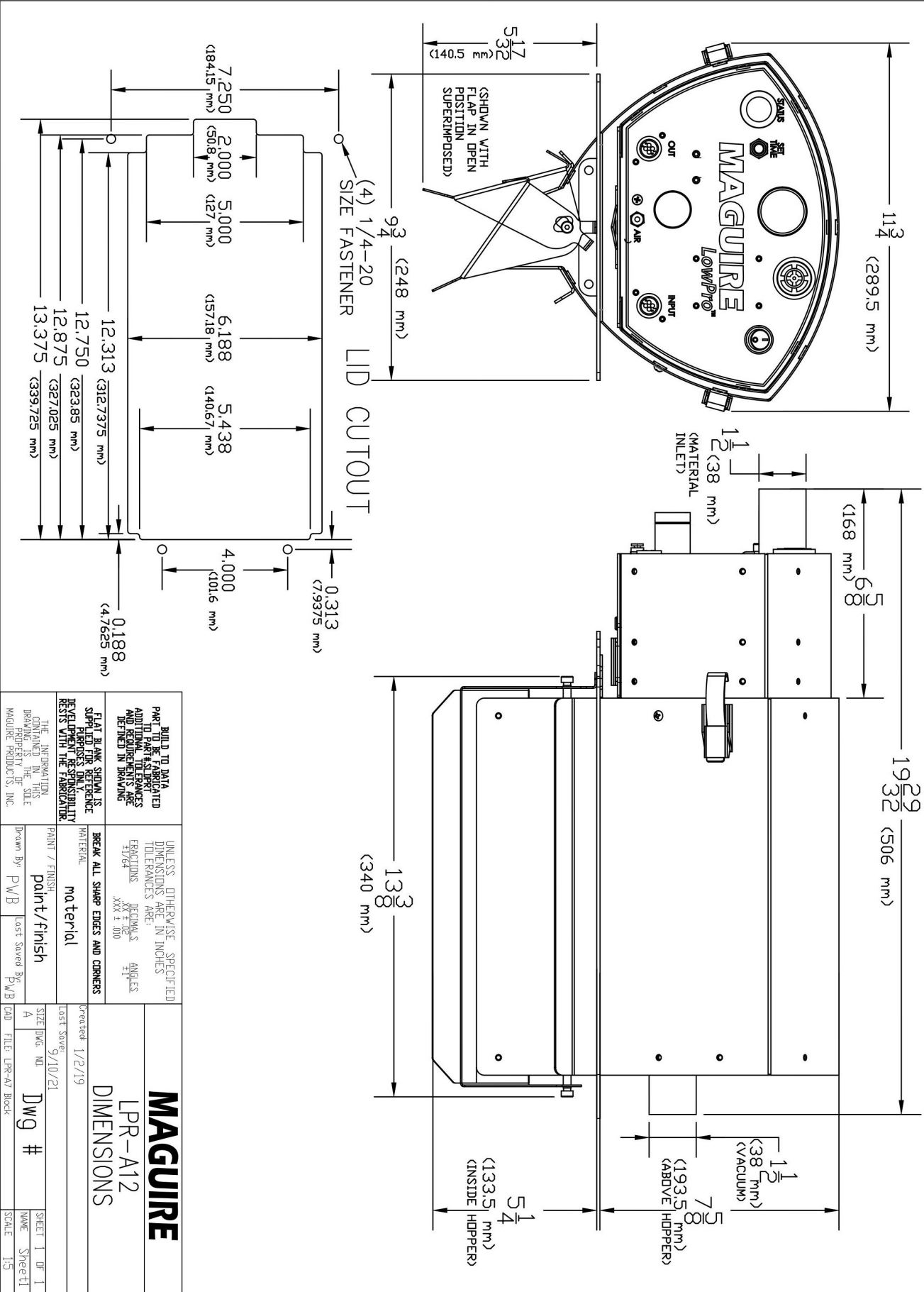
MAGUIRE
LPR-A7
DIMENSIONS

Created: 1/2/19
Last Save: 9/10/21

REV.	ECN	REVISIONS	DESCRIPTION	DATE

SIZE DWG. NO.	DWG #	SHEET 1 OF 1
Drawn By: PWB	Last Saved By: PWB	NAME: Sheet1
FILE: LPR-A7 Block	SCALE: 1:5	

