

Operating Instructions

Model 4400/VC-115V

**Portable Powder Filler
(115VAC. Model)**

First Release ... 6/18/96
Rev. C 1/16/98
Rev. D 5/01/00

1.0 INTRODUCTION

We have designed and built the Model 4400/VC, Portable Powder Filler to provide years of trouble free operation. Please take a few minutes at the beginning to familiarize yourself with this manual and your new 4400/VC. We have tried to make the reading straightforward and easy to understand.

Most of your questions will be answered in the following pages. However, if you need additional assistance of any kind, please call us directly. Our **Toll-Free Number** is **1-800-833-8103**. Ask for technical assistance. If you are not able to reach us on our toll free number, call (352) 796-0300, or fax your inquiry to (352) 796-4477. Save the original packaging in the event the unit need be returned for service in future.

2.0 SPECIFICATIONS

- Size & Weight: (Unpackaged)

	<u>Size</u>	<u>Weight</u>
Console Ass'y (115 V. Unit):	12.5"W.X 7.5"H.X 13.0"D.	24.0 Lb.
Console Ass'y (230 V. Unit):	12.5"W.X 7.5"H.X 13.0"D.	28.0 Lb.
- Size & Weight: (Packaged for Shipment)

	<u>Size</u>	<u>Weight</u>
Full Carton (115 V. Unit):	16.5"W.X 10.5"H.X 18.5"D.	26.0 Lb.
Full Carton (230 V. Unit):	16.5"W.X 10.5"H.X 18.5"D.	30.0 Lb.
- Power required 230 VA. (550 VA. Starting)

3.0 ACCESSORIES

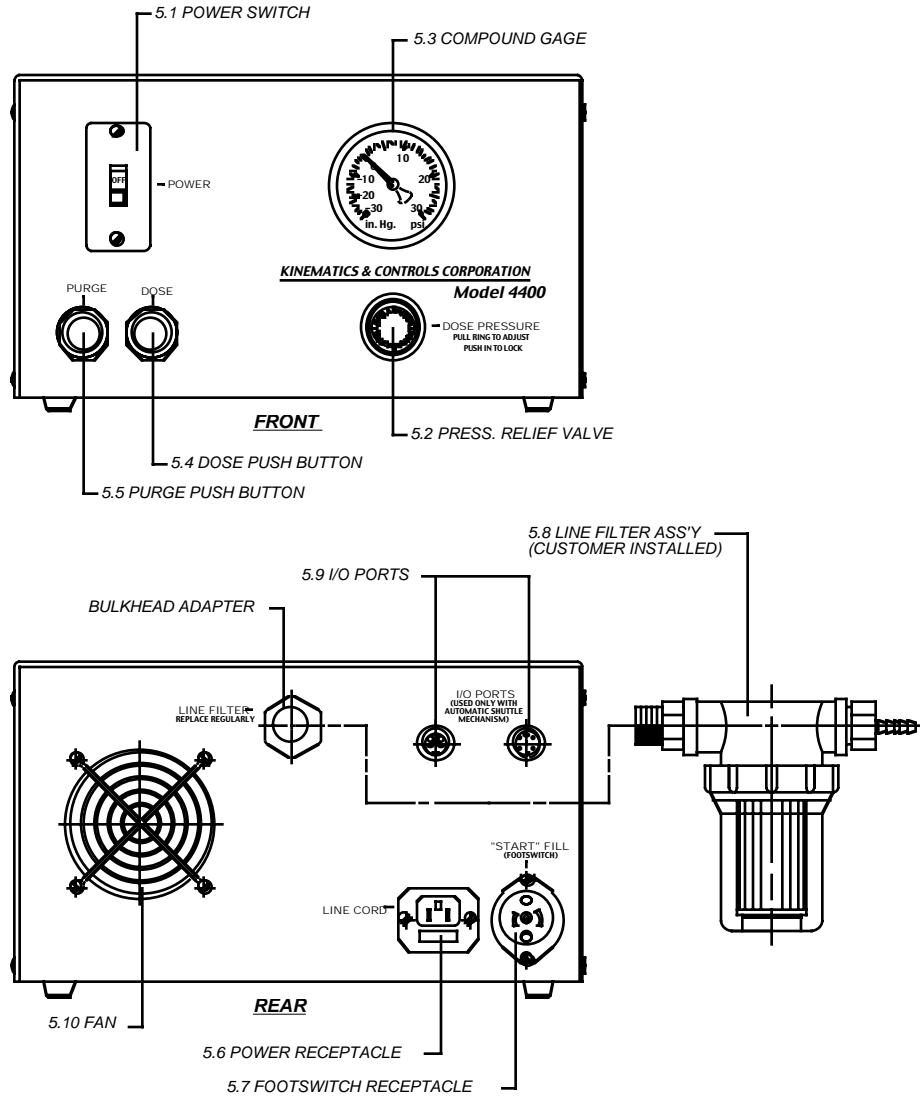
Check to see that the following accessories are packaged with the Model 4400/VC console assembly. Notify the factory immediately if any of the listed items is missing.

- (1) 5044-0317 Jumper Cable Assembly
- (1) 2008-0015 Vacuum Line, P.V.C.
- (1) 1001-0016 Footswitch Assembly
- (1) 1002-0016 Power Cord, U.S.A. (Foreign Cordsets will carry different P/N's)
- (1) 5044-0331 Binder Containing Instructions, Assembly Drawings & B/M's
- (1) 5044-0336 Line Filter Ass'y

4.0 INITIAL SET-UP

The 4400/VC Portable Powder Filler comes fully assembled. Just follow the simple steps below to complete the initial set up. At the same time, familiarize yourself with the console's major components as shown in the diagrams on the following page.

1. Install line filter assembly into the rear bulkhead, then slip the vacuum tube over the 1/4" hose barb in the line filter assembly. Push the other end onto the hose barb fitting on the filling gun.
2. Insert the footswitch plug into it's receptacle on the rear panel. Twist and lock into place.



MODEL 4400/VC PORTABLE POWDER FILLER, VACUUM CONSOLE UNIT

GCADD Dwg. No. 5044-0308 (A) (I-Manual/VC)

3. *Install the jumper cable between the two I/O ports on the rear bulkhead. **Important!** The machine will not function without this jumper installed!*
4. *Insert the power cord into it's receptacle in the rear panel.*
5. *Test the unit by switching On the power switch on the front panel. Hold your hand over the mouth of the filling gun and feel the vacuum. Note the gage reading. It should read more than 20" Hg. initially. Next, depress the footswitch and feel the vacuum change to pressure. Again, note the reading on the gage. It should now read less than 3.0 p.s.i. If you do not see these readings upon initial setup, please call the factory for further assistance.*
6. *If the vacuum and pressure levels do fall within the specified ranges, you may operate the filler.*

5.0 MAJOR ELEMENTS (Again refer to the drawings on page 3.)

Console Front Panel:

5.1 Power Switch

This is the console's main power switch. It contains an integral thermal overload heater which will protect the vacuum pump if it is subjected to overheating. Automatic reset of the circuit will occur when the pump cools sufficiently for safe operation. Overheating is not a normal condition. Always look for possible causes of the problem such as failure of the cooling fan.

5.2 Pressure Relief Valve

This element, resembling a regulator in appearance, allows an operator to adjust the discharge pressure of the dose. Dose pressure is factory set for approximately 2.5 psi. It is recommended that dose pressure not be adjusted to any level higher than necessary to gently discharge the dose. If adjustments are necessary, pull the red ring to free the knob. Make the necessary setting and press in on the ring to lock the setting. Vacuum level is not adjustable.

5.3 Compound Gage

Reads both vacuum and pressure levels within the filling gun. Used mostly for set ups and trouble shooting.

5.4 Dose Push Button

Pressing the Dose P.B. switch discharges the product from the filling gun with a puff of low pressure air. It provides an alternate dosing method to the footswitch.

5.5 Purge Push Button

Pressing the Purge P.B. switch sends full system pressure (Approx. 15 psi.) air through the filling gun filter. It is intended to back flush the filter, and should be initiated whenever it seems performance is suffering because of reduced air flow caused by clogging of the gun filter. Always make sure to dose product from the filling gun before the Purge button is actuated!

Console Rear Panel:

5.6 Power Receptacle

Plug the power cord in here! A spare fuse may be found in this compartment.

5.7 Footswitch Receptacle

Plug the footswitch assembly in here! Insert and twist to lock in place.

5.8 Line Filter Assembly

The line filter assembly contains a 10 micron filter element. Screw this assembly into the 1/2" N.P.T. bulkhead adapter at the rear of the machine and push the vacuum line over the white nylon hose barb fitting at the other end of the filter housing.

5.9 I/O Ports

These ports provide communications capability between the vacuum console and the companion rotary shuttle mechanism, Model 4400/RS. When the vacuum console unit is used strictly as a hand filler, these two ports must be jumped together. Use the short jumper cable assembly provided.

5.10 Fan

Keeps the motor/pump running cool. If the fan fails to function for any reason, and it is necessary to run the filler, remove the cover completely before using it. Repair or replace the fan as soon as possible.

6.0 OPERATING THE FILLER

6.1 Principle of Operation.

It is helpful to become familiar with the filler's operating principal. The Model 4400/TX, Portable Powder Filler operates on a vacuum/volumetric filling principle. Stated simply, the principle is, "...that if a dry product is picked up into a fixed volume chamber, and it is allowed to be compacted at a uniform density by the constant force of a vacuum supply, then the weights of successive doses of product taken from that fixed volume chamber will, in fact, be closely repeatable." The principle is fundamentally sound, and its proper execution results in a filler of extremely close accuracy and repeatability. The Model 4400/VC is a manually operated, state-of-the-art embodiment of this filling principle.

6.2 Setting Up The Filling Gun

Connect the filling gun to the open end of the vacuum line. Set the piston so that the face of the porous filter is at the desired depth. Use a steel ruler or Vernier depth gage. Draw a powder sample and doctor-off the excess powder at the tip. Discharge and record it's weight. Adjust the center screw on the gun to either increase or decrease the fill weight as required. Draw and discharge another dose and recheck it's weight. Repeat above steps as many times as necessary to achieve the desired fill weight.*

**Small Microguns, between $\text{Ø}1/16"$ and $\text{Ø}5/16"$ are adjustable by turning the barrel rather than the central stem screw.*

6.3 Normal Operation

With the power turned On, the console is normally in the vacuum mode. Powder is ready to be picked up in the filling gun. Depressing the footswitch or pressing the Dose push button reverses the air flow, changing vacuum to pressure, and dispensing the powder.

7.0 PRECAUTIONS

Powder should never be drawn up into a filling gun without a gun filter. If this should accidentally occur, however, remove and flush out all affected lines immediately, especially with powders that have a tendency to harden. Flush pump using safety solvent. Replace all filters.

8.0 MAINTENANCE

The Model 4400/VC is virtually maintenance free. Occasional replacement of the filters is all that is usually needed, especially with very fine powders.

NEVER...LUBRICATE PUMP!!!

9.0 SERVICE

Consult factory for proper service recommendations. Normally, units which are returned to us for service can be turned around within 48 hours of their receipt. Overnight service can sometimes be provided at 50% premium.

10.0 WARRANTY

All equipment described in this manual is warranted to the original purchaser for thirteen months from the date of purchase to be free from defects in materials and workmanship, but not against damages caused by misuse, abrasion, corrosion, negligence, accident, faulty installation, or by dispensing material incompatible with the equipment. When the equipment is installed and operated in accordance with factory recommendations and instructions, Kinematics & Controls Corporation will repair or replace free of charge, any part of the equipment found to be defective, upon prepaid return of the part to the factory during the warranty period. In no event shall any liability or obligation of Kinematics arising from this warranty exceed the purchase price of the equipment.

All other warranties, whether expressed, implied or statutory such as warranties of merchantability or fitness for a particular purpose, are hereby excluded and disclaimed to the extent that they exceed the warranties expressly granted in this clause. In no event shall Kinematics be liable for consequential or incidental damages.

11.0 IMPORTANT NOTICE TO PURCHASER

All statements, technical information and recommendations given are based on tests we believe to be reliable, but the absolute accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties expressed or implied. Seller's and manufacturer's only obligation shall be to replace such quality of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential arising out of the use or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith. No statement or recommendation shall have any force or effect unless in an agreement signed by officers of both seller and manufacturer.