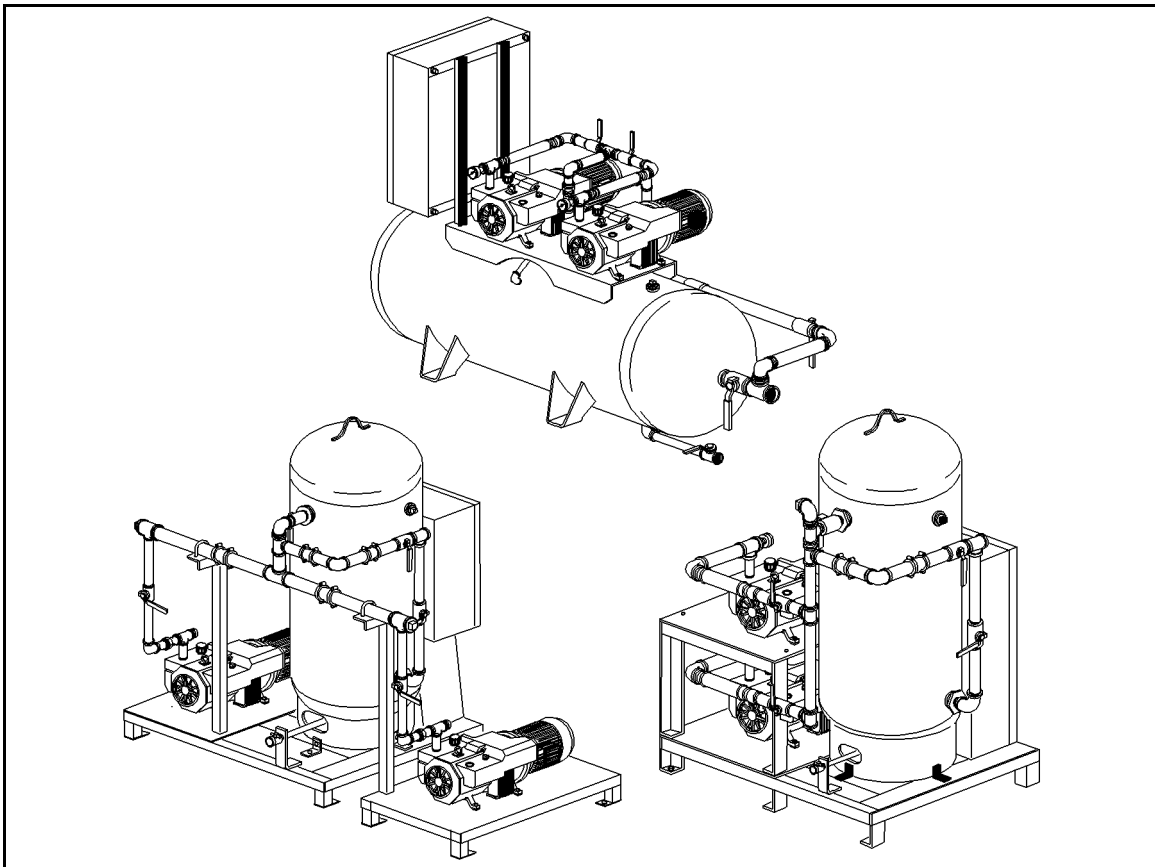


INSTALLATION INSTRUCTIONS

MedPlus® Medical Vacuum Plant—Dry Rotary Vane (All Configurations) From Hill-Rom



Product No. P6921 Series

For Parts or Technical Assistance

Technical Support: (800) 445-3720

Customer Service: (800) 445-3730

Canada: (800) 267-2337

International: Contact your distributor.