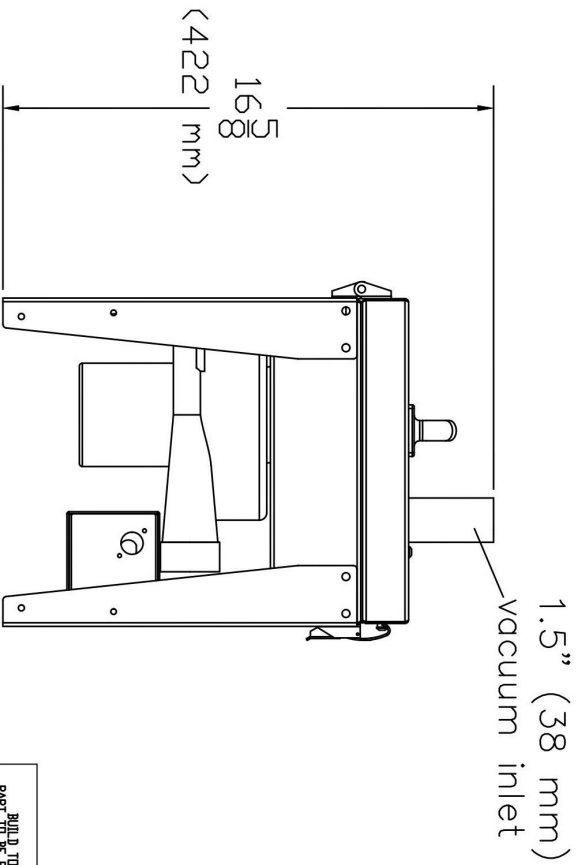
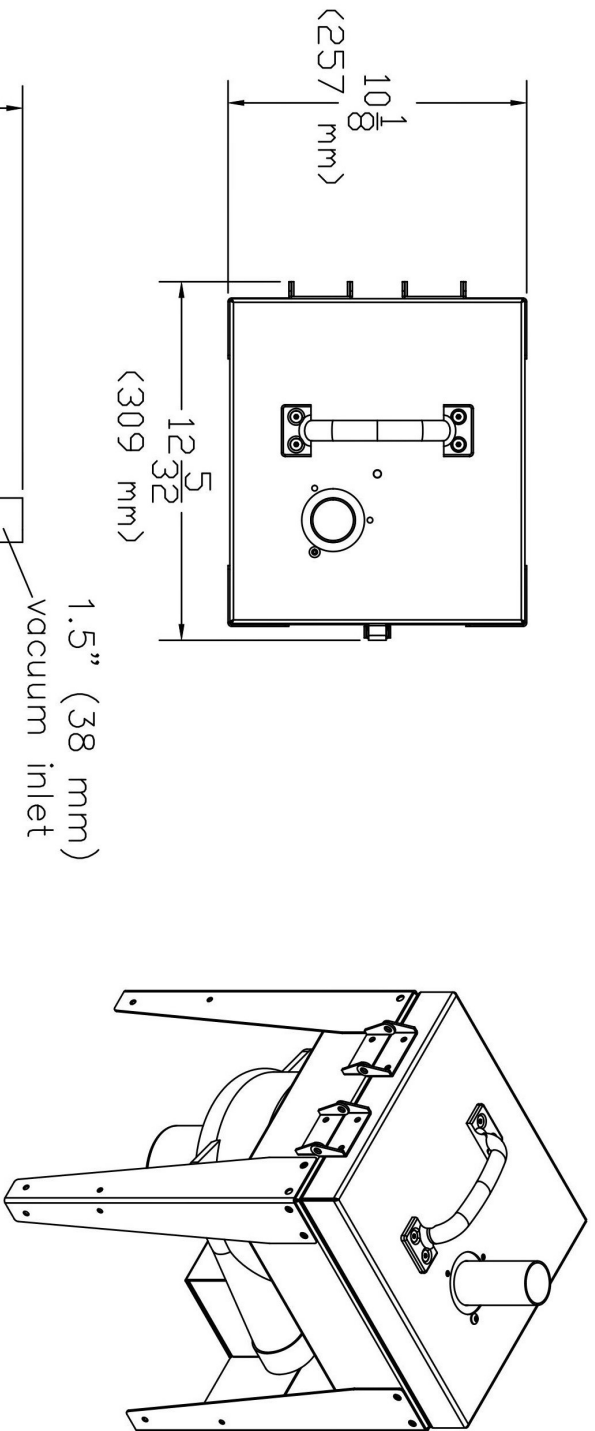
WEIGHT: 19.6 LBS (8.9 Kg)



