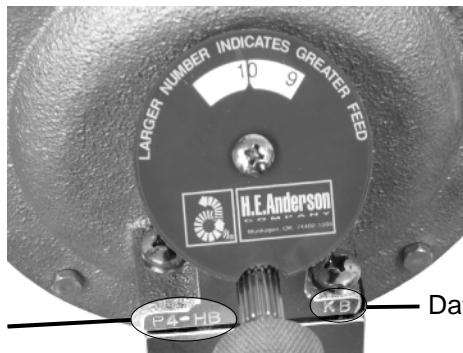


PUMPER CALIBRATION INSTRUCTIONS

GETTING TECHNICAL ASSISTANCE

The H.E. Anderson Company is dedicated to assisting our customers with installation and use of our products. Our technical staff are available each weekday from 8:30 AM to 4:30 PM central time. You may call us toll free at **1-800-331-9620** from anywhere in the U.S.A. and Canada. If no one is available, we will promptly return your call. You may also contact us via e-mail at info@heanderson.com

Before you call, review this manual. You may find the answer to your question here. But if not, reviewing the manual will help us to help you.



You should have the Pumper model number and date code available when you call. See photo at left for their locations.

If you need other manuals for **any** H.E. Anderson Company product, please visit our website at <http://heanderson.com/manuals.php>

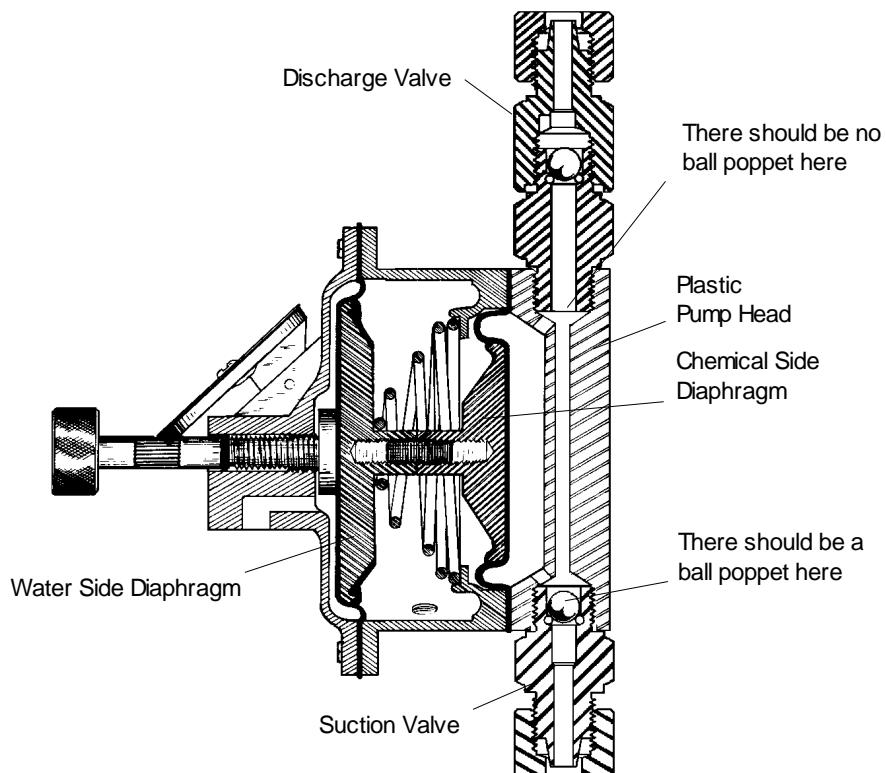


Figure 1
Sectional view of standard pumper

If you have the calibration standpipe accessory installed on your pumbers, calibration and checking is greatly simplified. Refer to the instructions that came with the calibration standpipe.

If you do not have the calibration standpipe, continue

CHECKING THE CALIBRATION



When working with hazardous chemicals use extreme caution and carefully follow the handling instructions and safety procedures in the Material Safety Data Sheets.

Fill a small container with the chemical you will be feeding and **set the pumper dial to 10** (maximum feed).

NOTE: Adjust the feed knob only when the unit is making a pumping stroke; it will turn much easier during that time, especially when going to a lower feed.

- Fill the 400 ml calibration beaker

(supplied with your unit) to the 400 ml mark.

