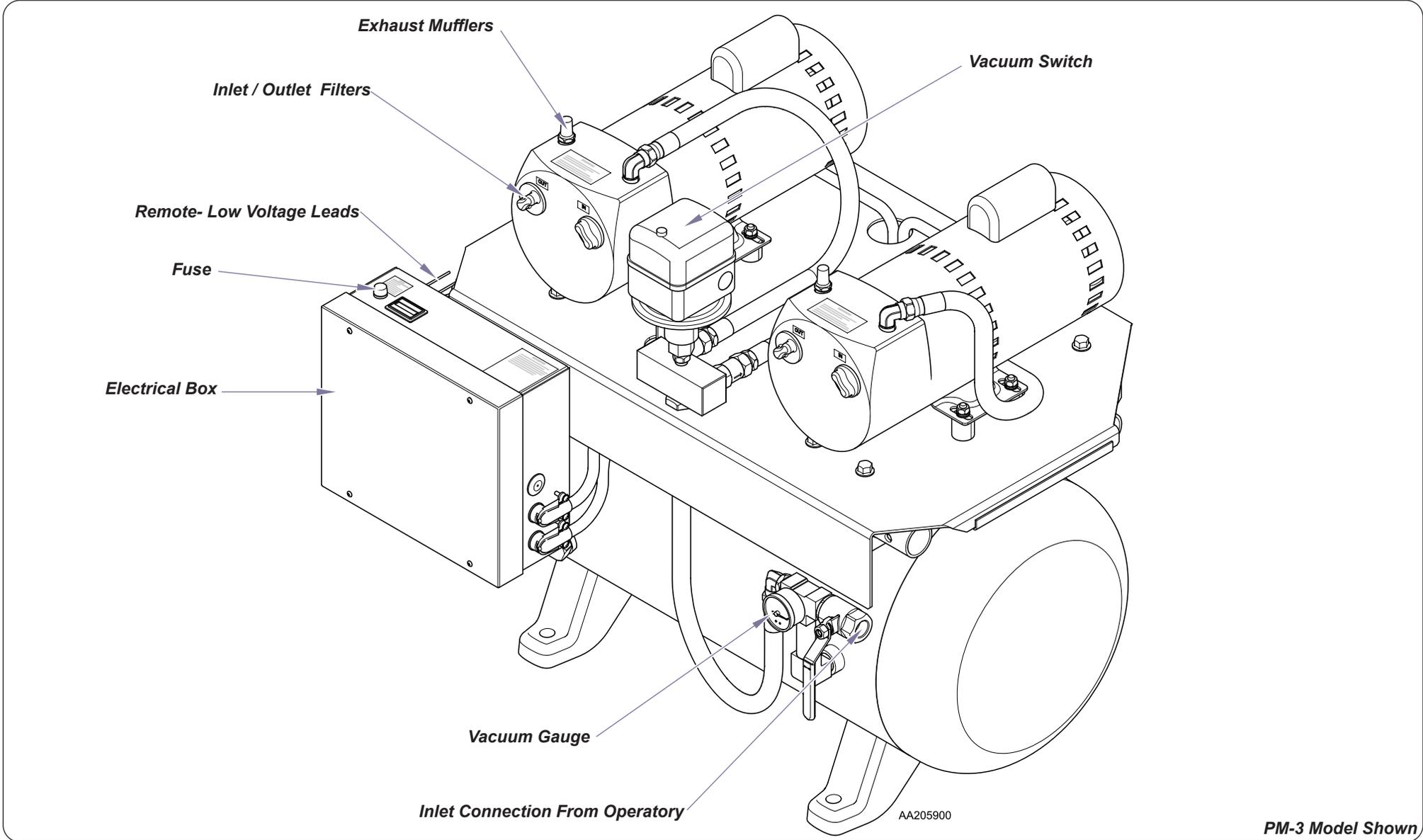


PowerMax High Performance Vacuum Installation

Applies to Models:
 PM-1 - Single
 PM-3 - Twin
 PM-4 - Triple

Equipment Alert
 PowerMax high performance vacuum system must be installed per local plumbing and electrical codes. Refer to "Site Requirements" and "Site Layout" in this manual for site restrictions and piping layout.



