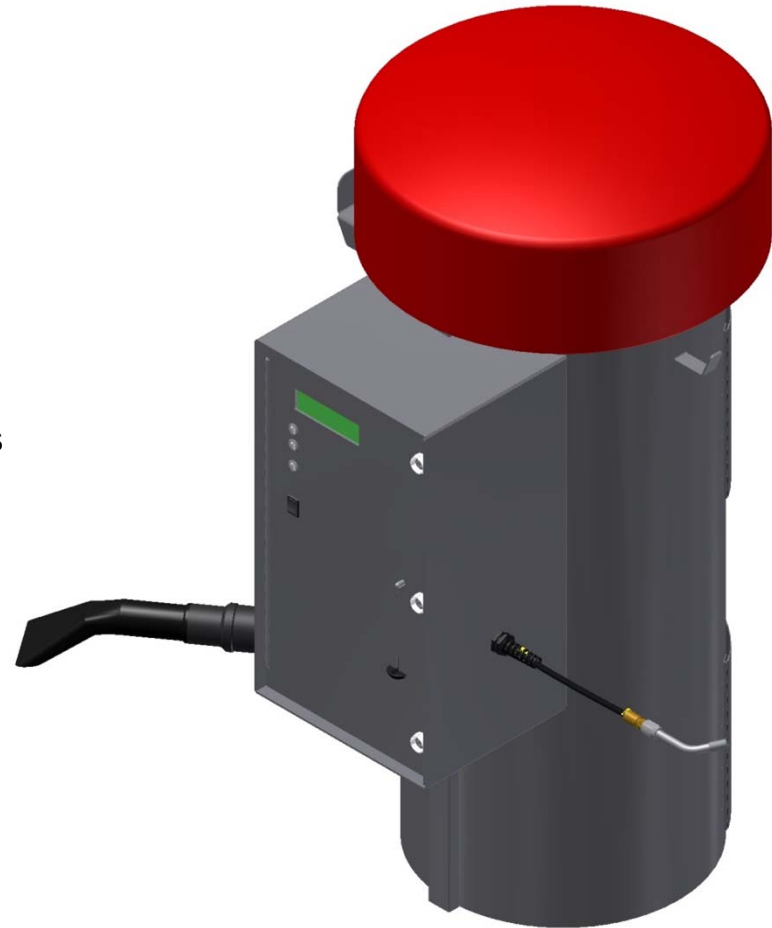




Models - 9420 "P" Series Digital Air Vac Models

Page 2	Product Information
Page 3	Specifications
Page 4	Important Safety Instructions
Page 5-6	Product Dimensions
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Page 9-10	Programming
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# **PRODUCT INFORMATION**

Please take a moment to fill out the information below in order to aid us with any future sales or service inquiries. Model number and serial number information can be found on the serial tag located inside the control box and/or on the lower exterior of the can. Key number can be found on the tag that comes attached to the keys. There may be more than one key number depending on unit.

**Please keep this information with your records.**

**MODEL#:**\_\_\_\_\_

**SERIAL#:**\_\_\_\_\_

**KEY NUMBER(S):**\_\_\_\_\_

**DATE PURCHASED:**\_\_\_\_\_

**DISTRIBUTOR:**\_\_\_\_\_

**J.E. Adams Industries  
1025 63rd Ave. S.W.  
Cedar Rapids, IA 52404  
1-800-553-8861  
[www.jeadams.com](http://www.jeadams.com)**

# Specifications

Unit specifications: Gast twin cylinder compressor models

Voltage: 120VAC, 60Hz

Amperage: (1) 20 amp service is required for this unit (air or vac will run depending on what function is chosen)

Weight: 240 lbs with pallet

Vac Motor: (2) 120VAC vacuum motor

Fuses: (2) 10 amp inline fuses (vac motors)

Compressor: Gast 3/4 HP, 120VAC, 60HZ



Twin cylinder compressor

Duty cycle time 4 minutes on, 4 minutes off.

**NOTE: "UNIT INTENDED FOR COMMERCIAL USE ONLY"**

# IMPORTANT SAFETY INSTRUCTIONS

When using an electrical appliance, basic precautions should always be followed, including the following:

## READ ALL INSTRUCTIONS BEFORE USING (THIS APPLIANCE)

### WARNING – To reduce the risk of fire, electric shock, or injury:

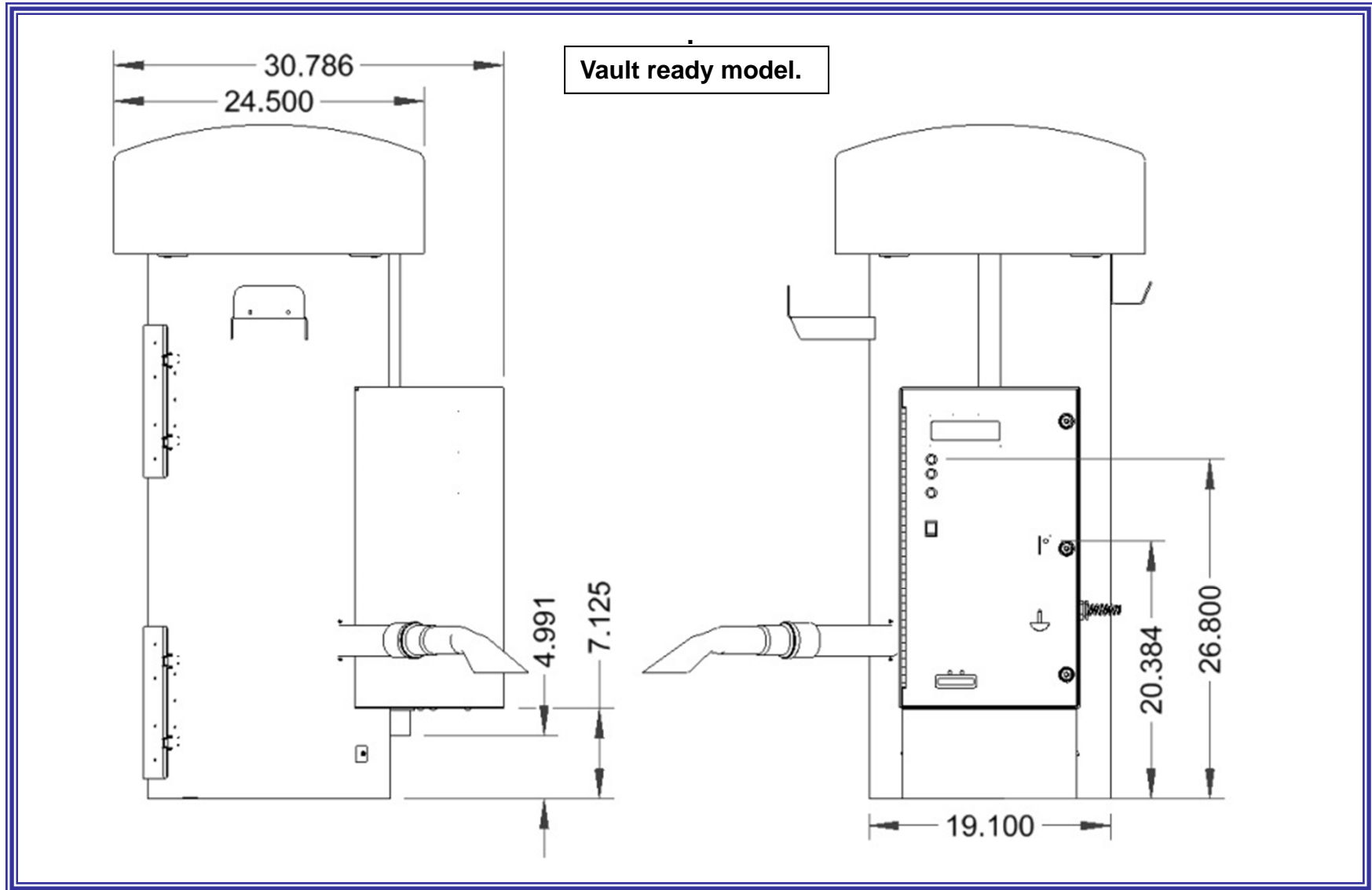
- Do not use on wet surfaces.
- Use only as described in manual. Use only manufactures recommended attachments.
- Do not allow to be used as a toy. Close attention is necessary when used by or near children.
- Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair and anything that may reduce air flow.
- Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.
- Do not use to pick up flammable or combustible liquids, such as gasoline, or use in areas where they may be present.
- Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
- Do not use without dust bag and/or filters in place.
- Never use air compressor on tires containing sealers such as “FIX-A-FLAT” type products!



