

Every vane pump Blackmer manufactures is subjected to a series of test that ensure it is in optimal running condition when it leaves the factory. A summary of these tests is listed below. The exact procedure varies by model and only significant variations are noted in this document. **This document does not apply to CRL, SGL, HXL, SX1, or hand pumps.**

Visual Inspections

1. Check pump model, material and rotation with shop tag.
2. If installed, check that liner is installed correctly. Circular hole porting must be on discharge side.
3. Check each vane visually thru port opening for proper installation.
4. Pump must turn freely by hand before and after liquid test with no metal rubbing within the pump.

Mechanical Run Test with Shop Driver

1. Perform dry vacuum test. This ensures that proper clearances were maintained during assembly and that pump will be capable of providing design performance with regard to self-priming, line stripping, and flow.
2. Run the pump, pumping test fluid, for a minimum of three minutes. During this time the following steps must be performed. This ensures that the pump is in good running condition and that the relief valve (if equipped) is set and functioning properly.
 - 2.1. For liquid pumps: set the relief valve (+5 psi, -0 psi) to the pressure specified on the attached test tag. If the maximum shut off pressure is less than that on the test tag, the setting is acceptable provided the "cracking point" is equal to or greater than the required pressure. After the required pressure setting has been made, run the pump at approximately 45 psi or at 10 psi less than the pressure relief setting; whichever is the lower pressure for the remainder of the 3 minutes.
 - 2.2. For liquefied gas pumps: Perform peak pressure test. If fit with adjustable relief valve, set the relief valve to crack (start to open) at the pressure specified on test tag. A variation of 5 psi is acceptable.
 - 2.3. Reject excessively noisy pumps.

Hydrostatic Leak Test

1. With the pump full of test liquid, both suction and discharge vales closed, and motor shut off, subject the pump to hydrostat pressure as specified (1.5 x MAWP unless limited by selected options) for not less than one minute. Check the entire pump for leaks. Slight leakage is permitted from packed glands.
2. Disconnect pump drive, loosen gland (packed pump only) and turn pump by hand to make certain rotor and shaft turn freely with no metal to metal contact. Drain out test fluid.

Complete Test and Record Data

1. If pump fails any part of the test, it must be repaired and re-tested.
2. Grease bearings on roller bearing type pumps. Check pump shaft for grease leakage, indicating a defective seal or improper assembly.
3. Record data and print tag.