www.hill-rom.com

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Revisions

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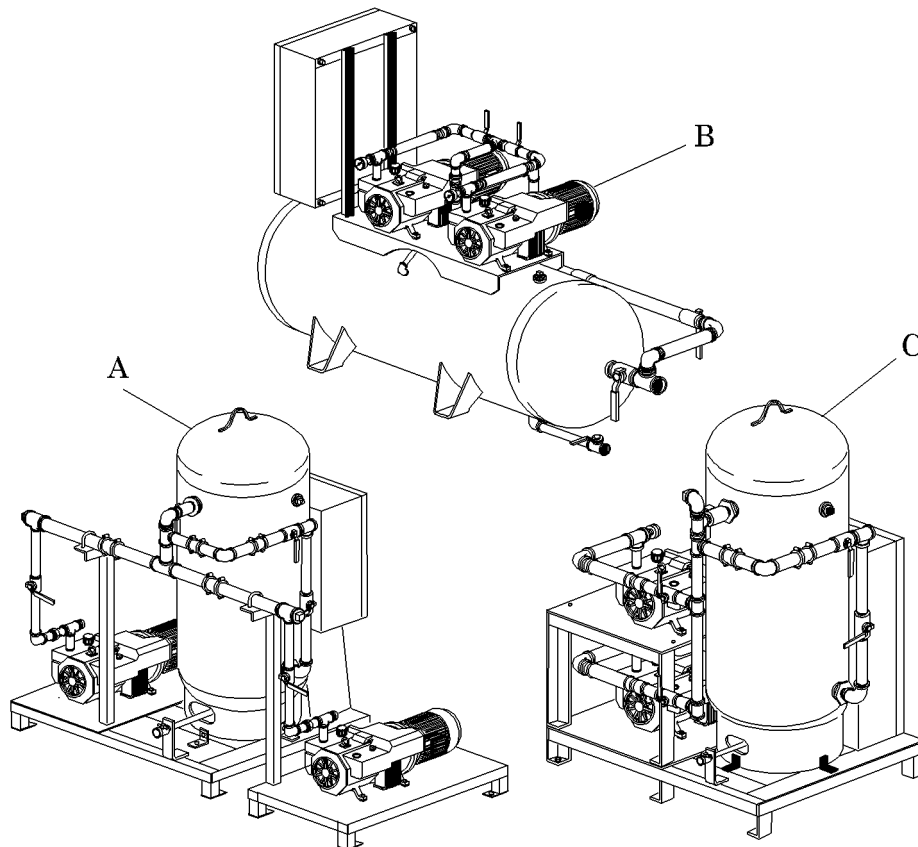
Table of Contents

Introduction 1
Initial Inspection 2
Installing the Vacuum Plant 3
Exhaust Piping Connections 5
Electrical Installation 6
Final Inspection 7

Table of Contents

NOTES:

Figure 1. Configuration Identification



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The MedPlus[®] Medical Vacuum Plant—Dry Rotary Vane is a completely* packaged assembly available in three configurations: base-mount (A), tank-mount (B), and stack-mount (C).

Initial Inspection

1. Inspect the outside of the shipping container for damage that may have occurred during shipping.
2. Remove the assembled unit from the shipping container.
3. Check the packing list and accompanying paper work to ensure receipt of the complete MedPlus[®] Medical Vacuum Plant—Dry Rotary Vane and all accessories ordered.

NOTE:

Accessory equipment may be packed in a separate box inside the shipping container. Most systems contain the following accessories (each purchase order may differ):

- Flexible connectors
- Ball valves
- Vibration dampeners

* Some larger plants may be broken down into smaller modules for shipment. Additional control wiring and plumbing connections may be required in the field.

4. Also, check the following key information:

- Unit part number
- Horsepower of the motors
- Voltage
- Electrical phase
- Overall system dimensions

5. Inspect the vacuum plant for damage.



CAUTION:

To avoid damage during installation, do not remove the protective covers from the inlet and exhaust ports of the plant until it is ready for connection to the medical system.

6. If the vacuum plant is to be stored prior to installation, protect it from the elements to prevent rust and deterioration of the machined surfaces. For specific recommendations, refer to the *MedPlus® Medical Vacuum Plant—Dry Rotary Vane Operator's Manual*.
7. Do not remove the shipping base until the MedPlus® Medical Vacuum Plant—Dry Rotary Vane is moved to the installation location.
8. Read the operator's manual and become familiar with all the operations before installing or operating the MedPlus® Medical Vacuum Plant—Dry Rotary Vane.