MAGUIRE
LPR-A12
DIMENSIONS

<p>BUILD TO DATA PART TO BE FABRICATED TO MATCH DIMENSIONS AND REQUIREMENTS ARE DEFINED IN DRAWING</p>		<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ±.004 ±.003 ±.000</p>		<p>FLAT BANK SHOW IS SUPPLIED FOR REFERENCE DEVELOPER'S RESPONSIBILITY RESTS WITH THE FABRICATOR</p>	
<p>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MAGUIRE PRODUCTS, INC.</p>		<p>BREAK ALL SHARP EDGES AND CORNERS MATERIAL</p>		<p>Created: 1/2/19 Last save: 9/10/21</p>	
Drawn By:	PWB	Last saved By:	PWB	SIZE DWG. NO.	A
<p>PAINT / FINISH paint/finish</p>			<p>SHEET 1 OF 1 NAME Sheet1</p>		
<p>FILE: LPR-A7 Block</p>			<p>SCALE 1:5</p>		

WEIGHT: 24.2 LBS (11 Kg)



REV. ECN		REVISIONS DESCRIPTION		DATE	
<p>BUILD TO DATA PART TO BE FABRICATED TO PART NUMBER AND REQUIREMENTS ARE DEFINED IN DRAWING</p> <p>FLAT BLANK SHOWN IS SUPPLIED FOR REFERENCE DEVELOPER'S LIABILITY RESTS WITH THE FABRICATOR.</p> <p>THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF MAGUIRE PRODUCTS, INC.</p> <p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS DECIMALS ANGLES 1/16 0.0625 0.0005 3/32 0.09375 0.0005 1/8 0.125 0.0005 3/16 0.1875 0.0005 1/4 0.25 0.0005 5/16 0.3125 0.0005 3/8 0.375 0.0005 7/16 0.4375 0.0005 1/2 0.5 0.0005 9/16 0.5625 0.0005 5/8 0.625 0.0005 11/16 0.6875 0.0005 3/4 0.75 0.0005 7/8 0.875 0.0005 1 1.0 0.0005</p> <p>BREAK ALL SHARP EDGES AND CORNERS</p> <p>MATERIAL: material</p> <p>PAINT / FINISH: paint/finish</p> <p>Drawn By: PWB Last saved By: PWB</p> <p>Created: Friday, January 11, 2019 11:25:01 AM</p> <p>Monday, September 13, 2021 08:58:30 AM</p> <p>SIZE DWG. NO. A</p> <p>Dwg #</p> <p>NAME: Sheet1</p> <p>SCALE: 1:5</p>					
<p>MAGUIRE</p> <p>MCP PUMP</p> <p>DIMENSIONS & WEIGHT</p>					

WARRANTY - Exclusive 5-Year

MAGUIRE PRODUCTS offers one of the MOST COMPREHENSIVE WARRANTIES in the plastics equipment industry. We warrant each Pump manufactured by us to be free from defects in material and workmanship under normal use and service; our obligation under this warranty being limited to making good at our factory any Feeder 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 products.



This warranty shall not apply to any Feeder which shall have been repaired or altered outside MAGUIRE PRODUCTS 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.

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

It should be noted, however, that we strive to satisfy our customers in whatever manner is deemed most expedient to overcome any problems they may have in connection with our equipment.

Technical Support and Contact Information

Maguire Products Inc.

11 Crozerville Road

Aston, PA 19014

Tel: 610.459.4300

Fax: 610.459.2700

Email: info@maguire.com

Web: www.maguire.com

Maguire Europe

Tame Park

Tamworth

Staffordshire

B775DY

UK

Tel: + 44 1827 265 850

Fax: + 44 1827 265 855

Email: info@maguire-europe.com

Maguire Products Asia PTE LTD

Main Office

15 Changi North Street 1

#01-15, I-Lofts

Singapore 498765

Tel: 65 6848-7117

Fax: 65 6542-8577

E-mail: magasia@maguire-products.com.sg