- Remove the suction fitting and put the tube into the beaker with the end near the bottom, but do not restrict flow.
- Restart the feeder and allow the pumper to make the number of strokes as determined by the table.
- Remove the suction line.
- Compare the amount pumped to the amount to pump in the table.
- If the amount pumped does not agree with the table, you need to recalibrate the pumper. Refer to the section on PUMPER CALIBRATION to calibrate the pumper.

TIP: You may want to use the 400 ml beaker to calibrate a larger wide mouth container such as a quart jar. Then you can submerge the end of the suction tube with the suction fitting still attached.

PUMPER CALIBRATION

Recommended Method

You may check the calibration of your pumbers at any time according to the following simple procedure. You may need to temporarily replace the suction line at the suction valve on the pumper if the foot-valve/strainer has been installed as a bulkhead fitting, or is otherwise inaccessible. If this is necessary, be careful not to inadvertently drain your concentrate tank.

While performing this test you will be inserting and withdrawing the suction line from a graduated cylinder or beaker. For accurate results this must not be done during suction strokes.

Therefore, you should always insert or withdraw the suction line just after the injector has discharged water.

Table 1 – Pumper Calibration

Model Designation	Strokes Pumped	ml withdrawn
A3	10	30
P1	4	40
A10	4	40
P2	2	40
A20	2	40
P4	1	40

With the pumper to be tested fully primed and operational

- Fill the calibrated beaker with the chemical you are feeding.
- Submerge the suction line in the beaker and let the pumper make one, or possibly several, suction strokes, depending on the capacity and setting of the pumper.
- Withdraw the suction line from the beaker and calculate the volume of solution withdrawn.

Use the values in Table 1, or calculate the volume which should have been withdrawn, according to the following formula:

$$SW = \frac{(C)(NS)(DS)}{10}$$

Where

SW = the solution withdrawn in mL
NS = the number of stroke in test
DS = the dial setting of the pumper

And

C = 40 ml for model **P4, H4** pumper
C = 20 ml for model **P2, H2, or A20** pumper
C = 10 ml for model **P1, H1, or A10** pumper
C = 3 ml for model **A3** pumper

If the pumper did not withdraw the correct amount of solution, you may calibrate it according to this simple procedure. Simply adjust the stroke adjustment knob until the pumper withdraws the amount = C ml per stroke, for the appropriate pumper.

Then remove the screw which holds blue dial cover and remove the cover. Carefully lift out the numbered dial and reposition it in the dial holder with the number 10 at the top.

Be certain that the teeth on the edge of the numbered dial mesh with the teeth of the gear of the stroke adjustment shaft. If necessary, loosen the screw which holds the dial holder to the flange (the screw is located underneath the dial holder, on the side), and reposition the dial holder so the dial meshes properly.

Once the numbered dial is positioned properly, replace the blue dial scale cover.

Carefully line up the line in the window with the mark at number 10 and replace the screw which holds the cover in place. This completes the calibration procedure. Readjust the pumper to the proper setting.

Alternate Calibration Method

In some cases it is not be practical to use the recommended method. This is especially true when pumping hazardous chemicals. This alternate calibration method is much safer and simpler, although not as accurate as the recommended method. With this method the pumper may be calibrated when in actual operation. It does not require a graduated cylinder or any chemical handling.

You must first turn the pumper completely off. This is done by turning the control knob clockwise as far as possible.

NOTE: Turn the feed knob to a lower setting only when the unit is making a pumping stroke; it will turn much easier during this time.

- Turn the knob a little at a time, until it will turn no farther. If the pump is stroking slowly, you may need only one pumping stroke to turn the pumper completely off.
- Remove the screw which holds blue dial cover and remove the cover.
- Carefully lift out the numbered dial and reposition it in the dial holder with the number 0 at the top.
- Be certain that the teeth on the edge of the numbered dial mesh with the teeth of the gear of the stroke adjustment shaft. You may need to loosen the screw which holds the dial holder to the flange (the screw is located underneath the dial holder, on the side), and reposition the dial holder so the dial gear meshes properly.
- Line up the line in the window with the mark at number 0 and replace the screw which holds the cover in place. This completes the calibration procedure.
- Readjust the pumper to the proper setting.