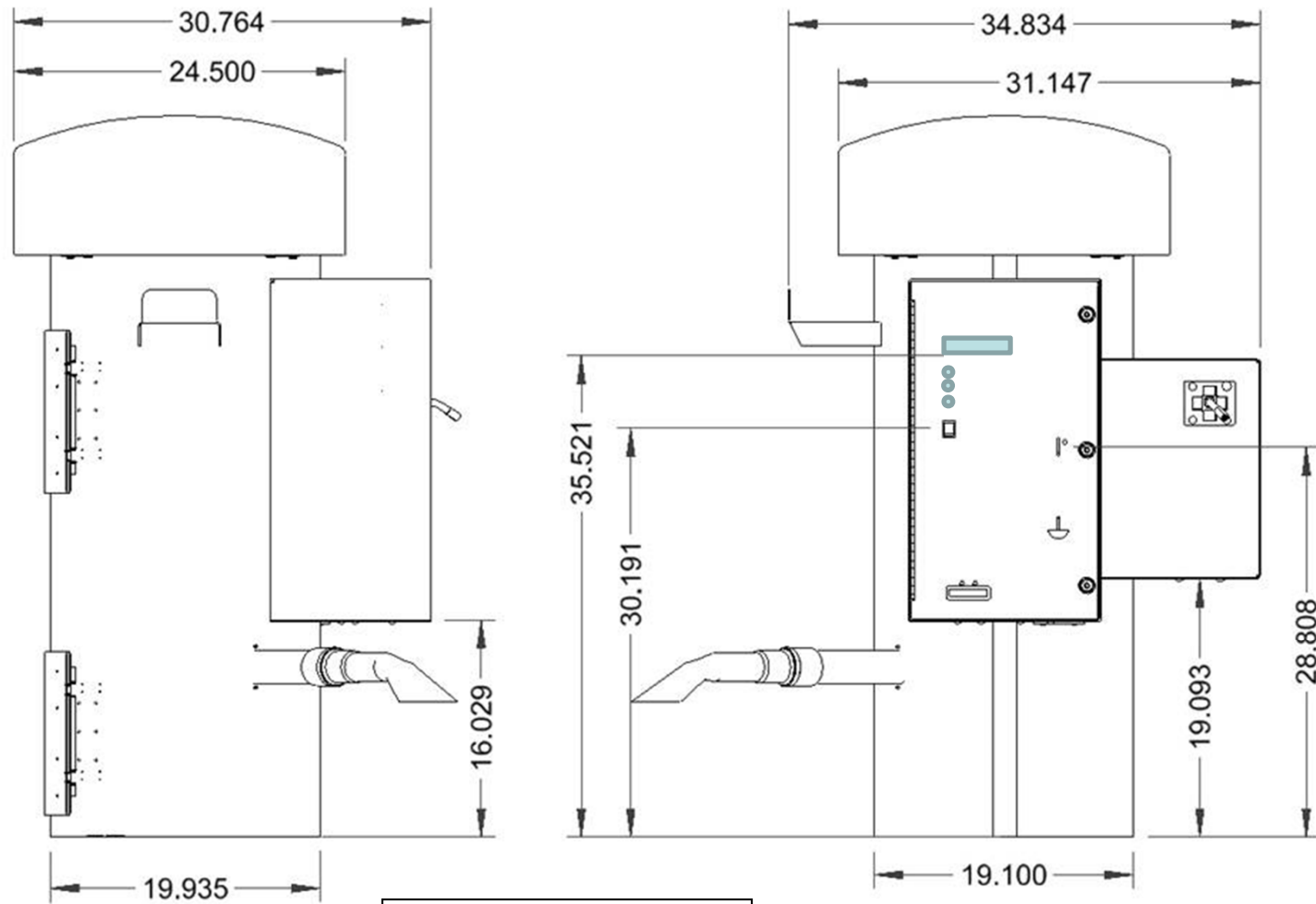
## SAVE THESE INSTRUCTIONS

- **Installation Instructions:**
- Determine location to mount unit (“**DANGER**” “**THIS EQUIPMENT INCORPORATES PARTS SUCH AS SWITCHES, MOTORS, OR THE LIKE THAT TEND TO PRODUCE ARCS OR SPARKS THAT CAN CAUSE AN EXPLOSION. WHEN LOCATED IN GASOLINE-DISPENSING AND SERVICE STATIONS INSTALL AND USE AT LEAST 20 FEET (6 M) HORIZONTALLY FROM THE EXTERIOR ENCLOSURE OF ANY DISPENSING PUMP AND AT LEAST 18 INCHES (450 MM) ABOVE A DRIVEWAY OR GROUND LEVEL.**”
- Run electrical service to that location
- **Grounding Instructions:** This appliance must be connected to a grounded metal, permanent wiring system; or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment-grounding terminal or lead on the appliance.
- All local and national electric codes must be followed for installation and use.
- Licensed electricians are recommended for installation.

