



# ***Equipment Alert***

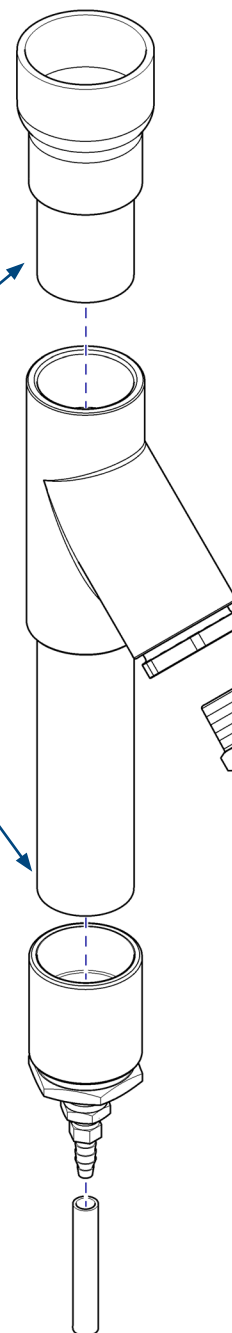
***MUST Glue When Installed***

***Optional  
2" Adapter***

***Exhaust  
Connection***

***Exhaust Trap Must Be Installed  
or Warranty will be Voided***

***Refer to this Manual for installation  
Instructions***





### WARNING

Motors are thermally protected with automatic reset. Unit may start without warning.



### Caution

Vac base unit weighs 375 lbs (170 kgs). Use care when moving to prevent personal injury. Raise leveling feet to roll base unit or use lift handles (77001455).

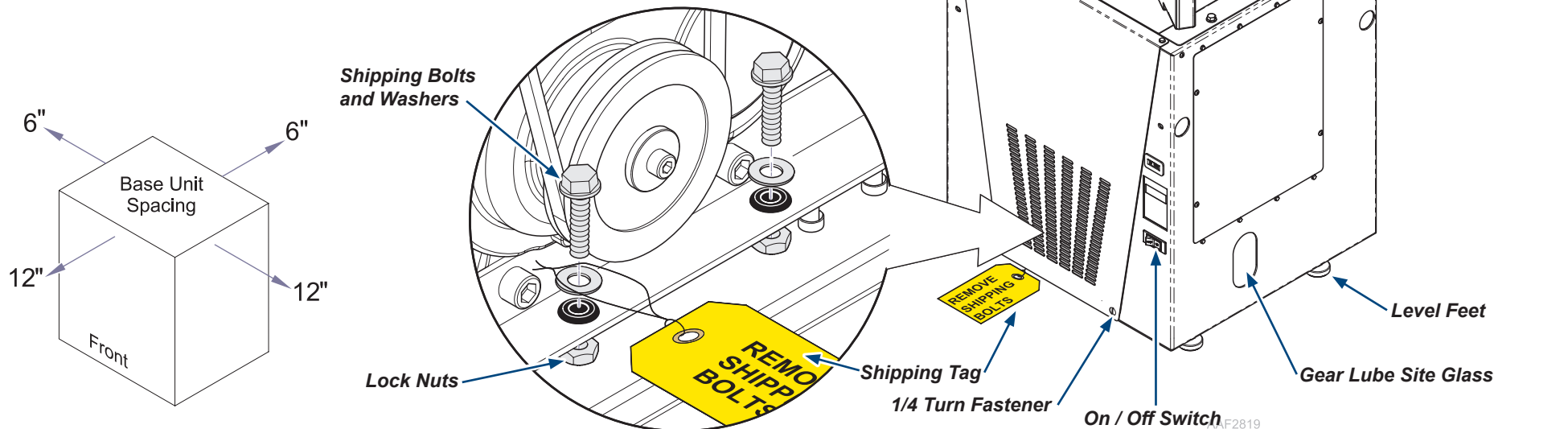


### Equipment Alert

Vacuum system must be installed per local plumbing and electrical codes. Do not operate without cover. Place vacuum system in a dry, well ventilated area on a solid, level surface. Verify all sides of base unit are not obstructed. Recommended - 6" inches on left and back side. Required - 12" inches on front and right side.

### Pre-Install, remove shipping bolts...

- Disconnect power at on/off switch and main power supply box.
- Remove front cover. Turn bottom fasteners 1/4 turn counter clockwise. Lift front cover straight up to free plastic cones from holes in side panels.
- Remove lock nuts, washers and bolts, shipping tag, replace front cover. Shipping hardware can be thrown away, they will not be reused.



# Important Information

## Intended Use

To provide vacuum suction during general examinations and procedures conducted by qualified dental professionals.

