



PS-67 Series PHASE SEPARATOR

2nd Generation Probe Retrofit Kit
Installation Instructions



Crane ChemPharma & Energy



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Technifab PS-67 (PRS-350) Phase Separator

2nd Generation Probe Retrofit Kit Installation Instructions

Note: It may be helpful to refer to the PS-67 (PRS-350) Installation Manual (LT-33188), to help with parts identification and the Owner's Manual (LT-31985) for additional information. There are two software screen photos that are included on the last page of this document.

There are 6 major steps in installing this kit.

1. Record Previous Settings

- 1.1. Navigate to the 'Setpoints' screen (Figure 2) on the Control Box from the main menu (Figure 1).
- 1.2. Record "High Level Set-point" and the "Low Level Set-point".
 - 1.2.1. High Level Set-point: _____
 - 1.2.2. Low Level Set-point: _____
- 1.3. Navigate back to 'Home' screen and record the 'Pressure Setpoint'.
 - 1.3.1. Pressure Setpoint: _____
- 1.4. Turn the Auto On/Off Switch on the main menu (Figure 1) to "OFF".

2. (Verify) Empty Vessel and Remove Pressure

- 2.1. Observe all safety protocols, i.e. lock out/tag out procedures.
- 2.2. Close the valve from the bulk tank that supplies liquid nitrogen to the system.
- 2.3. Use the PS-67 (PRS-350) output line to deplete the unit of liquid nitrogen. The drain located on the bottom of the vessel can also be used to drain LN2 from the vessel but the output line is preferred.

CAUTION: Liquid nitrogen will freeze most materials it contacts for extended periods of time. Do not allow liquid nitrogen to drain onto surfaces that could freeze and crack.
- 2.4. Slightly open the Manual Vent Valve on the side of the vessel allowing pressure inside the vessel to deplete.
- 2.5. Watch the pressure gauge on the side of the unit to verify pressure in the vessel has dropped to zero.

3. Disconnect Cables and Remove Previous Parts

- 3.1. Disconnect the Control Box from 110V power.
- 3.2. Disconnect the yellow Control Cable.
- 3.3. Remove the Signal Conditioner Cable which connects the black Junction Box and Signal Conditioner.
- 3.4. Remove the cover on the Signal Conditioner. This box is mounted to a stainless steel plate located vertically on the upper portion of the vessel.
- 3.5. Locate the (2) allen head screws used to mount the Signal Conditioner to the SS plate. These will be located diagonally from each other in the corner recesses of the box. Remove the box.
- 3.6. Remove the black BNC cable from the Signal Conditioner Probe.
- 3.7. Loosen the Signal Conditioner Probe.
- 3.8. With heavy gloves for protection against the cold probe surface unthread the Signal Conditioner Probe and lift it out of the vessel.

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4. Install New Parts and Reconnect Cables

- 4.1. Apply Anti-Seize (not just Teflon) tape to threads on new probe.
- 4.2. Very carefully, without bending the Signal Probe, insert the Signal Probe into the vessel.
- 4.3. Tighten Signal Probe connection (pipe fitting first then compression fitting).
- 4.4. Make sure the digital read out on the screen of the Signal Probe is in an orientation it can be easily seen. You will need to view this screen later.
- 4.5. Attach the Signal Probe Cable from the Signal Probe to the Black Junction Box.
- 4.6. Make sure the Signal Probe fitting is pressed in and tightened securely.
- 4.7. Attach the yellow Control Cable to Control Box.
- 4.8. Connect the 110 VAC power to Control Box. At this point the Control Box will 'boot up'.

5. Refill and Restart Unit

- 5.1. Close all down stream valves, drain valve on vessel and the Manual Vent valve located on the side of the unit.
- 5.2. Check Control Box Home Screen tank gauge for level.
 - 5.2.1. At this point the vessel should be empty and the gauge should reflect the empty level.
- 5.3. Verify Signal Probe is reading correctly.
 - 5.3.1. On the Signal probe, press the middle button on the face of the probe.
 - 5.3.2. A number will show that shows percentage of full the vessel is at this point. This number should be close to what is shown on the Home Screen gauge.
 - 5.3.3. If the Signal Probe and the Tank Level on Home Screen are not close, stop and contact Technifab Products for assistance.

NOTE: The Tank Level on the Home Screen is only meant for reference. There will generally be a slight difference between the Signal Probe reading and the Control Box reading.
- 5.4. Re-input all settings into recorded in Steps 1.2 and 1.3 above into the Control Box.

6. Verify Phase Separator Correct Operation

- 6.1. With liquid nitrogen supply line still off, press the Auto ON/OFF button to turn the unit on.
- 6.2. Slightly open the liquid nitrogen supply line valve to begin filling the Phase Separator.
 - 6.2.1. This allows the unit to cool down slowly and fill less violently than it would otherwise.
- 6.3. Watch the Output Pressure gauge on the Home screen to verify that the unit is actually relieving pressure as needed. The Output Pressure should be close to the Setpoint Pressure field on the Home screen.
- 6.4. Once the Phase Separator starts venting cold gas out the Gas Vent Modular Valve, the liquid nitrogen supply line valve can be completely opened.

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- 6.5. Check the Set-Point values for correct operation by watching Tank Level.
 - 6.5.1. The unit should be depleted to allow it to call for a fill.
 - 6.5.2. The unit should reach the Level Low Set-point that you entered on the Set Points screen earlier and start filling.
 - 6.5.3. Once the High Level Set-point is reached it should stop filling.
- 6.6. Check all fittings for leaks.

The unit should now be operational.

Figure 1 - Main Software Screen or Home Screen.

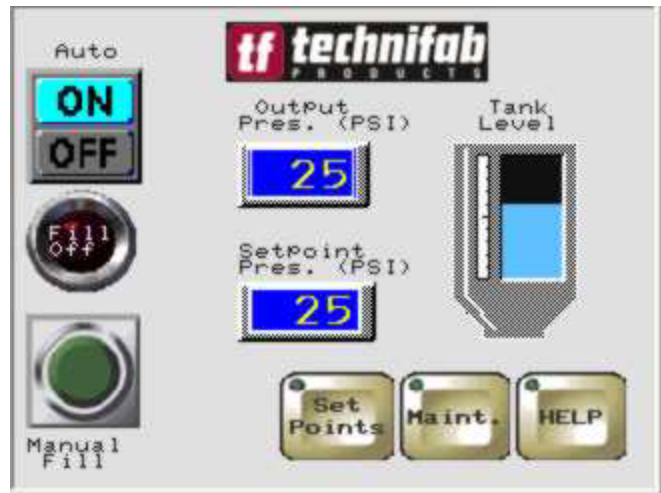


Figure 2 - Set Points Software Screen



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Crane Cryogenics CryoWorks 3309 Grapevine Street, Jurupa Valley, CA 91752 USA Tel.: +1-951-360-0920	Crane Cryogenics Technifab 10339 N Industrial Park Dr, Brazil, IN 47834 USA Tel.: +1-812-442-0520	Crane Cryogenics 9860 Johnson Rd., Montgomery, TX 77316 USA Tel.: +1-936-271-6500 ext. 202131
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