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Technical Guide

Focus On: Spraying Semi-Permanent Mold Release

Spraying semi-permanent mold releases requires an HVLP (high volume low pressure) spray gun and a dry air supply. The following document describes an ideal Binks® system, although the basic instructions will apply to the use of HVLP apparatus from other manufacturers as well.

An Ideal System

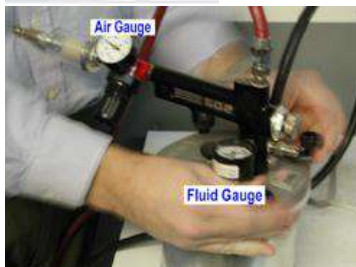
1. Binks HVLP Fluid Nozzle 1.0-1.8mm



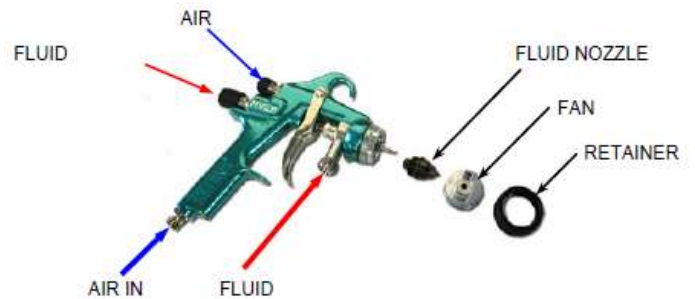
2. Binks: 2qt Pressure Pot



3. Air & fluid gauges mounted on the pot



4. Disposable HDPE pot inserts



Set Up

1. Thread the spray tip into the HVLP gun. Use the wrench to tighten. (figure 1)
2. Screw on the fan tip and the retainer ring; hand tighten only.
3. Fill the disposable pot liner with release; place in the pressure pot and seal the pot.
4. Connect air and fluid lines.
 FLUID PRESSURE - Check the fluid pressure at the pot gauge. It should be set between 3 – 8 psi. (figure 3)
 AIR PRESSURE - Check the atomizing air pressure. The air gauge should be set to 30 – 50 psi.

NOTE: Smaller molds, or molds with complex geometry use lower pressure; larger tools require higher pressure.

Testing

1. Set up a large piece of cardboard to test the spray pattern.
2. Start with the air control knob on the gun (top knob) turned all the way LEFT, and the fluid control knob (bottom knob) turned all the way to the RIGHT.
3. Next, turn the fluid control knob (bottom knob) LEFT approximately half a turn. This should provide plenty of fluid. Trigger the gun on the cardboard test surface, adjusting the top knob (air control) slightly to the RIGHT to achieve the desired spray pattern (this is usually less than half a turn).

NOTE: Periodically check the fluid and air gauges (figure 3) to assure that they are consistent with your original settings.

In Process Handling

When a true pressure pot, like the one illustrated in figures 2-4 is equipped with an air/water separator located directly at the air inlet on the pot, it is possible to hold the semi-permanent mold release in the pot for an extended period of time.

REMEMBER: The pot must be left pressurized with dry air.

NOTE: Low pressures required do not pose safety risks.

Pressure pots rather than siphon feed pots or vessels are far better for spraying semi-permanent mold releases because they use very minimal air pressure to push the liquid up the feed tube to the spray head. By contrast, siphon pots venturi the liquid, introducing considerable air into the liquid mix and increasing the likelihood that the release will degrade while in the pot. Gravity feed systems do not pose the same problems as venturi systems, however they do not permit a way to adjust fluid pressure – the fluid simply drops into the stream of air and is propelled onto the mold. Another drawback of gravity fed systems is that the HVLP gun must be held upright and this can make it difficult to apply release to complex mold cavities.

Temporary Shut Down

1. Remove the air line from the pressure pot.
2. Vent the pressure in the pot by using the pull ring thumb screw or other venting mechanism on the pot.
3. Temporarily remove the plastic pot liner that contains the release and cover it tightly to avoid exposure to atmosphere and contamination.
4. Use a second disposable plastic pail. Fill this with CX-500 or recommended cleaner and place it in the pressure pot.
5. Close the pot and reattach the air line.
6. Using cardboard, spray cleaner through the gun for approximately 30 seconds.
7. Next, close the fluid line (bottom knob on the gun) and blow air only through the gun for 10 seconds.
8. Remove the air line from the pressure pot.
9. Vent the pressure in the pot by using the pull ring above the pot lid before opening the pot.
10. Temporarily remove the plastic pot liner that contains the cleaner and cover it tightly.
11. Unscrew the retainer cap from the spray gun and remove the fan tip. Use the

wrench to remove the spray tip.

12. Place the fan tip and spray tip in a HDPE container filled with cleaner and cap tightly.
13. Return the plastic liner that contains the mold release to the pressure pot. Close the pot and attach the airline and pressurize the pot with dry air for temporary storage.