## Electromagnetic Interference

This Midmark PowerVac® G 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
- Increase separation between vacuum and interfering device
- Contact Midmark if interference persists

## Disposal of Equipment

At the end of product life, the units, accessories, 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:..... 50°F to 104°F (+10°C to +40°C)  
Relative Humidity..... 10% to 90% (non-condensing)  
Atmospheric Pressure ..... 700hPa (20 “ Hg) to 1060hPa (31 “Hg)

## Safety Symbols



**WARNING**  
*Indicates a potentially hazardous situation which could result in serious injury.*



**Caution**  
*Indicates a potentially hazardous situation which may result in minor or moderate injury. It may also be used to alert against unsafe practices.*



**Equipment Alert**  
*Indicates a potentially hazardous situation which could result in equipment damage.*

## Safety Symbols continued...



Consult User Guide  
for important information.



Proper shipping orientation



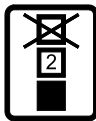
Fragile



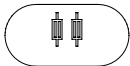
Protective earth ground



Keep Dry



Maximum stacking height  
(palliated units)



Fuse rating specification



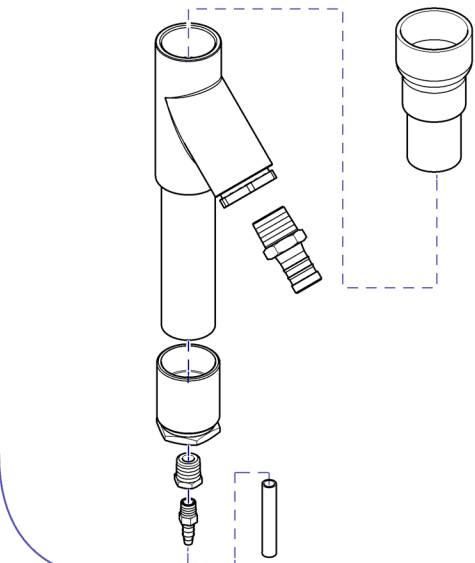
Caution hot surface

**IPX0**

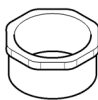
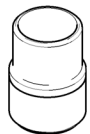
Ordinary Equipment

# PowerVac® G Loose Parts

## Exhaust Assembly Components\*\*

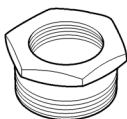


Bushing - 1 1/2" NPT x 1 1/4" NPT, PVC\*



Nipple, 1 1/2" x 1 1/4" NPT\*

Bushing - 2" NPT x 1 1/2" FPT, PVC\*



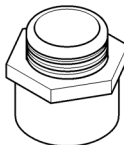
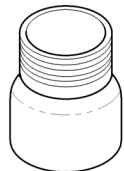
Pipe Nipple, 1 1/2" NPT, Plastic\*

Adapter, 1 1/2" NPT x Socket, PVC\*



Coupler, 1 1/2" SOC PVC \*

Coupling Reducer SOC 2" x 1 1/2" \*



Adapter, 1 1/2" NPT x Socket, PVC\*

## Extra Fittings for Hose Connections to Existing Pipes

### Note

\* Included with Separator Loose Parts Kit - 002-1441-00

\*\* Included with Base Loose Parts Kit - 002-10409-00

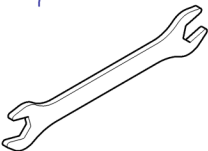


### Equipment Alert

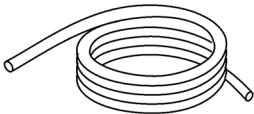
A sample bottle of Precision Clense Plus is packaged with the separator assembly, refer to care guide for instructions.

## PowerVac G Parts

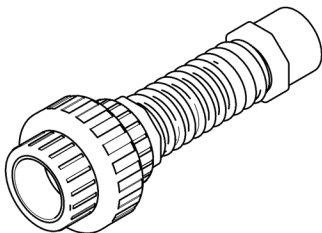
Garden Hose Adapter\*  
Refer to "Care Guide" on Base Unit or [www.Midmark.com](http://www.Midmark.com)



