

PSD/4 PRECISION SYRINGE DRIVE ENCASED

Quick Start Guide

Congratulations to user's purchase of a Hamilton Precision Syringe Drive/4 Encased.

To learn about proper care and maintenance of user's investment, please take the time to read the manual, including the warranty information. Hamilton would like to thank you for purchasing the Hamilton PSD/4 Encased.

Hardware Configuration

Initial Setup

Step 1. Unpack the PSD/4 Encased Precision Syringe Drive and verify all the parts accordingly with checklist from the pack.

Step 2. When selecting a location for PSD/4 Encased Precision Syringe Drive, choose a clean, dry, level area and away from hazardous chemicals, radiation, and/or hazardous biological substances.

Leave enough space around the unit for ventilation.

Make sure there is power source nearby to connect the power cord.

Step 3. Place the syringe drive unit in the desired location.

Step 4. Description of the Front View of the PSD/4 Encased Pump

- Step 4.1 Description of the Front View of the PSD/4 Encased Pump

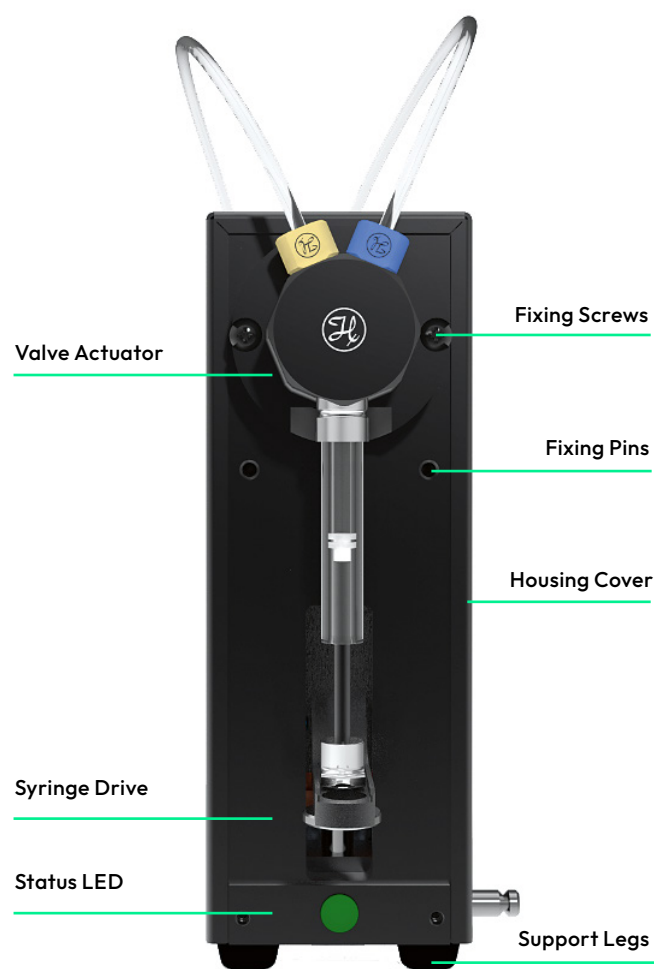


Figure 1. Front view of PSD/4 Encased.

- Step 4.2 Description of the Rear View of the PSD/4 Encased Pump

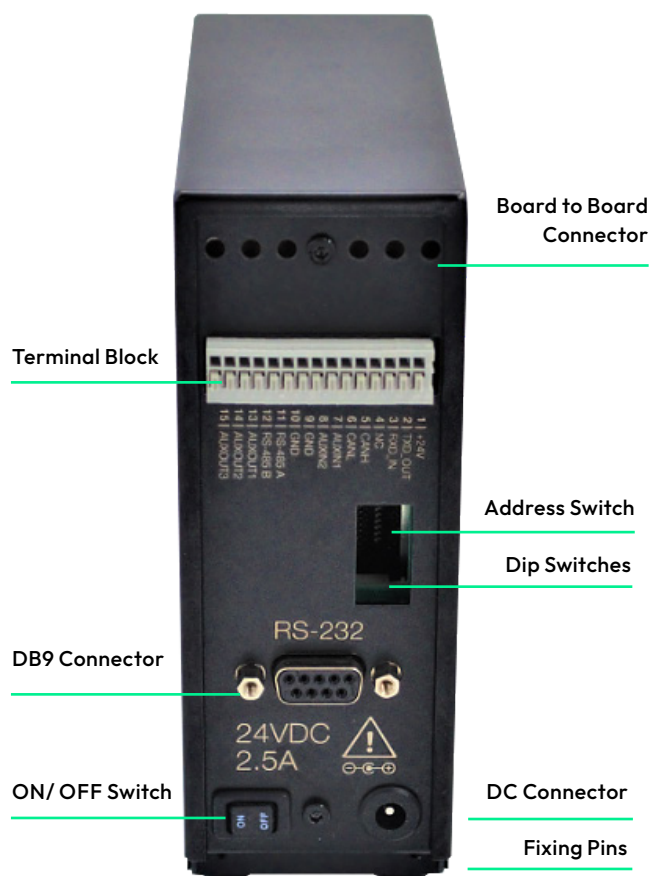


Figure 2. Rear view of PSD/4 Encased.

Step 5. Installation of the Valve onto the PSD/4 Encased Pump

To install the valve:

- Insert valve shaft into the valve actuator and rotate the valve until the valve stem engages with the valve drive on the PSD/4 Encased. See below Figure.
- Continue to rotate valve until the alignment pins slip into the front of the instrument. The syringe port should point down toward the syringe drive mechanism. When the alignment pins engage, press the valve firmly against the PSD/4 Encased.
- Tighten the mounting screws on the valves no greater than 40 in-oz.

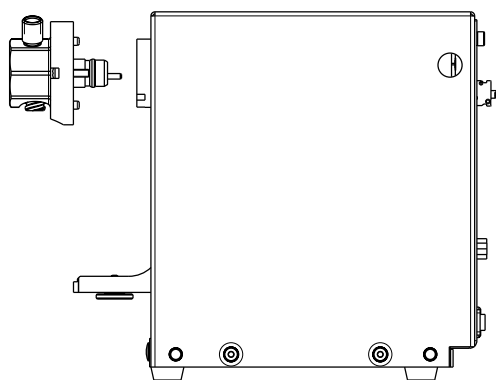
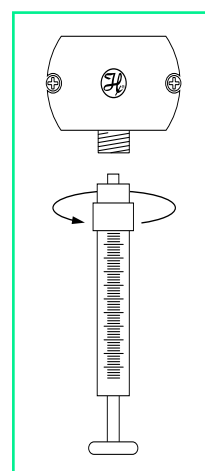


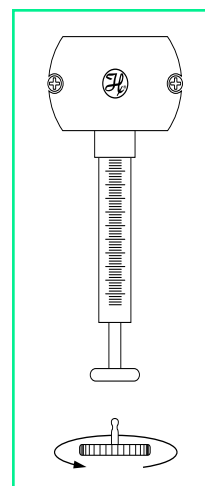
Figure 3. Valve installation.

Step 6. Installation of the Syringe onto the PSD/4 Encased Pump

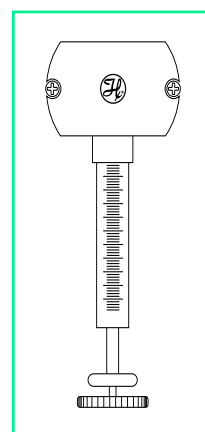
- Position syringe plunger to the center of the stroke. See below Figure.
- Insert the luer end of the syringe into the valve and rotate until finger tight.
- Pull the plunger down until it reaches the syringe drive stem.
- Position the plunger so that the plunger button sets into the channel of the drive stem.
- Hold the plunger and tighten the thumbscrew into the plunger.
- Initialize the PSD/4 Encased
- Re-tighten the syringe into the valve.



Mount the threaded connection into the valve.



Mount the thumbscrew on the plunger.



Installed.

Figure 4. Syringe installation.

There may be a need to relocate the thumbscrew on the syringe depending on the syringe/valve combination being used.

To remove:

- Pry the E-clip away from the thumbscrew shaft.
- Remove E-clip and thumbscrew.

To Install:

- Drop E-clip into drive stem position.
- Insert thumbscrew into position.
- Apply a lateral pressure on the thumbscrew against the open face of the E-clip until the E-clip engages.

NOTE: The syringe is required to be installed parallel to the face of the PSD/4 Encased or damage will result to the syringe and/or valve.

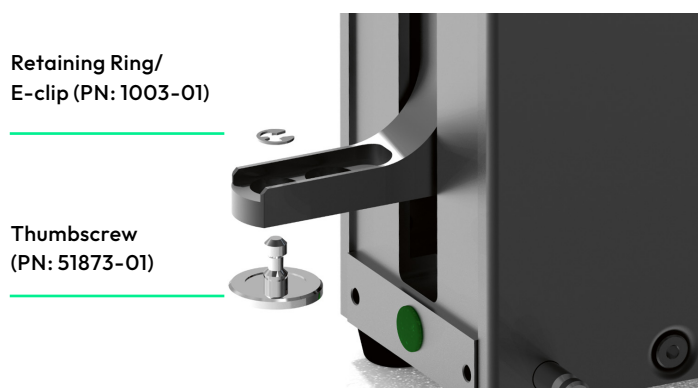


Figure 5. Syringe drive thumbscrew location.

Step.7 Installation of the Tubing onto PSD/4 Encased Pump

- Thread the hub of the fill tubing into the left side of the valve and finger tighten.
- Thread the hub of the dispense tubing into the right side of the valve and finger tighten.

