

Troubleshooting Procedure to Return Healy VP1000 Vacuum Pumps for Warranty Evaluation

Franklin Fueling Systems (FFS) has implemented a Healy VP1000 Vacuum Pump Returned Goods Product Tag (FFS-0120) to assist our Healy certified technicians and distributors process warranty claims, see Marketing Bulletin B0709-01 for details. This Technical Bulletin details the product information required to be provided on this VP1000 Product Tag by the Healy certified technician performing the service. As outlined in our Limited Warranty Policy, warranty service of VP1000 Vacuum Pumps can only be performed by Healy certified technicians.

Note: This troubleshooting requires the Test Port and Ball Valve to be installed on the inlet side of the VP1000 piping as described in the Installation, Operation and Maintenance (IOM) Manuals of the appropriate California Air Resource Board (CARB) Executive Order. This troubleshooting also requires a 0-100 inch water column vacuum gauge to be installed and sealed into the above mentioned Test Port.

When responding to a Healy VP1000 Vacuum Pump requiring service, the following troubleshooting must be conducted and documented on the FFS-0120 Returned Goods Product Tag for warranty evaluation.

1. What is the state of the VP1000 / MC100 interface?
 - VP1000 Vacuum Pump state is indicated by the lights on the MC100 Interface Module per A/B Sheet Side B, Step 1 (B-1).
 - A. The yellow light on the MC100 should be illuminated indicating power is present to operate the VP1000
 - B. The green lights on the MC100 should only be illuminated when the corresponding side of the dispenser is active
 - C. The red light on the MC100 will be illuminated if a VP100 fault condition is present
 1. The red light flashing indicates an over-current condition, which typically indicates the VP1000 is over-loaded / locked up due to debris or damage to the shaft, the rotor, or the pump cavity
 2. The red light on solid indicates an under-current condition, which typically indicates the VP1000 is spinning-free / not loading up due to debris or damage on the rotor/vanes that prevent the vanes to move out of the rotorNote: Cleaning of the VP1000 Vacuum Pump should be conducted per the VP1000 Vane & Rotor Service and Replacement Guide found in the appropriate CARB IOM.
 - D. If a fault is present, can the red light be extinguished?
 1. The red light should be extinguished after resetting the power to the MC100/VP1000, which can be accomplished by pulling the MC100 Power Reset Jumper for 20 seconds minimum per A/B Sheet Side B, Step 2 (B-2)

Note: Make sure the VP1000 / MC100 interface is in the "normal idle state" of yellow light on and all other lights off before proceeding with this troubleshooting procedure. Normal idle state is defined per "Testing the System" in the CARB IOM as dispenser power on, no nozzles authorized, and ambient temperature above 40 degree F.



2. What is the state of the Vacuum Line attached to the VP1000?
 - Perform a dispenser vacuum integrity test to confirm the vapor path is free of leaks per A/B Sheet Side B, Step 3 and Step 4 (B-3 & B-4)

Note: Leaks with greater than 4" decay in 60 seconds must be repaired before proceeding with this troubleshooting procedure.

3. What is the performance of the VP1000 Vacuum Pump?
 - The VP1000 is a two-speed vacuum pump. The VP1000 runs at low speed for one side of the dispenser authorized and at high speed for both sides authorized.
 - A. While running, the VP1000 will normally generate 60-90 inches of water column vacuum at either speed of operation, with and without product flow per A/B Sheet Side B, Step 5 (B-5).
 1. Normal VP1000 running vacuum readings of 60-90 inches water column do not account for gauge tolerances or needle movement. Readings of plus or minus 3 inches water column due to gauge accuracy or needle movement should be deemed normal operation of the VP1000.
 2. Since vapor path leaks have been eliminated in Step 2 of this procedure, VP1000 running vacuum readings below normal would typically indicate that debris or damage to the rotor/vanes is preventing the vanes to move out of the rotor and generate the proper vacuum. Additionally, debris or damage to the Cover Assembly could be preventing proper vacuum within the VP1000.
 3. VP1000 running vacuum readings greater than normal, generally pegging the 0-100 inches water column gauge above the 100 inch reading, would typically indicate that debris or damage to the Cover Assembly which is preventing proper vacuum within the VP1000.

Note: Cleaning of the VP1000 Vacuum Pump should be conducted per the VP1000 Vane & Rotor Service and Replacement Guide found in the appropriate CARB IOM.
 - B. While operating at high speed versus low speed, an audible difference should be detected in the operating VP1000 Vacuum Pump per A/B Sheet Side B, Step 6 (B-6)
 1. The green lights on the MC100 should only be illuminated when the corresponding side of the dispenser is active. At low speed, only one green light should be illuminated. At high speed, both green lights should be illuminated.
 2. VP1000 issues detected with improper speed typically indicate that the MC100 Interface Module is not installed properly. Installation and wiring of the MC100 should be done per the appropriate CARB IOM.

For complete details of VP1000 Installation, Operation and Maintenance, please visit the website at <http://www.arb.ca.gov/vapor/vapor.htm> for the appropriate CARB IOM or contact Franklin Fueling Systems Technical Support for further information.

Sincerely,
Leon Schuster
Product Manager
Dispensing Systems