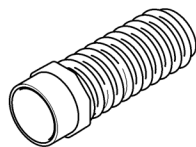
Foot Wrench 1/2" Twin Opened End\*\*



1" x 8' low pressure Exhaust Hose Assembly\*\*



Intake Hose Assembly\*

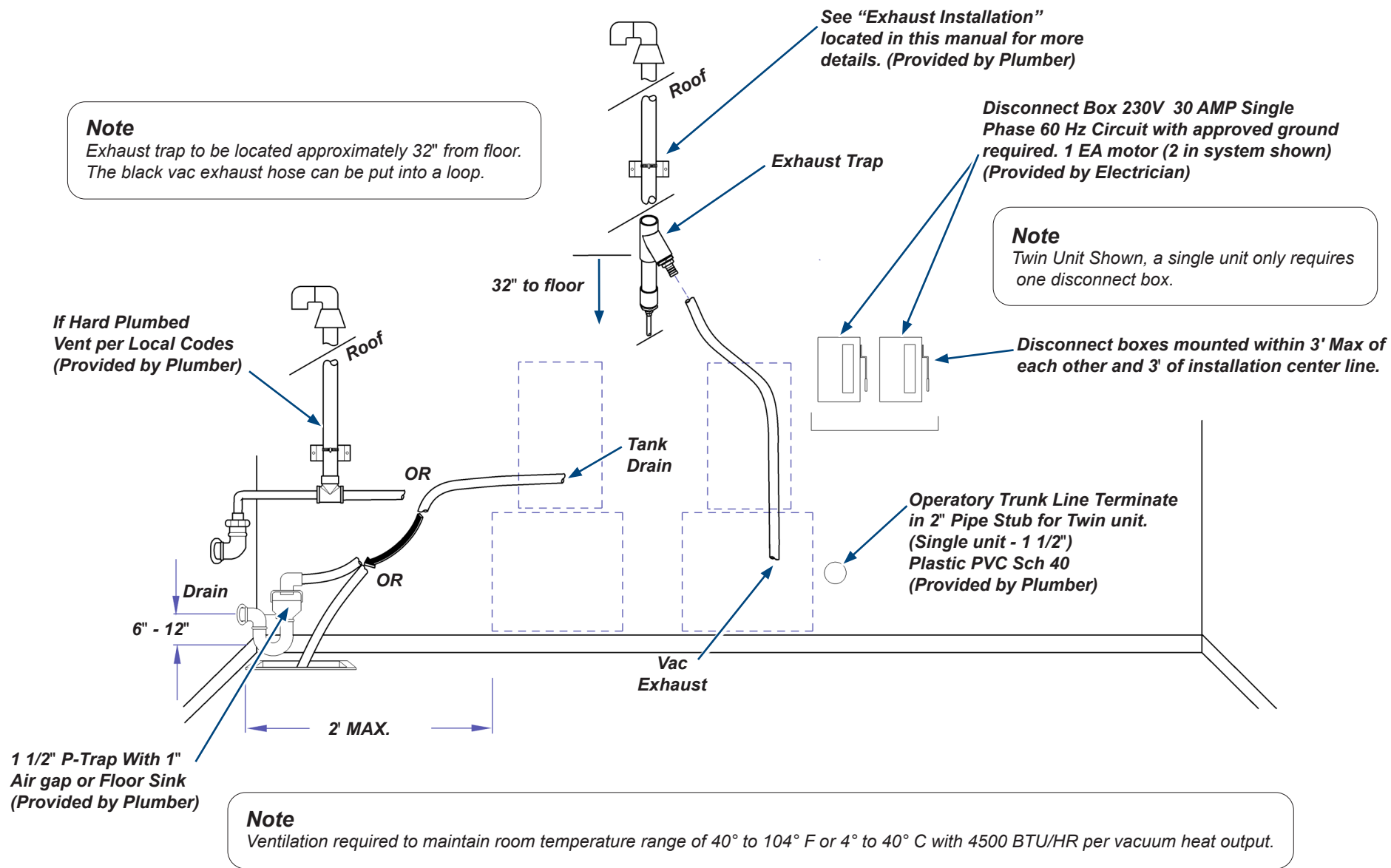


Drain Hose Assembly\*

# PowerVac® G Site Requirements

<b>Plumbing</b>	<b>Exhaust Line</b>	<b>Single Models G3, G5, G7</b>	<b>Twin Models G6, G10, G14</b>
	<b>Type</b>	PVC Sch 40, CPVC Sch 80, Copper or Galvanized Steel	CPVC Sch 80, copper or Galvanized Steel
	<b>Size</b>	1-1/2" for up to 15' exhaust line length 2" for greater than 15' exhaust line length	2" for all exhaust line lengths
	<b>Termination</b>	1 1/2" PVC Sch 40	
	<b>Intake (Suction) Line</b>	<b>Single Models G3, G5, G7</b>	<b>Twin Models G6, G10, G14</b>
	<b>Type</b>	PVC Sch 40 Pipe Recommended - for Main Trunk and Branch Lines	
	<b>Line Size</b>	Refer to: "Vacuum Plumbing Layout Recommendations", document 004-1130-00.	
	<b>Pump Termination</b>	1 1/2"	2"
	<b>Drain</b>	<b>Single Models G3, G5, G7</b>	<b>Twin Models G6, G10, G14</b>
	<b>Type</b>	Floor Drain or 1 1/2" PVC Sch 40 P-Trap	
	<b>Flow Capacity</b>	Minimum 25 Gallons per Minute	
	<b>Tank Wash Supply</b>	3/4" Garden Hose Fitting Provided per Tank for Non-Permanent Supply Water Connection	
<b>Electrical</b>  <i>Note: All PowerVac® G models electrically designed to be sold in U.S.A. or Canada.</i>	<b>Boxes</b>	<b>Single Models G3, G5, G7</b>	<b>Twin Models G6, G10, G14</b>
	<b>Supply</b>	(1) 208-230 Volt, Single Phase, 60Hz	(2) 208-230 Volt, Single Phase, 60Hz
	<b>User Supplied Fused Disconnect Switch Box</b> <i>Note: Boxes) to be located within 6' of Vacuum Unit(s).</i>	1 @ 30 AMP Required	2 @ 30 AMP Required
	<b>Supply Leads</b>	<b>Single Models G3, G5, G7</b>	<b>Twin Models G6, G10, G14</b>
	<b>Leads (10 GA Wires)</b>	(1) 6' Supply Conduit Provided	(2) 6' Supply Conduits Provided
<b>Environmental</b>	<b>Temperature</b>	<b>Single Models G3, G5, G7</b>	<b>Twin Models G6, G10, G14</b>