PM-3 Model Shown

PowerMax Site Requirements

Electrical	Models		
	PM-1	PM-3	PM-4
Supply			
Voltage	208-230 VAC		
Phase	Single Phase, 50 / 60 Hz		
Circuit Size	20 AMP		
Wire Size to Control Panel	18 / 3 Jacketed Bell Wire		
208/230 VAC 60 HZ	5.1 AMP	9.7 AMP	14.3 AMP

Plumbing

Intake (Suction Line)			
Type	Type K or L Copper Tubing. PVC and CPVC sch 40, 80 and 120 - *Note: Do Not use compression fittings for vacuum lines.		
Line Sizing	1"	1 1/4"	1 1/4"
Operatory Termination	5/8" OD Copper		

Recovery Package

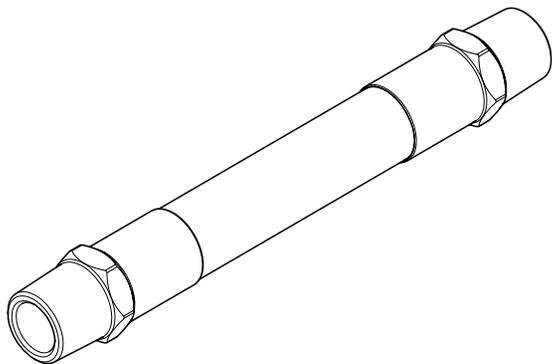
Important: The vacuum system must terminate at a operatory recovery room package (Available from Midmark) to prevent contamination of vacuum outlets and the PowerMax unit.

Exhaust	Exhaust May be vented to the outside using an optional Exhaust Kit. (Available from Midmark)		
Vent Type	Copper Tubing or Conduit (Installer Supplied)		
Line Sizing	3/4"		

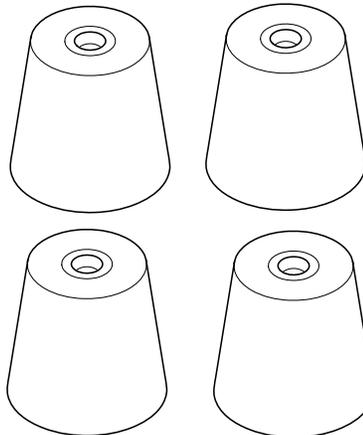
Environmental

Equipment Room Ambient Temperature - Operational	40° - 104° Fahrenheit / 4° - 40° Celsius		
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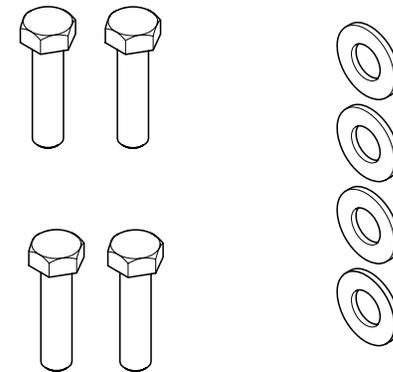
Installation Kit Provided with PowerMax



6' Vacuum Hose with 1/2" NPT Connections
Connects from PowerMax to Operatory Vacuum Line



Feet, Qty 4



Hardware for Feet, Qty 4
Bolts and Washers

AA205600

PowerMax Site Requirement Layout

Elevation View

*If Optional Exhaust System is Used
Only Install ,“Midmark PowerMax Exhaust Kit”*

*To prevent moisture from entering the
PowerMax, use appropriate 90 elbows
to cap an outside vertical line.*

*Disconnect Box 208-230VAC - 20 Amp
Single Phase 50/60 Hz Circuit with ap-
proved ground required.
(Provided by Electrician)*