# Product Dimensions

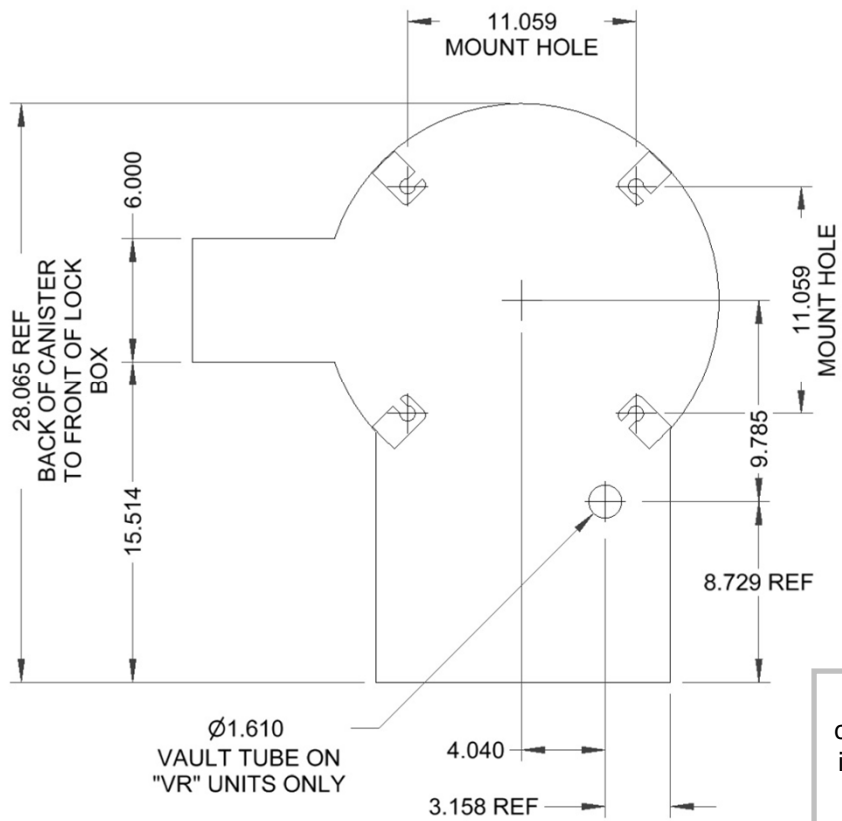


# Product Dimensions

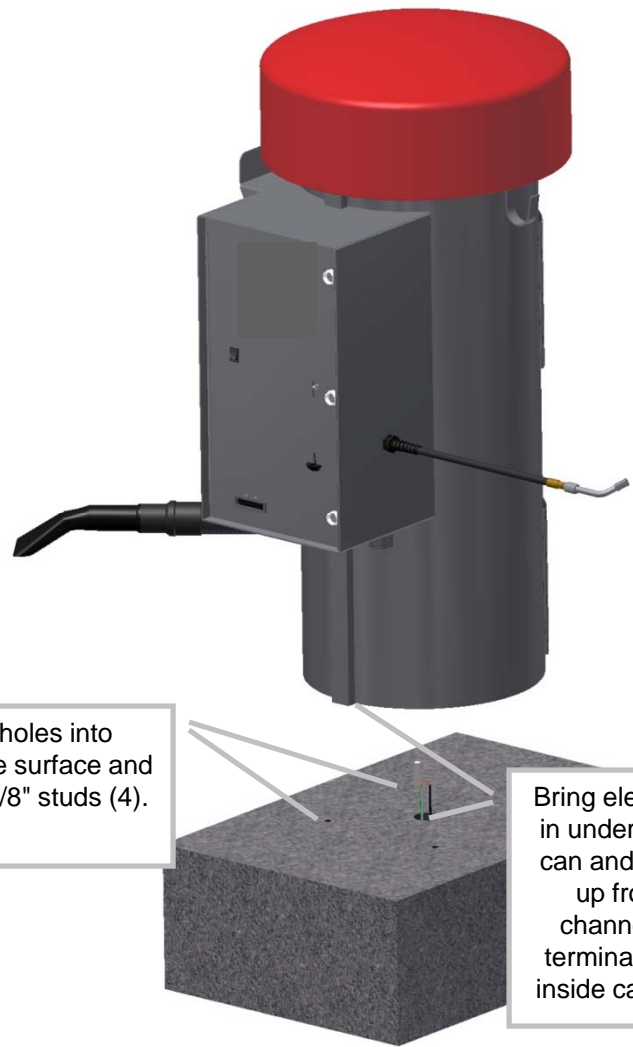


Side hose reel model.

## PLAN VIEW



NOTE: when mounting, provide clearance so cleanout doors can open!!



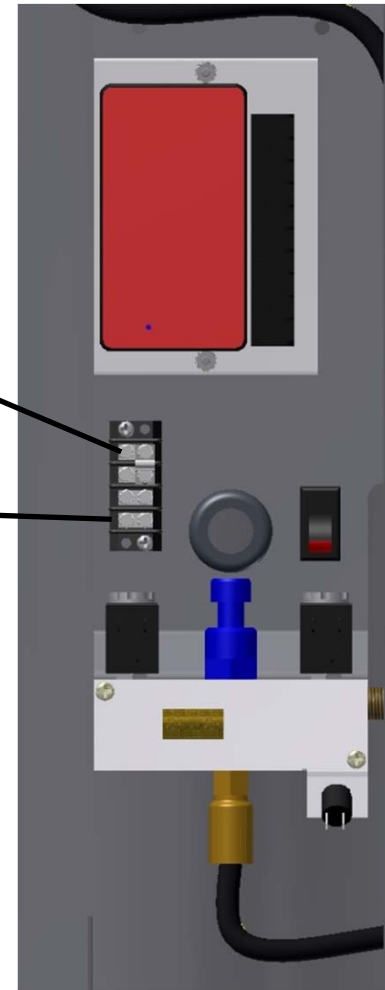
Electrical:

Open door to digital air vac to access terminal strip.

**NOTE: MACHINE SHOULD BE INSTALLED PER LOCAL/NATIONAL ELECTRICAL CODES BY QUALIFIED ELECTRICIAN.**

Consult electrical diagram on last page of manual for specifics. Connect 120V white "neutral" here.

Consult electrical diagram on last page of manual for specifics. Connect 120V black "hot" here.



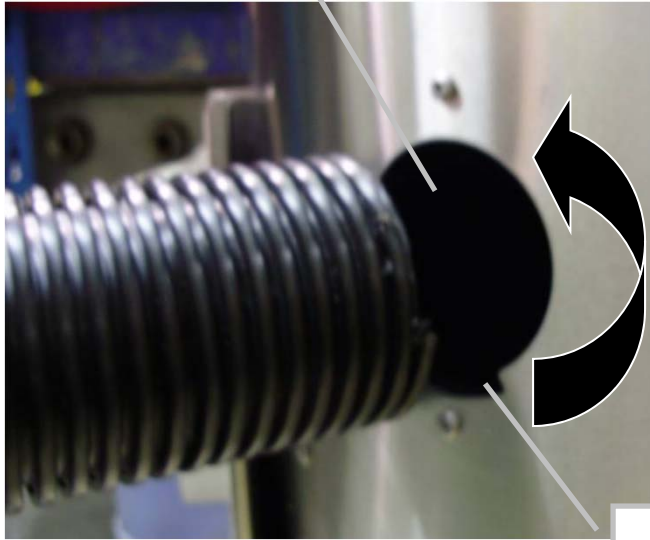
Consult electrical diagram on last page of manual for specifics. Connect green "ground" to bolt.

\*\*\*\*Note: A true ground from electrical service must be applied to unit. Failure to use a true ground will result in erratic machine function and failure.\*\*\*\*

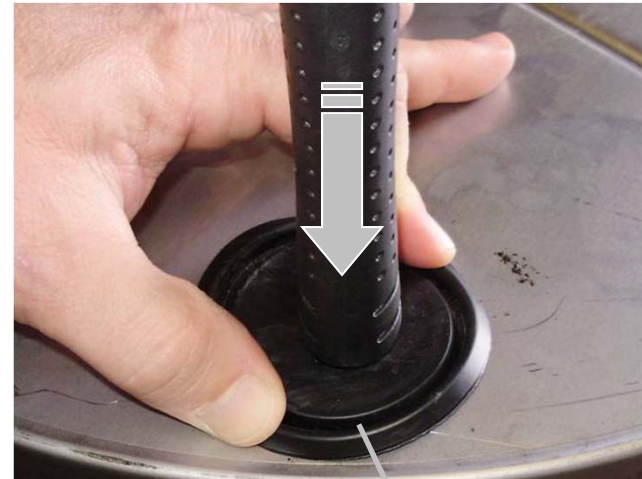


To attach hose, thread into metal hole counter clockwise.

Once unit has been installed use 5871B8 cap plugs (supplied with unit) to seal holes in canister bottom located in lower cleanout door. Extra cap plugs are included with the unit in case plug becomes damaged during shipping removal.



Edge of hose will need to start here.



To insert 5871B8 cap plugs into bottom holes, pinch cap plug into place using index finger and thumb. With edges of plug resting against edges of hole, firmly push down on plug with end of hammer or other blunt object until plug snaps into place.

### **Programming Instructions:**

#### **Coin acceptor:**

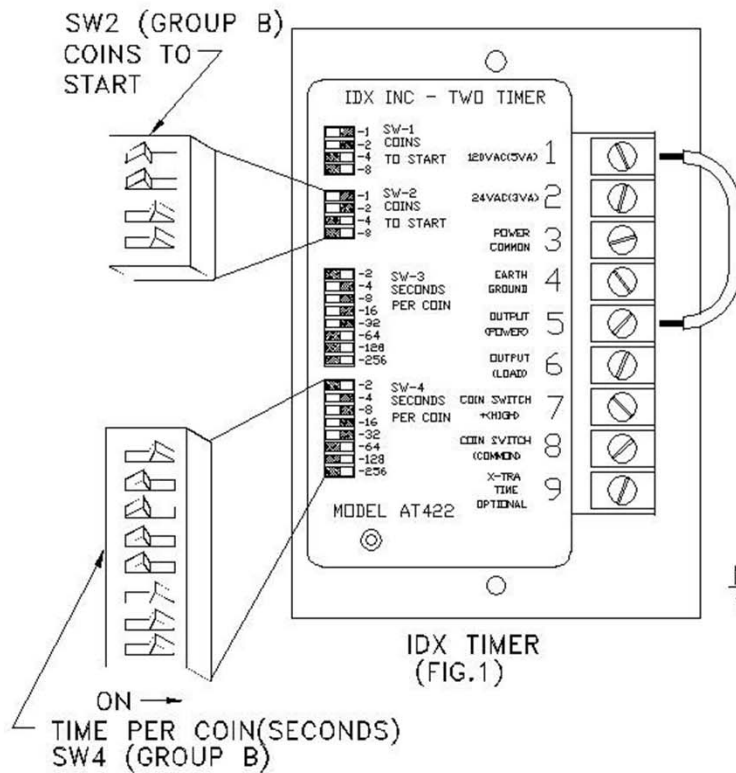
No programming to acceptor needed if unit was purchased with the standard Imonex Z3 acceptor (8149 JEA part number) as it is built accept US quarters. If different acceptor was purchased, see additional literature sent along with unit for programming info.

#### **Bill acceptor:**

Bill acceptor comes pre programmed from J.E. Adams and should not require any changes. If additional programming is needed to acceptors please refer to additional literature sent along with this unit.

## Timer programming:

The 9215 series are available only with the IDX AT422 Series "Two-Timer." The AT422 has a built in feature of two "coins to start" settings, plus two "time per coin" settings. For example, a location could program the vacuum feature for \$.75 for 4 minutes and the air dryer for \$1.25 for 4 minutes. If the end user would begin using the vacuum feature and later switch to the air dryer function, the IDX AT422 would automatically recalculate the remaining time to the higher priced feature.



### FEATURES:

- WILL CALCULATE THE REMAINING TIME DIFFERENCE INSTANTLY, SWITCHING FROM TIMER 1 (GROUP A) TO TIMER 2 (GROUP B).
- 1 TO 15 COINS TO START (SWITCH GROUP A & GROUP B).
- ACCUMULATES TIME PER COIN (FOR BOTH GROUPS A & B).
- SELECT GROUP A OR B BY USING TOGGLE SWITCH ON FACEPLATE.
- SELECT COIN TIME FROM 2 SECONDS TO 8.5 MINUTES PER COIN.
- SWITCH 1 & 3 ARE GROUP A.
- SWITCH 2 & 4 ARE GROUP B.

### NOTE:

- 1) IDX TIMERS ARE ACCUMULATING TIMERS, MEANING THAT DURING TIMING PERIOD TIME CAN BE EXTENDED PROPORTIONALLY BY ADDING MORE COINS.

### **Machine Operating Instructions:**

- Read safety instructions on previous pages.
- Flip rocker switch to desired function and insert coins/dollar bills to start.
- Compressor or vacuum motors will then start.
- For vacuum motors, use vacuum to remove dry dirt and debris from car/truck.
- For air, set control panel to desired air pressure by using the + or – buttons; default is typically set at 32 PSI.
- Apply chuck to tire valve stem and wait for machine to alarm to indicate tire is full. NOTE: For best results, remove valve stem covers on all tires before depositing money.
- Hang hose(s) up when finished.

### **How Does Digital Air Work?**

When the compressor is running, the machine will dispense air randomly out the chuck. It is searching for a back pressure from the tire. Once a back pressure is sensed, the machine will continually dispense air out the chuck until the tire is filled to the programmed pressure. If the tire does not have adequate air pressure in it (such as a low or flat tire scenario), the "flat tire" button on the control panel can be pressed which will make the digital air machine dispense air for a longer period of time before searching for a back pressure. If the digital air machine cannot fill a low tire, the tire probably needs serviced.