WARNING:

Read and understand the *MedPlus® Medical Vacuum Plant—Dry Rotary Vane Operator's Manual* before attempting to install it. Familiarize yourself with the mechanical operation of the plant. Failure to do so may result in bodily injury or damage to the unit.

Installing the Vacuum Plant

NOTE:

Sound levels of 67 to 82 dBa are to be anticipated from the MedPlus® Medical Vacuum Plant—Dry Rotary Vane. Although not excessive, this should be taken into consideration when locating the unit.



CAUTION:

When moving the MedPlus® Medical Vacuum Plant—Dry Rotary Vane, be careful that it does not tilt. Tilting it may cause damage to the unit.

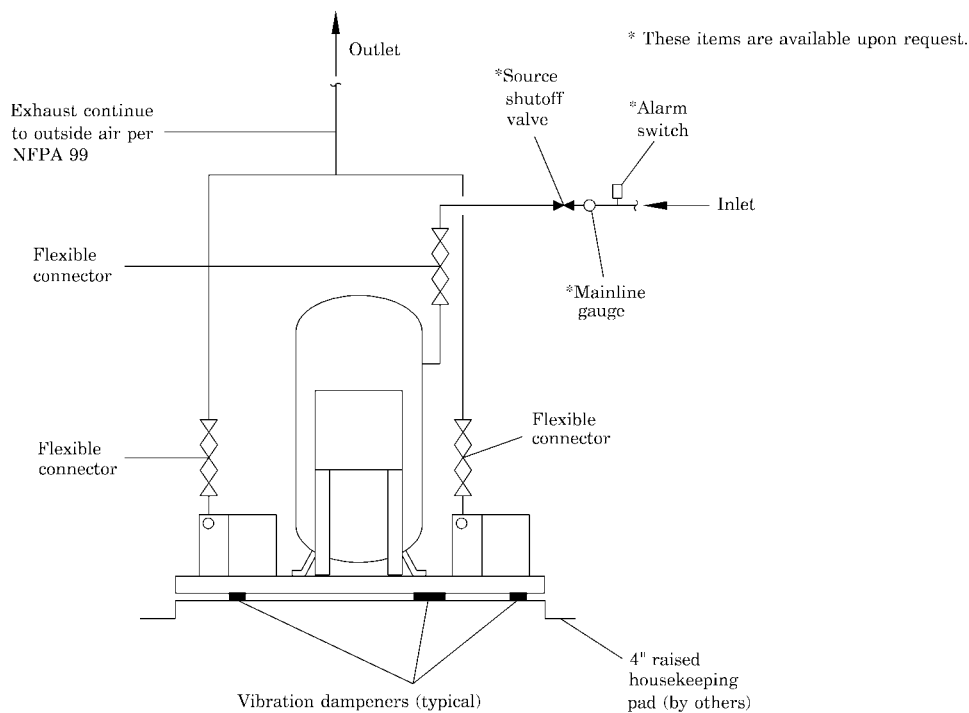
1. To ensure that the vacuum plant does not tilt when moved, walk the route the unit must travel, and note key dimensions.

2. Install the vacuum plant unit indoors in a clean, well ventilated area.
3. Allow a minimum of 4' (122 cm) clearance on all sides of the unit for cooling and for maintenance accessibility to all components.
4. Maintain an average temperature in the area of approximately 70°F (21°C).
5. Ensure that the ambient temperature does not fall below 40°F (4°C) or go above 100°F (38°C).
6. Provide adequate cross air circulation to remove heat generated by the pumps.
7. Carefully remove the vacuum plant from the base support crating so that the frame is not bent or twisted.
8. Mount the MedPlus® Medical Vacuum Plant—Dry Rotary Vane on a suitable, raised, concrete base supplied by the installing contractor (see figure 2 on page 4).
9. Bolt the unit securely to the concrete base, and level it to within 1/16" (1.6 mm) of the mounting surface at all points.
10. Shim the frame as necessary to prevent bowing.

NOTE:

The unit frame should be tight and level on the mounting surface to absorb and eliminate transient vibrations.