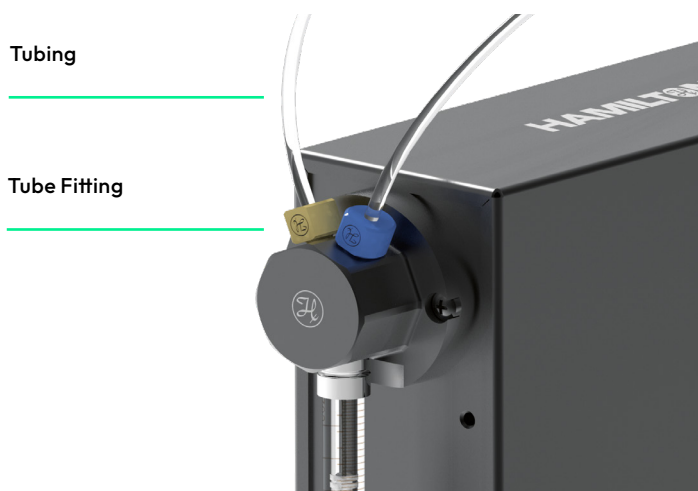


Figure 6. Installation of tubing.

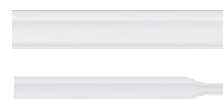


Figure 7. Tubing ends.



Figure 8. Gauge 12 tubing with Red fitting.



Figure 9. Gauge 18 tubing with Blue fitting.

NOTE: Do not use tools to tighten a tube fitting on a valve, as this will result in distortion of the valve seat, which could result in premature valve leakage; finger-tighten only.

NOTE: Do not use molded fittings or machined fittings of different dimensions, as this could cause an improper sealing of the fitting to the valve and distortion of the valve seat, resulting in premature valve leakage. Metal fittings will also damage seals.

Step 8. Powering the PSD/4 Encased Pump

The PSD/4 Encased requires a 24 VDC power supply with a current rating of at least 1.5 amp, which is provided through the Terminal Block connector or DC connector.

It is not recommended to daisy chain power more than two PSD/4 Encased Pumps.

Step 9. Final Product Setup

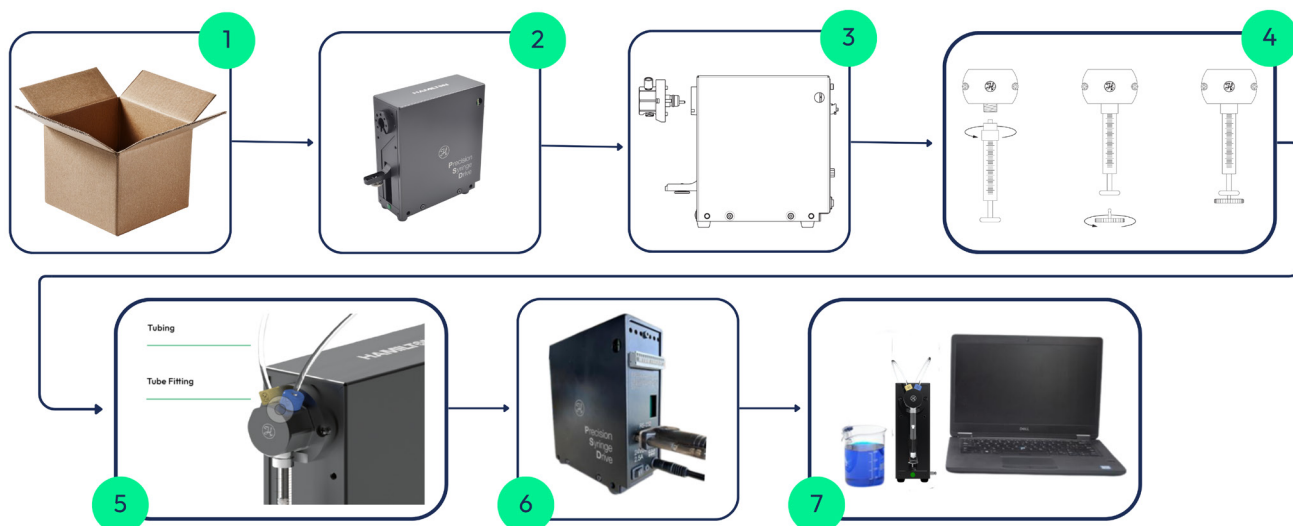


Figure 10. Schematic representation of the final product setup.

Software Configuration

The PSD/4 Encased Precision Syringe Drive comes equipped with powerful and flexible software support, including ready-to-use LabVIEW scripts and a comprehensive Python library.

Its open communication protocols and intuitive command structure ensure seamless integration with custom software environments, allowing users to control the instrument through alternative or proprietary platforms with ease.

For comprehensive information on commands and communication protocol, please refer to the Technical Manual.

Throughout this document, protected product names may be used without being specifically marked as such.
Research use only. Not for use in diagnostics procedures. All rights reserved. All other trademarks are the sole property of their respective owners.
© 2026 Hamilton Company. All rights reserved. All trademarks are owned and/or registered by Hamilton Company in the U.S. and/or other countries. Lit. No. 10208537/00 - 07/2026

HAMILTON

To find a representative in your area,
please visit:

hamiltoncompany.com/contact

Hamilton Europe, Middle East, Asia & Africa
Hamilton Central Europe S.R.L.
Str. Hamilton nr. 2-4
307210 Giarmata, Romania
Tel: +40-356-635-055
contact.hce.ro@hamilton-ce.com