### **Maintenance:**

- **All servicing of machine should be conducted by an authorized service representative!**
- Periodically inspect hose, chuck, and chuck washer for wear or fatigue.
- Every month remove filter from compressor and clean.
- Periodically inspect electrical wires and connections for wear or fatigue.
- Clean cabinet with a stainless steel cleaner as needed.
- Decals can be cleaned with mild soap and water.
- Replacement parts can be ordered through JE Adams or your nearest dealer.



**DISCONNECT POWER BEFORE SERVICING OR TROUBLESHOOTING!**



### Troubleshooting:

Problem	Possible cause	Solution
Unit is not powered.	Breaker inside unit is not in the on position.	Flip breaker on.
	No power to machine.	Check incoming power.
	Loose connection.	Check incoming power connection.
Machine is behaving erratically.	Is the incoming power at 120V?	Check voltage and monitor while machine runs. Low voltage can cause erratic behavior.
	Are any of the machines wires worn through or connections not making contact?	Inspect wiring and connections. Look for sharp bends in wires and places where wire is against the metal chassis.
Unit keeps tripping breaker.	Inadequate wire size ran to machine.	Call electrician and install proper wire size for 20amp service versus length or run.
	Wrong size breaker.	Install correct breaker (only if wire size is adequate to handle 20 amp breaker).
Fuses for vac motors keep blowing.	Inadequate wire size ran to machine.	Call electrician and install proper wire size for 20amp service versus length or run.
	Motor brushes may be bad or too short.	Replace motor brushes.
Lack of vacuum suction.	Vac hose clogged?	Clean debris from vac hose.
	Filter bags need cleaned or dirt chamber needs emptied?	Shake or clean filter bags or replace and empty lower dirt chamber.
	Vac hose is split?	Replace/repair vac hose.
	Cleanout door gaskets torn or worn?	Replace gaskets.
	Vac motor gaskets are worn or motor is not tight against.	Inspect/replace gaskets and assure motor is tight against them.
	Lower chamber cap plugs/mounting hole covers have popped out?	Open lower chamber and inspect plugs, order new if needed.
	Cleanout door gaskets torn or worn?	Replace gaskets.
	One of the vac motors is not working?	Check line motor fuse and replace. Replace motor if necessary.

***DISCONNECT POWER BEFORE SERVICING OR TROUBLESHOOTING!***

**Troubleshooting:**

Compressor runs but will not inflate tire.

Air is leaking from unit somewhere.

If no system leaks, is compressor putting out enough pressure?

Turn power off to unit, apply chuck to air source with at least 30lbs of pressure and listen carefully for leaks inside cabinet or air hose.

Replace faulty component if leaking.

If compressor cannot force air into tire, the compressor may have exceeded its life span and need rebuilt (about 1000 hours).

***WHEN PERFORMING MAINTENANCE OR TROUBLE-SHOOTING, TURN POWER OFF! QUALIFIED PERSONNEL ONLY!***



For additional trouble shooting for digital air see next three pages.

**Caution!** -lethal voltage is present in all compressed air vending machines. Repair should only be attempted by trained technicians. Note -Tests should be performed in order for proper diagnosis.

**1.00 Check for loose connections:**

Loose or broken wires can cause misleading symptoms. Check all connections before proceeding.

**2.00 Check AC power:**

The pressure regulator circuit board and solenoids operate from a 24VAC power transformer. The LCD display should have white LED back-lighting and the unit should indicate a 32 psi set point and 0 psi during idle mode. If the display fails this check, the board is most likely not receiving 24VAC power. If power is present at the 0.250" tab terminals, replace the digital pressure board and/or display.

**3.00 Adjust set point :**

Adjust the set point with the up and down buttons. The buzzer should beep with every adjustment.

**3.01 Potential faults if set point does not increment or decrement:**

Loose or broken push button wires  
Push button  
Digital pressure board

**3.02 Potential faults if the buzzer does not beep:**

Loose or broken buzzer wiring  
Buzzer  
Digital pressure board

**4.00 Read tire pressure :**

With the compressor off, attach the air chuck to a tire. The display should indicate the tire pressure. The buzzer should beep when stable pressure is detected. Note the pressure and remove the chuck. Measure the tire with an accurate hand-held tire gauge. Compare the two readings.

Note -stick gauges are notoriously inaccurate, use a quality instrument for this procedure. Make sure a good seal is achieved for each measurement. Any air escaping during this procedure will greatly affect accuracy. The test tire should be at 32 to 50 psi for best results.

**4.01 Potential faults if pressure is not within a few psi of measured tire pressure:**

Tire chuck  
Leaks in fittings or hose  
Loose or broken pressure sensor cable  
Solenoid stuck open  
Pressure sensor

**Digital pressure board:**

**4.02 Potential faults if pressure is within a few psi of measure tire pressure:**

Digital pressure board requires calibration  
Faults listed under 4.01

**5.00 Calibration :**

Skip this step if tire accuracy is within acceptable limits.

**Tools:**

Michelin MN-12279 Tire Gauge recommended (displays pressure to 0.1 PSI resolution).

**Notes:**

Make sure the compressor is off before entering the calibration mode and remains off during the entire calibration process.

**5.01** Press and hold the "PROGRAM" button on the digital pressure circuit board. After approximately 2 seconds, the buzzer will beep and "CAL" will be displayed. Release the button. The exhaust solenoid will be enabled for 2 seconds after which all of the display segments will be turned on to allow for visual inspection of the display. After an additional 3 seconds, the exhaust solenoid will be disabled and the display will show the pressure in 0.1 psi increments (example "P 0.3").

Note -during the time that all display segments are enabled, the pressure board is adjusting the pressure sensor input for 0 psi measurements. The pressure displayed initially will include any previously calculated offset.

**5.02** Attach the air chuck to the tire until the unit starts beeping, indicating that the pressure reading is stable. Remove the air chuck from the tire (the captured pressure reading will continue to be displayed until the chuck is attached to the tire again). Measure the tire pressure with the Michelin tire gauge and press the up or down button so that the pressure displayed matches the pressure measured with the Michelin tire gauge. Note -Make sure a good seal is achieved for each measurement. Any air escaping during this procedure will greatly affect accuracy. The test tire should be at 32 to 50 psi for best results.



**5.03** **The calibration mode can be exited in one of three ways:**  
1) Pressing the PROGRAM button for less than 2 seconds will exit the calibration mode without saving the new calibration values.  
2) Holding the PROGRAM button for 2 seconds until the beeper starts beeping rapidly will save the new calibration values.  
3) The pressure board will automatically exit calibration mode if no button is pressed or no change in pressure reading is detected for 60 seconds and the new calibration values will not be saved.

#### **Tire inflation/deflation**

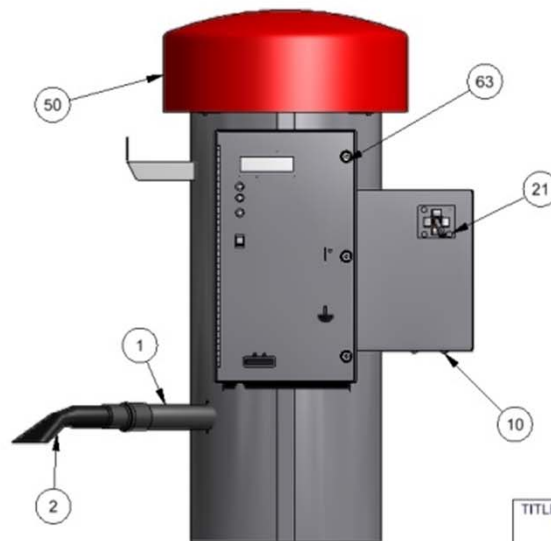
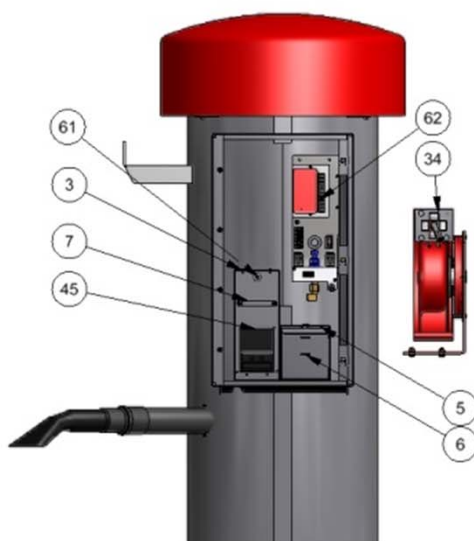
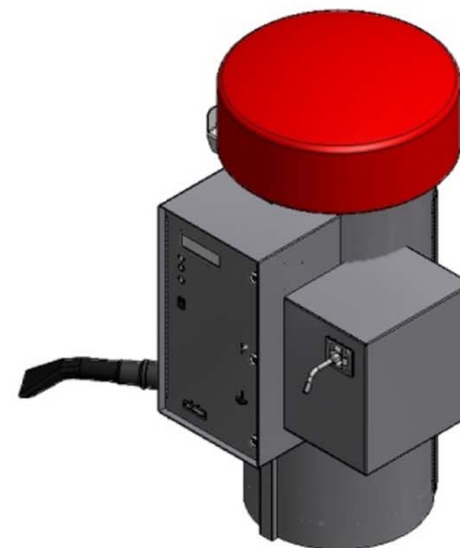
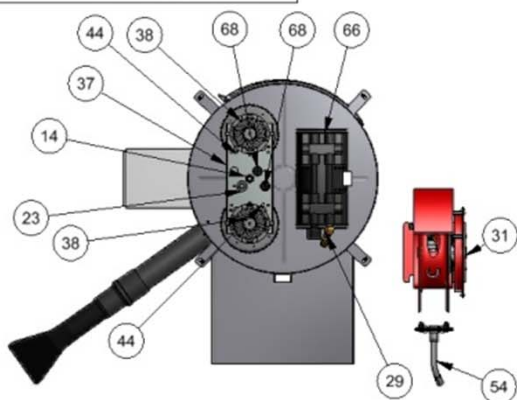
**6.01** Deposit the required number of quarters to activate the compressor. Adjust the set point to the desired tire pressure. Attach the tire chuck to the tire and verify a good seal is achieved. The digital pressure board should detect the tire and begin the process unless it is flat. Depressing the flat tire button will dispense air until the tire is detected. The buzzer should beep several times when the tire pressure matches the set point.

**6.02** **Potential faults during inflation/deflation test:**  
Loose or broken solenoid wires  
Current sensor cable  
Leaks between compressor and manifold  
Foreign debris in solenoid seal area  
Solenoid  
Weak compressor  
Faulty over-pressure relief valve  
Digital pressure board



PART NO. 9420-1GDIGPVH							
BILL OF MATERIALS				BILL OF MATERIALS			
ITEM	PART NUMBER	DESCRIPTION	QTY	ITEM	PART NUMBER	DESCRIPTION	QTY
44	8108	#10 x 1/2 TAP SCREW	2	1	2036	HOSE, 2" X 15' BLACK VACUUM	1
45	8130-6	MEI MARS, 110V BILL VALIDATOR	1	2	2058	CLAW/CUFF ASSEMBLY, 2"	1
46	8153-1	LATCH, CLEANOUT DOOR	4	3	29000-44W	VALIDATOR BOX WELDMENT	1
47	8157	NUT, #6-32 KEPP NUT STAINLESS	4	4	29000-45W	VALIDATOR FACEPLATE WELDMENT	1
48	8159	DOOR GASKET	2	5	29000-47W	COIN BOX ENCLOSURE WELDMENT	1
49	8183	DECAL, WARNING DISCONNECT POWER	2	6	29000-52W	COIN BOX WELDMENT	1
50	8306	24" PLASTIC DOME	1	7	29000-59	VALIDATOR FACEPLATE HANDLE	1
51	8427-1	DECAL CANISTER SIDE VAC	1	8	29029-12	COVER, VAULT HOLE	1
52	8427-2	DECAL CANISTER SIDE AIR	1	9	5035D3	DOWEL PIN	4
53	8437D001	ETL LISTED DECAL	1	10	5600D2	5/16-18 x .75 CARR BOLT	2
54	8533-13	OPEN FLOW CHUCK	1	11	5600D4	3/8-16 BOLT	4
55	8545-4	30" HOSE ASSEMBLY	2	12	5601D1	1/4-20 x 1/2 HHCS-ZINC PLATED	4
56	8615-5W	CLEANOUT DOOR WELDMENT	2	13	5603D1	10 Std NC Nylock Nut	2
57	8670KIT602-03	PROTEL DIGI AIR KIT	1	14	5603D11	1/2 Std NC Nylock Nut	1
58	8732	PRODUCT NAMEPLATE	1	15	5603D2	1/4 Std NC Nylock Nut	12
59	8754	DECAL, WARNING	1	16	5603D5	1/4 Std NC Nylock Nut	7
60	8839	PALLET	1	17	5603D9	Nut NYLOCK, #10-32	2
61	8958-1	MEDECO SCREW LOCK	2	18	5606D22	3/8" FENDER WASHER	4
62	9420-16A	CONTROL ASSEMBLY, PROTEL DIGI AIR/VAC	1	19	5611D4	NUT, 5/16-18 UNC KEPP- SS	2
63	9420-7A-DIG	DOOR ASSY, DIGITAL AIR VAC	1	20	5635D1	1/4-20x1/2 CARRIAGE BOLT	3
64	9420FPD-DIGP	DOOR DECAL, PROTEL DIGITAL AIR VAC	1	21	5635D4	1/4-20 UNC CARRIAGE BOLT	4
65	9421W9	DIG AIR/VAC CAN W/SIDE REEL	1	22	5636D1	#10-24 PHIL. PAN HEAD SCREW	2
66	9862	3/4 TWIN HEAD GAST COMPRESSOR	1	23	5639D4	RUBBER GROMMET	1
67	B5722-002	LOCK NUT, 38"	1	24	5644D1	CAGE NUT 5/16-18	5
68	B5996-010	FUSE, GLR SERIES, 10AMP	2	25	5647D2	RIVET, 1/8" SS POP	24
69	B5997-001	FUSE HOLDER, 10A MAX	2	26	5647D8	RIVET, 3/16" SS POP	21
				27	5684D2	1/2" HOSE CLAMP	1
				28	5827D1	45DEG STREET ELBOW	1
				29	5827D1	45 DEG. STREET ELBOW	1
				30	5871b8	PLUG, VAC BOTTOM 2-1/2"	8
				31	6025SHR	REEL CRAFT, BASE MOUNT	1
				32	6027-1	RETAINER, ROLLER	1
				33	6027-2	COVER, HOSE GUIDE	2
				34	6027-3	ROLLER, HOSE GUIDE	4
				35	8000-21	2 PIN CONNECTOR	1
				36	8000-22	2 PIN CONNECTOR	1
				37	8051G	BRACKET, MOTOR MOUNT	1
				38	8055EM	MOTOR, ELECTRO 120V	2
				39	8055LEAD-EM	WIRE LEAD, VAC MOTOR	4
				40	8057	MOTOR GASKET	2
				41	8076	FILTER BAG	4
				42	8081	CABLE TIE MOUNT	6
				43	8084	CABLE TIE	33
				TITLE PROTEL DIGT AIR VAC W/VAL, GAST, REEL			
B	7471	ADDED (1) 8437D001	5-22-15	CK	UNSPECIFIED TOLERANCES	MATERIAL	
A	7439	ADDED (1) 8000-21 AND (1) 8000-22	3-27-15	CK	1 PL ±.030	SCALE	
REV	NO.	DESCRIPTION	DATE	BY	2 PL ±.010	DRAWN BY CHAD K.	
THIS DOCUMENT SHALL NOT BE REPRODUCED NOR SHALL THE INFORMATION THEREIN BE USED BY OR DISCLOSED TO OTHERS EXCEPT AS AUTHORIZED BY J.E. ADAMS INDUSTRIES					3 PL ±.003	DATE 4/24/2014	
					ANGLE ±1.0°	PART NO. 9420-1GDIGPVH	REV. B

PART  
NO. 9420-1GDIGPVH



TITLE  
PROTEL DIGT AIR VAC W/VAL, GAST, REEL

UNSPECIFIED  
TOLERANCES

1 PL  $\pm 0.030$   
2 PL  $\pm 0.010$   
3 PL  $\pm 0.003$   
ANGLE  $\pm 1.0^\circ$

MATERIAL

SCALE

DRAWN  
BY CHAD K.

DATE 4/24/2014

CEDAR RAPIDS, IOWA



PART  
NO. 9420-1GDIGPVH

REV.  
B

REV	NO.	DESCRIPTION	DATE	BY
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