Figure 2. Typical Installation Schematic



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CAUTION:

If the MedPlus[®] Medical Vacuum Plant—Dry Rotary Vane is not mounted on the ground floor, the engineer may wish to consider an inertia pad or Elasto-Rib vibration dampeners. Use of spring-type mounting devices between the unit frame and mounting surface is not recommended unless properly sized by an engineer. Failure to size the spring isolators properly may cause damage to the equipment.

11. If the MedPlus[®] Medical Vacuum Plant—Dry Rotary Vane is going to be mounted on the floor, vibration dampeners should be used for mounting.
12. If spring type mounting is to be used, ensure the spring isolators are the proper size.
13. After mounting the medical vacuum plant, ensure that the unit frame does not overhang the mounting surface and that it is not bowed, twisted or uneven.

Exhaust Piping Connections



CAUTION:

Exhaust line piping must be sized so that back pressure in the exhaust line discharge pressure does not exceed 1 psi.

1. Select the size of the exhaust line piping to ensure that the back pressure in the exhaust line does not exceed discharge pressure by more than 1 psi.
2. Remove and discard the protective covers from the inlet and exhaust ports.
3. Pitch the horizontal exhaust piping in a slight downward direction to the system's vertical piping.
4. Select exhaust pipes whose inside diameter is at least as large as each pump's exhaust port. See table 1 on page 5.

Table 1: Individual Pump Exhaust Port (NPT)

HP of Pump	Inside Diameter
1.2	3/4"
1.7	3/4"
3	1 1/4"
5.4	1/4"
7.5	1 1/2"
12	1 1/4"

5. Install an isolation valve in the exhaust line for each pump in the MedPlus® Medical Vacuum Plant—Dry Rotary Vane.
6. Use flexible connectors to install the piping from the vacuum system line and to the vacuum plant.
7. Install all piping according to NFPA building codes.
8. Install a flexible connector on each exhaust line with the combined exhaust line continuing to a point of termination outdoors.
9. Turn down and screen the end of the exhaust line.

NOTE:

The exhaust line shall meet the requirements set forth by NFPA 99. For a duplex configuration, the size of the common exhaust line shall be at least 1 pipe size larger than that of the individual vacuum pump exhaust line. For triplex and quadraplex configurations, the exhaust line size should be upsized for **each** vacuum pump exhaust. The size of the common exhaust line is a function of length of run, elbows, connectors, valves, and the capacity of the pump.

Electrical Installation



WARNING:

Disconnect all electrical power to the vacuum pump before performing any electrical procedures. Failure to do so could result in personal injury or equipment damage.

1. Disconnect all electrical power to the vacuum pump.
2. Before starting any installation or maintenance procedures, refer to the specific electrical wiring schematic included in the control cabinet of the vacuum plant.
3. The electrical contractor is to furnish and install wiring of the proper size and type to the pre-wired control cabinet.

NOTE:

All wiring shall be done in compliance with the National Electrical Code®¹ (NEC®²) and applicable state and local codes. Electrical power for the MedPlus® Medical Vacuum Plant—Dry Rotary Vane must be supplied from the equipment system of the essential electrical distribution.

4. Before starting the electrical installation:
 - a. Ensure that the voltage supplied by the hospital is the same.

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- b. Ensure that the wire size is ample enough to handle the peak motor amp load of all operating units.
5. Check all electrical connections on the vacuum plant as they may have loosened during shipment.
6. Use a qualified electrician to make power connections to the control cabinet.
7. Verify that the normal electrical supply and the emergency generator system are of the same voltage and phase and that the emergency generator has the capacity to supply the medical vacuum plant system.

NOTE:

Three-phase power supplied from the emergency generator(s) must match that of the normal supply to ensure the correct direction of motor rotation at all times.

Final Inspection



CAUTION:

Prior to putting the MedPlus® Medical Vacuum Plant—Dry Rotary Vane into operation, you must have a Hill-Rom Service Representative start the system. Failure to do so may void the vacuum system warranty.

Contact Hill-Rom Technical Support at (800) 445-3720 to arrange for a Service Representative to inspect and start the vacuum plant.

NOTES:
