

PRESSURE TESTING INSULATION BLOWER & HOSES

The recommended minimum density for dense pack cellulose is 3.5 lbs/ft³. This assures an air tight, effective thermal barrier. It is not possible to install cellulose at that pressure unless your blowing equipment is able to deliver that capacity. The first step in reaching the right pressure is to test the equipment's capacity. To do this you'll need a pressure testing tube.

Testing the Blower Output

Testing the pressure with the blower fan running will test the blower fan's ability to deliver adequate pressure. The pressure should be 3 to 4 psi (pounds per square inch). Replacing the blower motor may be necessary in order to reach peak capacity.

Once the testing tube is attached to the hose and the blower is turned on, the gauge is used to measure the pressure of the blower motor. While pressure is being measured, use sleeve on the gauge to lock the reading. Take the test, slide the sleeve to lock in the numbers, and remove it from the tester tube and read.

Test the insulation blower at the output opening (empty chamber before testing blower motor). This test will give you a reading of the blower motor and the hopper paddles working together. The pressure should be 3 to 4 psi.



Testing the Paddles

Test each hopper paddle as it seals in the feed channel. Or, you can run the machine with the hopper empty and average the reading. If the reading fluctuates, test the individual paddles.

Switch the agitator off and on. As the paddles seat, with the blower on, take your pressure reading.

The silicone gaskets on the paddles should form a seal as each gasket closes. The pressure reading should be 3 to 4 psi.



Testing the Hoses



Test the hoses that you'll be using. The pressure at the end of the hose should be close to the same pressure reading you get at the blower. After the hose is extended, test the pressure at the end of the hose. It should be 3 to 4 psi.

Testing the Hoses Continued ...



If the pressure is lower than the pressure at the outlet of the blowing machine, check the length of the hose for leaks. Continue to monitor the pressure while checking and sealing the hose.

Leaky hoses can't deliver the pressure to properly dense pack a cavity and can also contribute to plugging up problems. To check the delivery pressure, extend the hose so that it's easy to inspect. Small leaks can add up to poor delivery pressure.



Sealing the hose leaks with duct tape is a good temporary solution. Butyl tape also works well. Clean the surface, apply the butyl tape and heat it with a torch to soften and seal. Tape over the butyl tape with duct tape to protect the seal and give it strength. A hose with many patches should be replaced.

BLOWER & HOSE PRESSURE TESTING QUICK CHECK

1. Set-up Force II (Insulation Blowing Machine) without hose(s) installed.
2. Empty machine (hopper, hoses, and airlock) of all insulation materials.
3. Install Pressure Test Gauge.
4. Turn on Blower and Agitator.
5. A – The pressure should read between 3 and 4 psi. If fluctuation occurs, so that any reading falls below 3 psi – a Paddle or Paddles will need to be replaced.

B – To test individual airlock chambers (formed by 2 paddles): use agitator remote to rotate airlock one chamber at a time measuring each chamber pressure individually. Pressure should read between 3 and 4 psi. Note – you are testing the bottom chamber (opposite of visible chamber). Use a marking system to identify chambers (keep hands away from all paddle areas). Obvious signs of excessive air leakages include back-puffing and hissing. If no air leakage from paddles or chambers and pressure is still reading below 3 psi, possible blower motor problem.
6. Set-up Sidewall and Blowing hoses with tube attached. Note – do not try to test hoses outdoors in wet weather – tape will not stick.
7. Blow hoses clear/empty and extend.
8. Install pressure test gauge at end of tube.
9. Turn on Blower Motor.
10. Pressure should read between 3 and 4 psi. If pressure is below 3 psi, go to number 11.
11. Walk down hose – listen for leaks (hissing sound). Seal hose and connections where leaking. Continue to monitor pressure while checking and sealing hoses.