*“Optional” Roof Vent
Use Raincap with
Insect Screen*

*3/4” Metal Exhaust Piping - Vent to Outside
(Installer Supplied)*

*Optional Midmark
PowerMax Exhaust Kit*

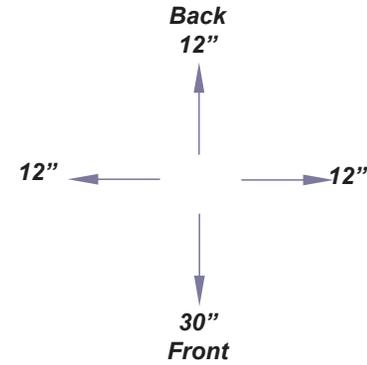
*“Preferred” Wall Vent
Use Raincap with
Insect Screen*

Slope

Slope

Equipment Alert
Metal tubing must slope “AWAY” from the PowerMax as shown in the elevation view.

**Operatory
Connection**



ArtFull

Important Information

Intended Use

To provide suction during procedures conducted by qualified dental professionals.

Electromagnetic Interference

The Midmark® PowerMax Vacuum is designed and built to minimize electromagnetic interference with other devices.

However, if interference is noticed between another device and these units:

- Remove interfering device from room
- Plug interfering device into an isolated circuit
- Increase separation between unit and interfering device
- Contact Midmark if interference persists

Disposal of Equipment

At the end of product life, the unit(s), accessory and other consumable goods may become contaminated from normal use. Consult local codes and ordinances for proper disposal of equipment, accessories and other consumable goods.

Transportation / Storage Conditions

Ambient Temperature Range: 40°F to 104°F (4°C to 37°C)
Relative Humidity 10% to 90% (non-condensing)
Atmospheric Pressure 500hPa to 1060hPa (0.49atm to 1.05atm)



Keep dry



Consult User Guide for important information.



Maximum stacking height (palletted units)



Proper shipping orientation



Fuse rating specification



Fragile



Caution hot surface



Protective earth ground

IPX0 Ordinary Equipment

This product has been evaluated with respect to electrical shock, fire and mechanical hazards only, in accordance with UL60601-1 and CAN/CSA C22.2 NO. 601.1.

Safety Symbols



WARNING

Indicates a potentially hazardous situation which **could** result in serious injury if not avoided.



Caution

Indicates a potentially hazardous situation which **may** result in minor or moderate injury if not avoided. It may also be used to alert against unsafe practices.

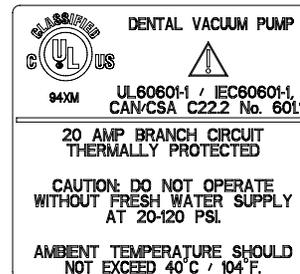


Equipment Alert

Indicates a potentially hazardous situation which could result in equipment damage if not avoided.

Note

Amplifies a procedure, practice, or condition.