	<b>Equipment Room Vent</b>	Continuous-run 800 CFM Fan	Continuous-run 1600 CFM Fan
	<b>Heat Output</b>	4500 BTU/HR	9000 BTU/HR
	<b>Equipment Room Ambient Temperature</b>	40° to 104° F 4° to 40° C	
	<b>Note: All PowerVac® G models are recommended to be installed and operated in a thermostatically or otherwise stable ambient temperature environment. Forced air and HVAC input should be used in addition to an exhaust fan if normal ambient temperatures vary from specified operating temperature range.</b>		

# PowerVac® G Site Requirement Layout - Elevation View





# Plumbing & Exhaust Installation for Single Models

2" Adapter for single vacuum with exhaust lines over 15'

Exhaust Trap Assembly

32" to floor

Connect Poly Tube to Exhaust Assembly and Route to Drain

Level Base

Pressure Sensor  
Float  
Fans

Back View

Out to Vent

Connect to Operatory

Black-Rubber Exhaust Hose

Inlet Hose



## Equipment Alert

Verify all local codes before installing Inlet and Drain hoses. Termination of hoses to be provided by installer.

## Note

Connections must be hand tight. May use mild soap for hose connections. Do NOT use glue on hose connections. Use glue ONLY on PVC connections.

Drain Hose

Front View

(Wrench Supplied)

## Single Unit Install..

- Use wrench supplied to loosen nut on leveling feet located in each corner, lower feet so casters are raised off floor.
- Use a level to level the base front to back and side to side by adjusting the leveling feet.
- Remove back cover then set to side. Do not unplug fan cords.
- Plug in pressure sensor, float, and parallel cord. (Parallel is for twin models only.)
- Connect inlet from base unit to separator.
- Connect hose from separator to operatory.
- Connect drain hose to separator and out to drain.
- Assemble exhaust drain assembly. Connect assembly to exhaust hose and to user supplied exhaust line to vent.
- Replace back cover.

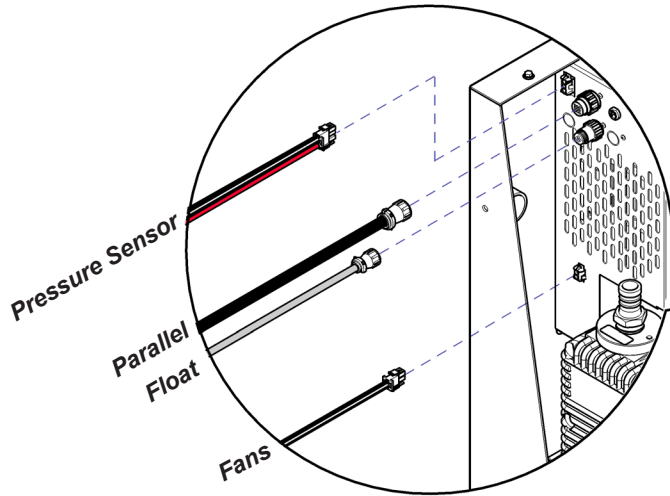
Note: Do not cut or shorten hose, "High Temp".

