



## PORTABLE PUMPING STATION Model ALPHA-PPS-115

### Startup and Operating Guide

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#### Introduction

The Portable Pumping Station consists of a cart-mounted, rotary, direct-drive mechanical vacuum pump to which is attached an anti-backstreaming trap, a thermocouple vacuum gauge, and flexible tubing with appropriate termination to connect to ORTEC Models 576A, SOLOIST<sup>®</sup>, OCTÊTE Plus<sup>™</sup>, 576-VM, 807 or 808 Vacuum Chambers, or earlier Models OCTÊTE PC<sup>®</sup> and 676A ALPHA-KING<sup>™</sup>. Appropriate versions are available for 115 V/60 Hz and 230 V/50 Hz operation.

#### Electrical Requirements

The electric motor for the two-stage rotary vacuum pump has dual voltage and dual frequency windings which can be selected according to local power options. A switch inside the top cover plate can be selected to accommodate voltages in the 115 V or 230 V range. ***This pump has been set up for 115 V ac.*** If there is any question, the position of the switch should be verified prior to connection to the ac mains. The windings are designed to accommodate either 50 Hz or 60 Hz frequencies. Input power requirements are as follows:

- 115 V — 5.8 A
- 230 V — 2.9 A

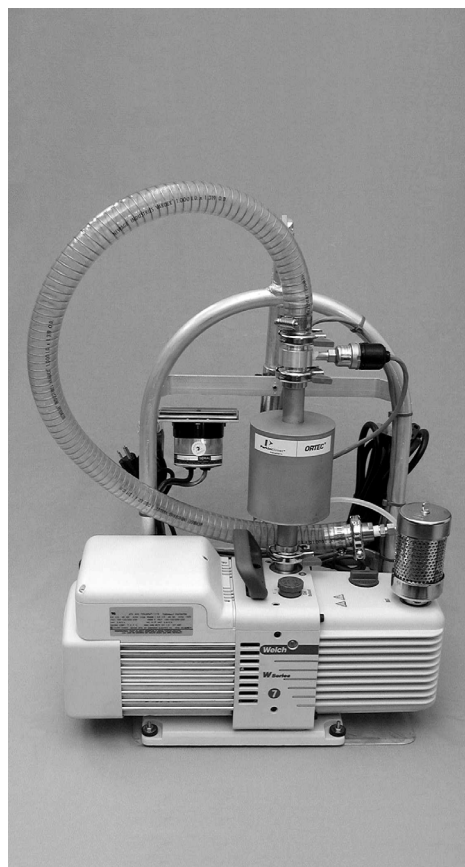
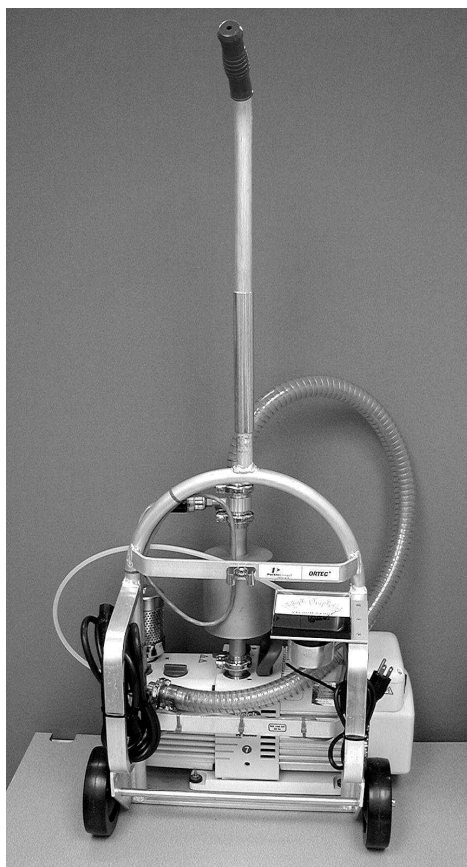
The power cord can be changed to match local power system configuration.

The KJL-205-CE meter displays pressure from 1 mTorr to 1000 mTorr. It can be operated at any voltage between 90 V ac and 240 V ac without rewiring or switching. It comes with a CE-approved universal power cord. The current draw is negligible.

#### Installation

The pump has been shipped to you completely assembled and filled with oil — ready to use. Because the pump does contain oil, ***both the inlet and exhaust ports have been sealed to prevent oil from leaking out during shipment. THESE SEALS MUST BE REMOVED BEFORE STARTING THE PUMP:*** (1) Remove the plastic sheets from the pump inlet and exhaust flanges by removing the clamps and centering rings, and (2) remove the red Caplug<sup>™</sup> seals from inside the flanges. Inspect the O-rings for lint or dust before replacing and securing with the clamps. Check AC Mains voltage to make sure it corresponds to the motor wiring specification. Check the oil level in the sight glass on the side of the pump to make sure it is near the full mark.

Connect the pump hose to the instrument to be pumped out. Plug the power cords from the pump and vacuum gauge into the ac mains. The power switch on the motor should be left Off until pumping is required.



## Operation

Refer to individual manuals for more detailed instructions on adjustment and operation of the pump and meter. The vacuum pump can be configured for three gas-ballasting modes to match most pumping requirements. The gas ballast is used for ejection of condensable vapors.

1. Open the gas ballast valve.
2. Run the pump for approximately 30 minutes to warm and degas the oil.
3. Close the gas ballast valve.
4. The pump should then pump to its ultimate vacuum, normally less than 10 mTorr.

## Shutdown Procedures

If the system needs to be shut down for maintenance, moving, or other reasons, simply turn off the pump motor, unplug the power cords, and vent the entire manifold and pump to atmospheric pressure. If the system is connected to detectors under bias, remove bias before venting the system. **THE SYSTEM SHOULD ALWAYS BE VENTED WHEN THE PUMP IS TURNED OFF, OR OIL MAY BE SUCKED BACK OUT OF THE PUMP INTO THE VACUUM SYSTEM, RESULTING IN CONTAMINATION OF ALL COMPONENTS CONNECTED.** The vacuum pump has a safety valve which is designed to prevent this, but it is better not to depend on it.

## Maintenance

The vacuum pump oil should be changed every 3,000 hours. Refer to the pump manual for instructions. Use only the best grade of oil available. Welch Directorr Gold™ CVC Convoil 20™, Cambridge Mill Products CMP 20™, or other high-quality oils are best for detector work.

The coaxial foreline trap on the inlet should be cleaned or changed every year depending on conditions of use.

## Transportation

The pump system is mounted on a cart to make moving it as easy as possible. If the system needs to be moved by other means, ***MAKE SURE THE PUMP REMAINS UPRIGHT TO PREVENT THE OIL FROM RUNNING OUT.*** If it must be transported in some other position, reseal the inlet and exhaust connections in the same manner in which it was originally shipped.