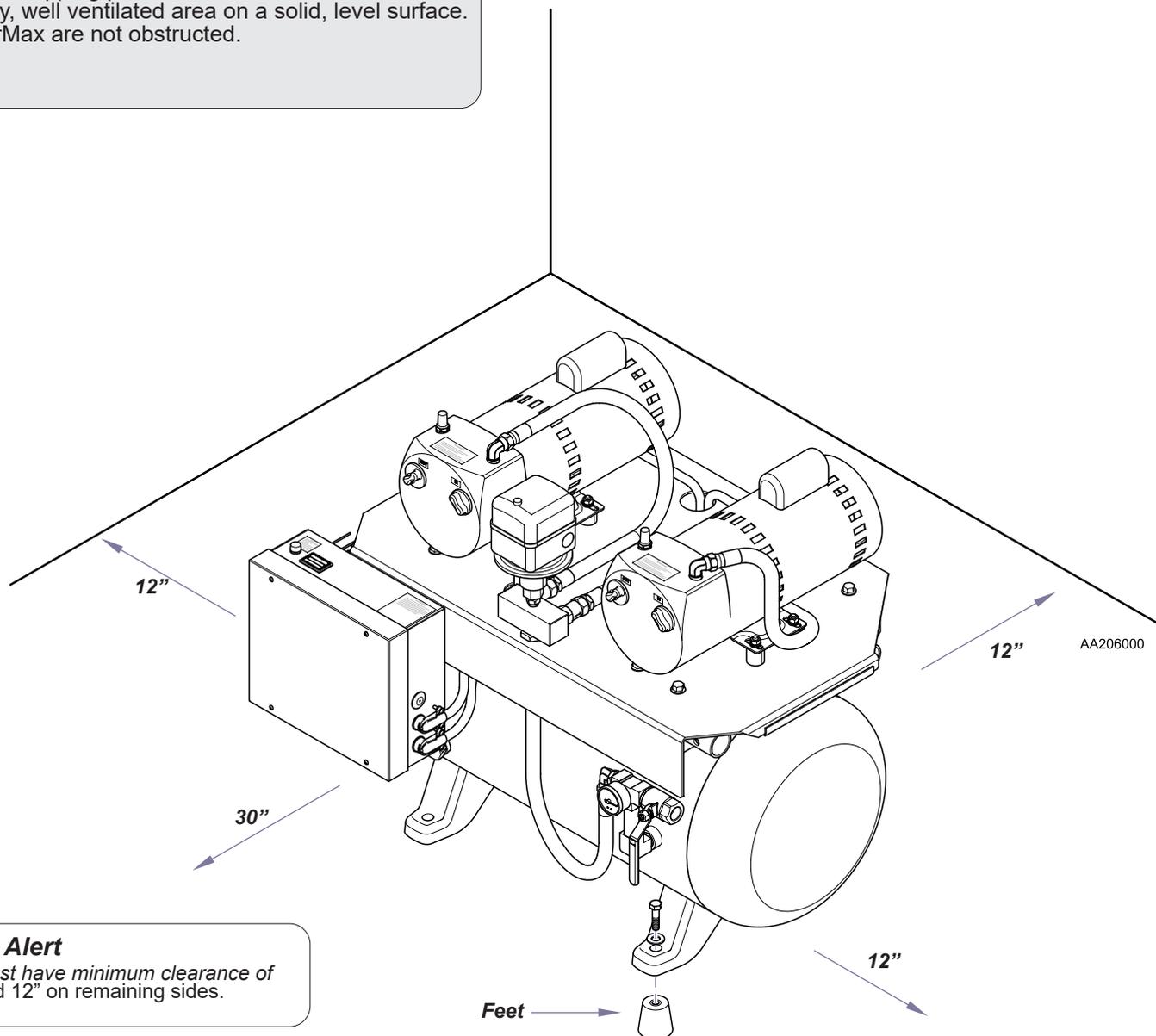


061-1030-00

Before you Install...

Pre-Install steps..

- A. Remove PowerMax from shipping platform.
- B. Move PowerMax to a dry, well ventilated area on a solid, level surface.
- C. Verify all sides of PowerMax are not obstructed.
- D. Unpack installation kit.
- E. Install rubber feet.



Equipment Alert

PowerMax must have minimum clearance of 30" in front and 12" on remaining sides.