(Continue with Single Model on "Electrical Connections" Page)

# Exhaust Install - Twin Models

## Note

Exhaust trap to be located approximately 32" from floor. The black vac exhaust hose can be put into a loop.



2" Adapter required on Twin vacuum

Out to Vent

## Equipment Alert

Verify all local codes before installing Inlet and Drain hoses. Termination of hoses to be provided by installer.

Exhaust Trap Assembly on Twin Vacuum

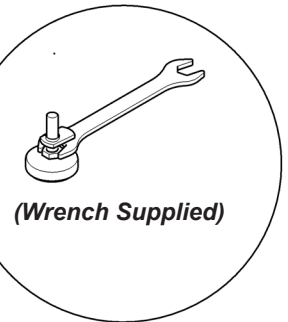
## Note

Connections must be hand tight. May use mild soap for hose connections. Do NOT use glue on hose connections. Use glue ONLY on PVC connections.

32" to floor

Black-Rubber Exhaust Hose

Parallel



## Twin Unit Plumbing...

- Lower level feet on base unit. Loosen nut on feet to lower leveling feet and raise casters and base unit off floor.
- Remove back covers, set to side, do not need to unplug fan cords.
- Plug in pressure sensor, float and parallel (twin models only).
- Connect two black-rubber exhaust hoses from base unit to barbed fittings.
- Assemble exhaust drain assembly. Connect assembly to exhaust hose and to user supplied exhaust line to vent.
- Replace back covers.

Note: Do not cut or shorten hose, "High Temp".

Continue with Twin Model on Page 9

## Note

When working on twin units (replacements or adjustments), unplug parallel harness.



# Plumbing Install - Twin Models



## Equipment Alert

Verify all local codes before installing Inlet and Drain hoses.  
Termination of hoses to be provided by installer.

## Note

Connections must be hand tight. May use mild soap for hose connections. Do NOT use glue on hose connections. Use glue ONLY on PVC connections.

## Twin Unit Plumbing Continued..

- A) Mount tee assembly bracket, place tee assembly on bracket.
- B) Connect inlet hose from base unit to separator.
- C) Connect inlet hose from each separator to tee assembly.
- D) Connect inlet hose from tee assembly to operator
- E) Connect each drain hose to drain hose connector and out to drain.
- F) Connect each drain hose to drain tee assembly.
- G) Connect main drain hose to tee and out to drain.

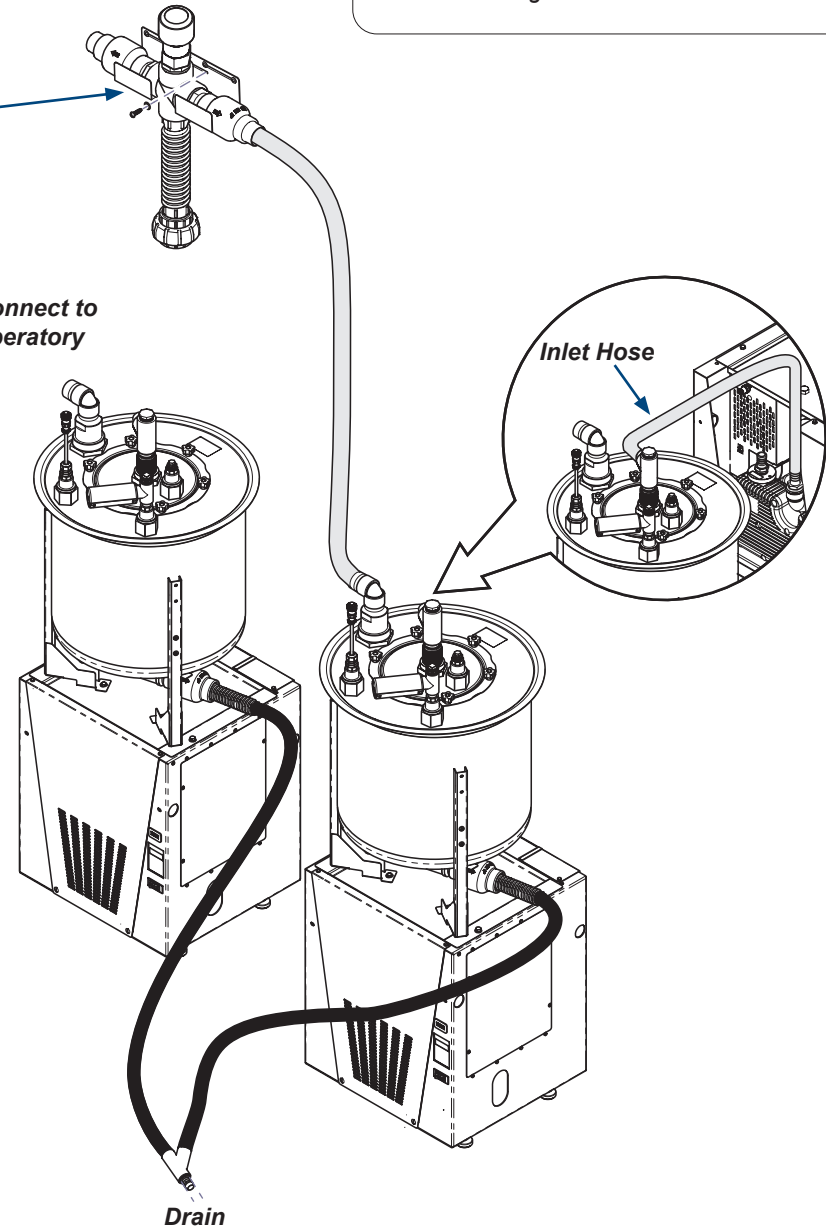
Tee Assembly

Tee Bracket

Connect to Operator

Inlet Hose

Drain



(Continue with Twin Model on "Electrical Connections" Page)

# Electrical Install - ALL Models

## Electrical Connections...

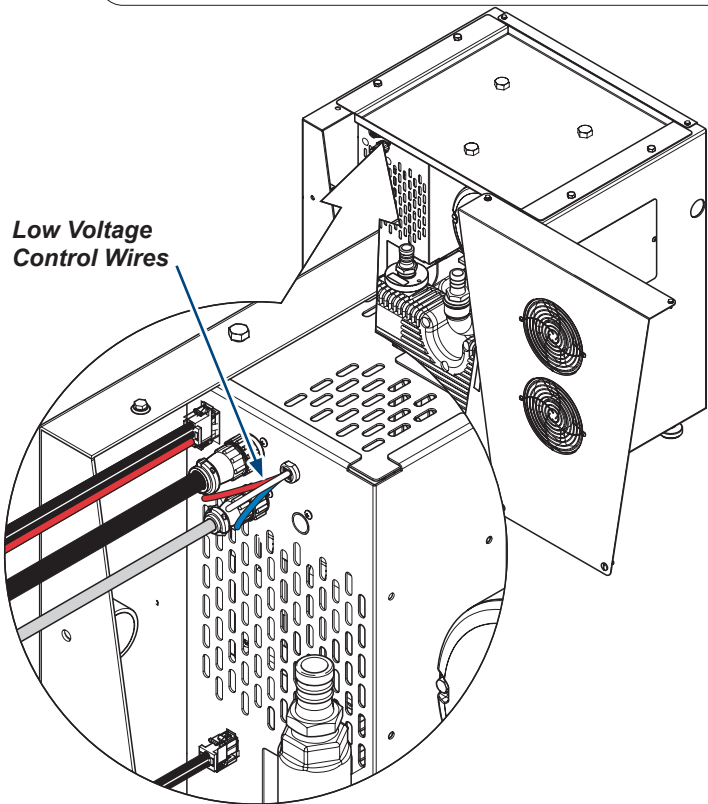
- A) Connect remote panel wires to low voltage control wires.
- B) Hard wire power supply conduit (back of base unit) to user supplied electrical boxes).

Note: Refer to "Control Panel Cross Wiring" chart to connect Low Voltage wires.