Installation

Plumbing Connections



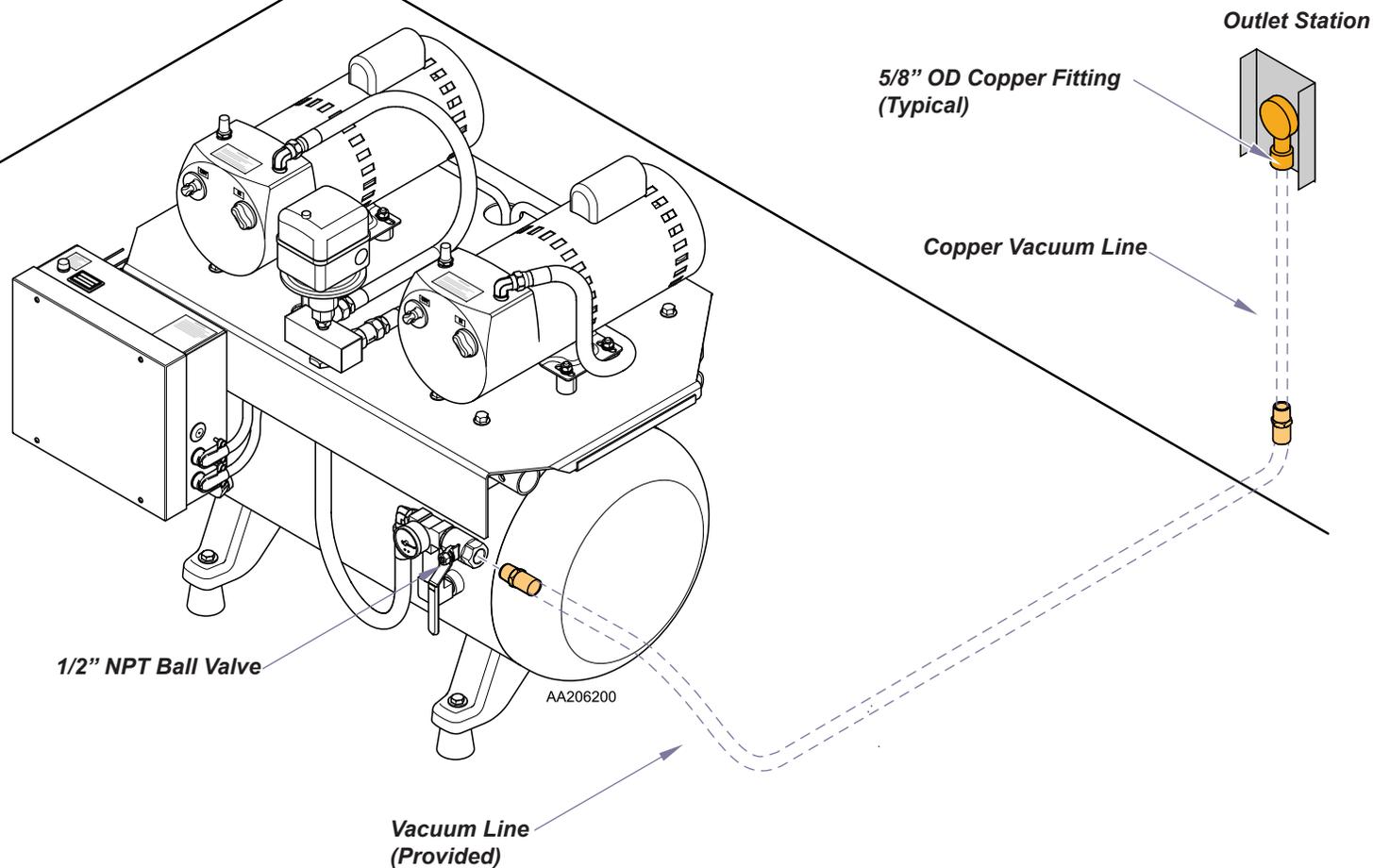
Equipment Alert

Vacuum system must terminate at an operator recovery room package (available from Midmark) to prevent contamination of vacuum outlets and the PowerMax

Plumbing Connections...

- A. Connect vacuum hose to PowerMax vacuum line.
- B. Connect opposite end of vacuum line to vacuum piping outlet station.

Note: Vacuum line to operatories should be type K or L copper tubing.
Do not use compression fittings for vacuum lines, refer to, "Site Requirements in this manual for tubing size.



Installation

Electrical Connections - Supply Box and Remote Panel

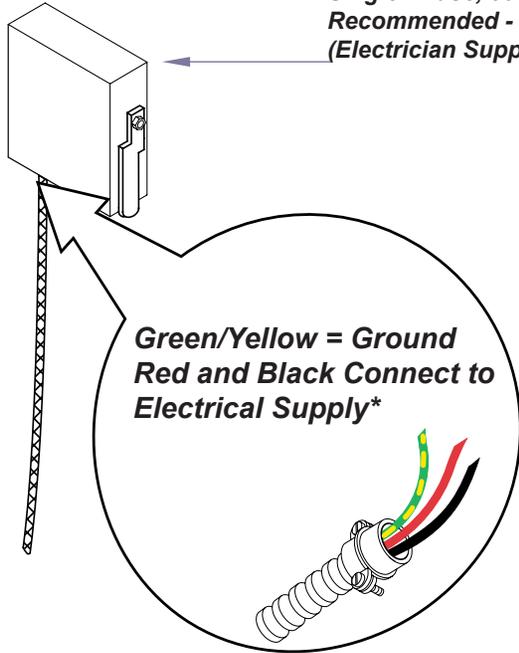
Electrical Connections...

- A. Connect remote panel wires to Low Voltage Control wires if applicable.
- B. Connect conduit cable to user supplied electrical box.

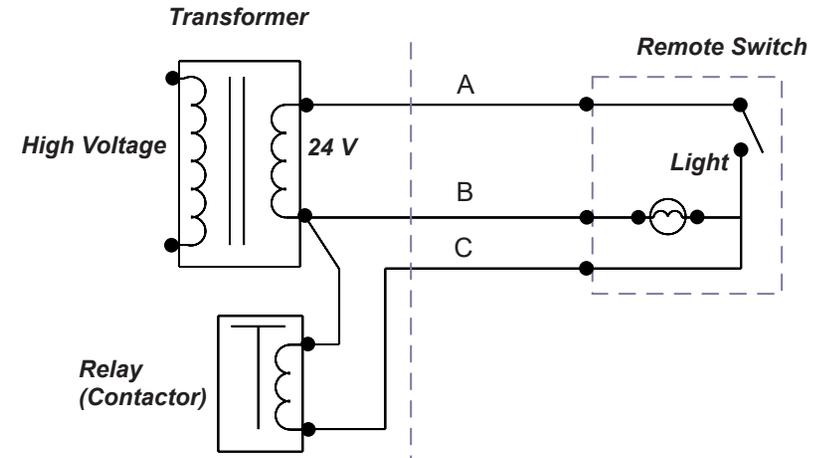
*Refer to Specification Sheet for Electrical Ratings in this manual.

Supply Box

*208-230 Volt Source
Single Phase, 50/60 Hz
Recommended - 20 Amp Fuse Disconnect Box
(Electrician Supplied)



Remote Panel



Control Panel Reference Cross Wiring

Brand	Wire		
	A	B (light)	C
Midmark®	Blue	White	Red
Air Techniques	Yellow	Brown	Orange
DentalEz	Black	Brown	Yellow
Matrix®	Red	Blue	White
Apollo	Blue	White	Red

Installation

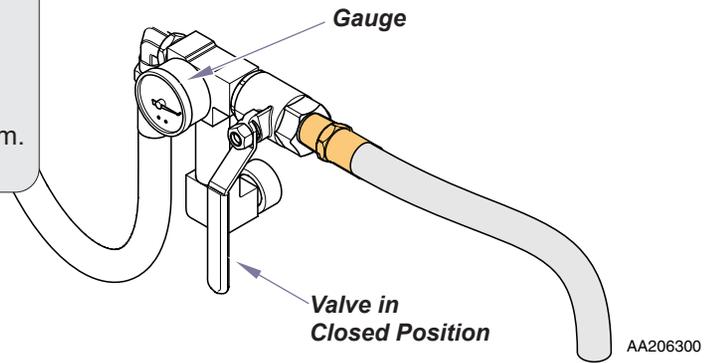
Check and Test

Check Vacuum System

- A. Check for leaks.
- B. Check Vacuum switch On/Off setpoints

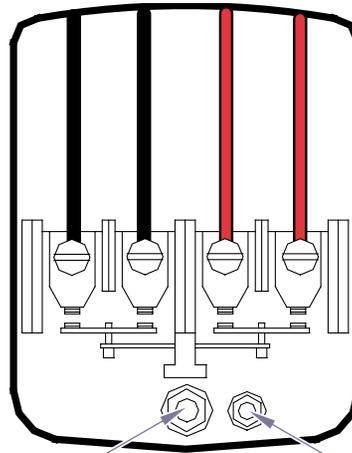
Checking for Leaks...

- Turn PowerMax on, allow it to reach 20"Hg.
- Close inlet valve.
- Do not use any vacuum piping for several minutes.
- If gauge drops while inlet valve is closed, there is a leak in the unit.
- Open inlet valve.
- If gauge drops after opening inlet valve, a leak in the office piping system.
- Repair any leaks found.



Check Vacuum Setpoints...

- Close ball valve and drain valve.
- Turn PowerMax on.
- Observe Gauge, unit should shut off at 20"Hg.
- Open drain valve, unit should turn on at 13"Hg.
- Perform adjustment if necessary



**Vacuum Range
Switch Adjuster**

**Low Setpoint
for Low Limit**

Adjustments

Vacuum Range..

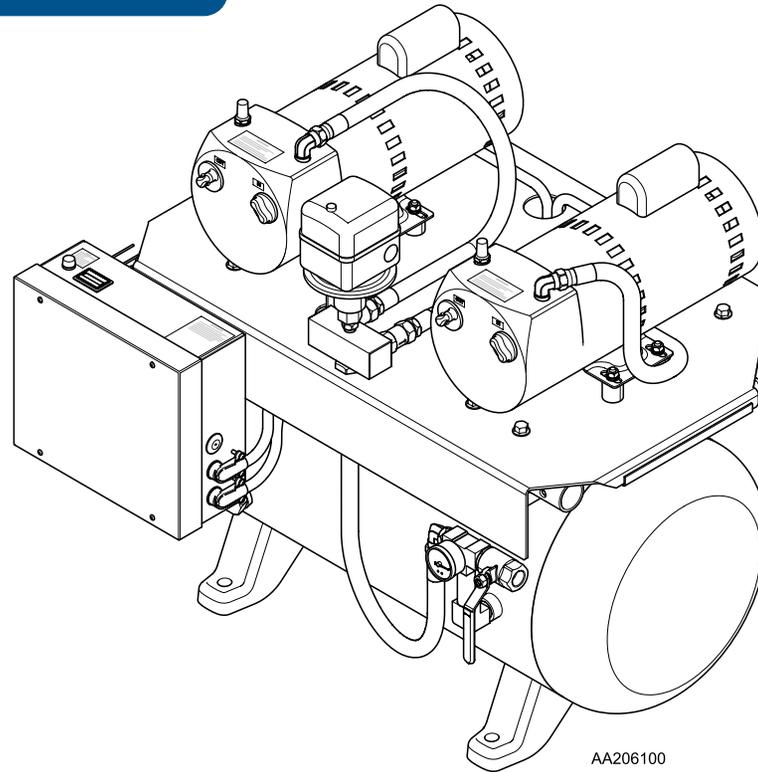
- Adjust vacuum range if system didn't shut off at 20"Hg.
- Clockwise will decrease reading.
- Counter Clockwise will increase reading.

Low Setpoint..

- Adjust Low Limit if system didn't turn on at 13"Hg.
- Clockwise will decrease reading.
- Counter Clockwise will increase reading.

Specification Sheet

PowerMax High Performance Vacuums



AA206100

Model	Users	Height (IN.)	Width (IN.)	Depth (IN.)	Weight (LBS.)	HP	Voltage (50/60 Hertz)	Breaker Size per Pump (Amps)	Tank Capacity (GAL)	CFM Maximum
PM-1	1	31"	32"	25"	150	.75	208-230 @ 5.1 Amp	20	20	8
PM-3	2-3	31"	32"	25"	210	1.5	208-230 @ 9.7 Amp	20	20	16
PM-4	3-4	34"	38"	27"	290	2.25	208-230 @ 14.3 Amp	20	32	24