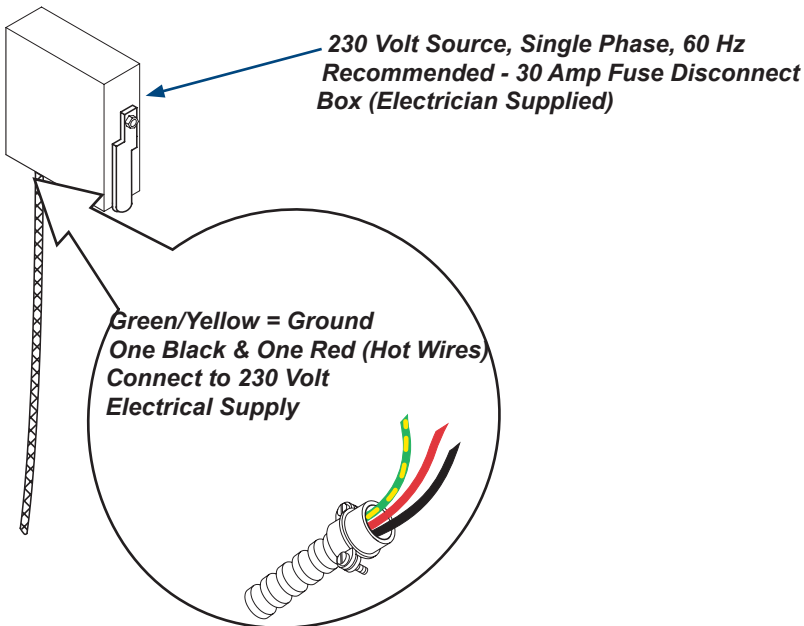
### Equipment Alert

Pump must have line voltage present and be turned on & off with the low voltage circuit in order for the timer to work properly.  
DO NOT modify the length of the cables used on the separator tank floats or the pressure sensor.



## Control Panel Cross Wiring

Brand	Wire		
	A	B (Light)	C
Midmark	Blue	White	Red
Air Techniques	Yellow	Brown	Orange
Den-Tal-Ez	Black	Brown	Yellow
Matrx	Red	Blue	White



AA2248



### Equipment Alert

All vacuum systems are to be installed according to local electrical codes.  
Never operate the equipment without complete and proper grounding.  
Refer to specification sheet for electrical ratings in this manual.

# Installation for ALL Models - Check and Test



## WARNING

The On/Off switch controls only the secondary circuit power.  
The main power source must be turned off to remove all power in the control box.  
Too high vacuum level can cause injury and or operatory equipment failure.

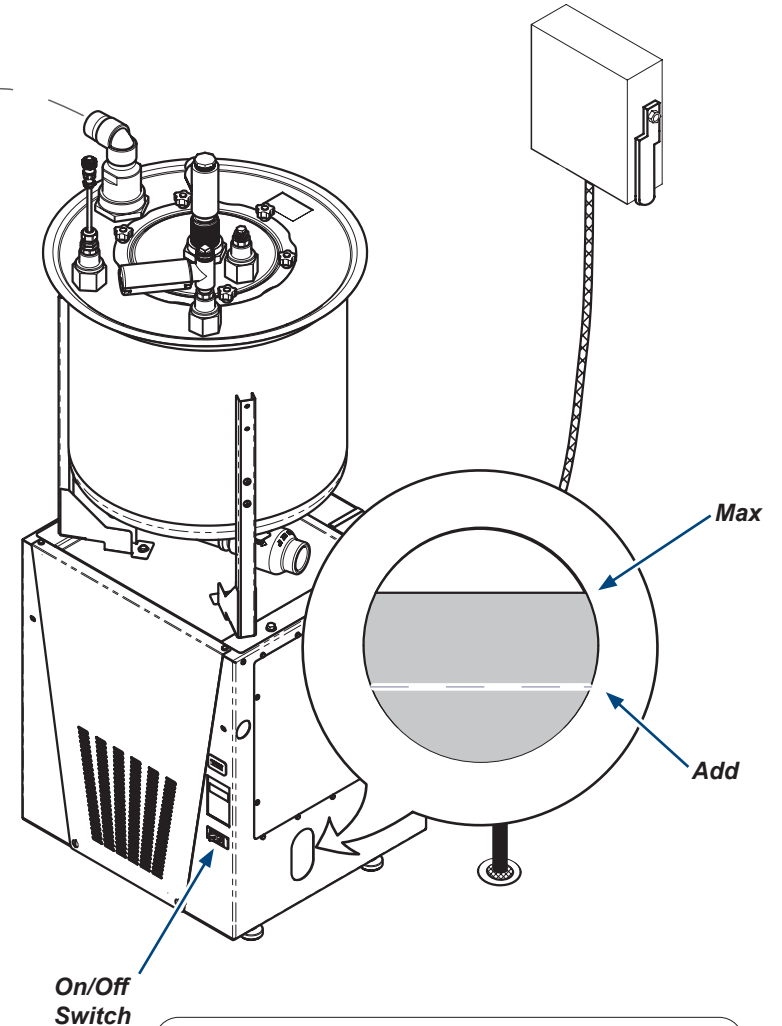


## Equipment Alert

Do Not introduce foaming cleansers into vacuum system

To Equipment Room

From Operatory



On/Off Switch

Max

Add

## To Test...

- Check gear lube level on site glass. Add if below 1/3 full. Only use Midmark lube, PN 064-0028-01.
- Start Vacuum.
- Spray soapy water to check for leaks on external plumbing parts.
- Check the vacuum gauge. Vacuum level range is 6" Hg to 18" Hg.
- Vacuum 1-2 gallons of fresh water into system through operatory lines. Run vacuum for 15 min.
- Turn vacuum off and ensure that water drains from separator without leaks.

Note: Vacuum will not run without front cover.

## Note

Midmark recommends operation at factory preset of 12" Hg. If reading is low check for leaks or open operatory lines prior to adjusting.

# Vacuum Adjustment

## Note

When working on Twin units, unplug parallel harness.

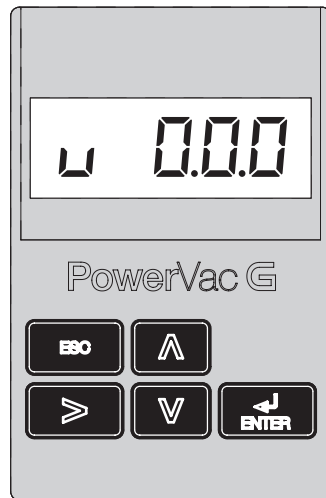
### Adjust Vacuum Level (Only if needed)...

**Note:** Adjustment can only be made if unit is running and NOT in sleep mode. If unit is in sleep mode, turn unit off and back on before making adjustment. Unit will enter back into sleep mode in 60 seconds.

Adjust vacuum level ("Hg) by .....

- A) Press the "ESC" button until "V xx" shows on the screen.
- B) Press "Enter" to enter the vacuum setting.
- C) Press the right arrow to highlight the number you would like to change (flashing number is selected).
- D) Use up and down arrows to change the flashing number.
- E) Press Enter to confirm the vacuum setting.
- F) To get back to displaying the pressure value, press the "ESC" button until the "V xx" shows on the screen.
- G) Press the up or down arrows until you see "Mon" on the display. Press enter.
- H) Press up or down to select U8-02, press enter. Pressure value should appear on the display.

"Vxx" xx is a Variable Reading



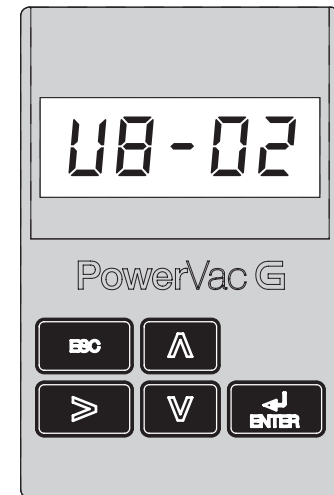
AA2326

"Mon" Reading



AA2327

"U8-02" Reading



AA2328

## Note

Vacuum level range is 6" Hg - 18" Hg. Midmark recommends operation at factory preset of 12" Hg. If reading is low check for leaks or open operator lines prior to adjustment.

Installation is Complete

003-10606-00

# PowerVac® G Specification Sheet

**Classifications: Class 1, Type B Applied Part**

Model	Max Users	Base Unit HxWxD	Separator HxWxD	Actual Weight (LBS.) Each	Total HP	Voltage	Amps	Hertz	Recommended Breaker Size (Amps)	Inlet Connection Size (IN.)	Fuses	Drain Connection Size (IN.)
G3	3-5	26 x 19.5 x 18.5 Each	34 x 22 x 22 Each	Base Unit - 375 Separator - 49	3	208-230	20	60	30	1 1/2"	1/8 A, 250V Type T	1 1/2"
G5	5-7	26 x 19.5 x 18.5 Each	34 x 22 x 22 Each	Base Unit - 375 Separator - 49	3	208-230	20	60	30	1 1/2"	1/8 A, 250V Type T	1 1/2"
G7	7-10	26 x 19.5 x 18.5 Each	34 x 22 x 22 Each	Base Unit - 375 Separator - 49	3	208-230	20	60	30	1 1/2"	1/8 A, 250V Type T	1 1/2"
G6	6-10	26 x 19.5 x 18.5 Each (qty 2)	34 x 22 x 22 Each (qty 2)	Base Unit - 375 Separator - 49	6	208-230	40	60	2 x 30	2"	1/8 A, 250V Type T	1 1/2"
G10	10-14	26 x 19.5 x 18.5 Each (qty 2)	34 x 22 x 22 Each (qty 2)	Base Unit - 375 Separator - 49	6	208-230	40	60	2 x 30	2"	1/8 A, 250V Type T	1 1/2"
G14	14-20	26 x 19.5 x 18.5 Each (qty 2)	34 x 22 x 22 Each (qty 2)	Base Unit - 375 Separator - 49	6	208-230	40	60	2 x 30	2"	1/8 A, 250V Type T	1 1/2"



## Equipment Alert

Verify all sides of base unit are not obstructed. Recommended - 6 inches on left and back side. Required - 12 inches on front and right side.