If you’ve considered setting up a spray system for your shop, turbine-powered HVLP systems are the way to go. They take up almost no floor space when you’re not using them, and they virtually eliminate setup compared with compressor-driven systems, providing great results right out of the box.

With a low threshold to getting started, you’ll get great professional results in a lot less time, letting you breeze through finishing and move on to the next woodworking project quickly. And if you’ve always shied away from spray systems because of the high prices, there are some new, affordable systems that will make you reconsider.

In this tool test, we looked at 14 different HVLP spray systems available in the United States, with...
stationary turbines that connect to the spray gun with a hose. We required that the sprayers be compatible with both water- and solvent-based lacquer, and we tested them using both. Most important, we wanted to see if these spray systems deliver a professional-quality finish.

The guns divide into two different styles. Those that continue to spray air when the trigger is released are called “bleeders,” while guns that stop spraying air when you release the trigger are called “non-bleeders.” Non-bleeders are nicer to use, because you don’t have to worry about where the gun is pointed when you’re not spraying, and you avoid the risk of blowing dust into a freshly sprayed finish. As I used the sprayers, I also evaluated them on the adjustability of the gun controls, ease of loading and cleaning, and how comfortable each gun handle was to hold while spraying.

The proof is in the pattern

The first thing that really separated the guns from one another was the spray test. To achieve a smooth, even finish, a spray gun must produce a fine mist with a symmetrical or slightly tapered fan-shaped pattern in a nice straight line. To test each sprayer’s ability to break finish into a really fine mist, I sprayed black-tinted water-based spray paint on a freshly sprayed finish. As I used the sprayers, I also evaluated them on the adjustability of the gun controls, ease of loading and cleaning, and how comfortable each gun handle was to hold while spraying.

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Spray Adjusters

Conventional controls. Many guns have separate knobs that adjust the fluid volume and the air volume, which in turn control the width of the spray pattern. This traditional system, as seen on the Earlex SprayPort, is straightforward.

Innovative and easy. The gun from the Apollo 835 Turbospray has a dedicated ring near the front that makes it easy to adjust the width of the spray pattern.

Difficult. The spray pattern on the Campbell Hausfeld guns is adjusted by changing the fluid and airflow knobs in tandem with the air cap. The system made it tough to get a nice pattern.

Spray adjustments should be simple
To test the adjustability of each sprayer, I focused on ease of adjustment, intuitive design that doesn’t leave you guessing at which knob to turn, smooth action, and convenient placement of the knobs that doesn’t interfere with other gun features.

Comfort is critical
When you’re holding onto something for an hour or more at a time, comfort can be a very big deal. There are many good designs among the sprayers tested, so you won’t have to compromise on this feature. We tested the gun handles for both small and large hands, and then averaged the scores, but the scores were pretty consistent between the two. The top scorers on comfort were the two Apollo guns, the Fuji Spray Mini-Mite 3, and the 3M.

Lacquer and black solvent-based lacquer onto white cardboard. The dark finish allowed me to clearly see the shape of each gun’s spray pattern, as well as how fine a mist each gun was able to create. Water-based lacquer is much safer and more widely used these days, but it’s more difficult to split up into a very fine mist, so it was a challenging test for the sprayers.

The Fuji Spray Mini-Mite 3, Apollo ECO-3, 3M, Lex-Aire, Earlex SprayStation HV 5500, Earlex SprayPort HV 6003, and Apollo 835 systems all did well in this round of tests.

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CUP DESIGN

Coating protects. The Earlex SprayStation and the Apollo 835 Turbospray both have cups with a protective coating inside that guards against corrosion.

The hose on the Earlex SprayStation is close to the fluid-adjustment knob underneath, making it harder to turn the knob, and also to spray in tight spaces.

Spit proof. The cup from the Apollo ECO-3/E7000 system has a cone-shaped bottom, which helps keep the gun from picking up air when the fluid gets low—a helpful feature.

Watch out for threaded cups. The threads, shown here on the Wagner Flexio 890, are difficult to clean, and once they form a buildup of old finish, they become hard to use.

CAMPBELL HAUSFELD HV3000
EARLEX SPRAYPORT HV 6003
GRACO FINISHPRO 7.0
LEX-AIRE LX-60C

HOSE LOCATION

The SprayPort, the ECO-3 with the E7000 gun, the Fuji, and the Apollo 835 all were simple to adjust, fast and intuitive to figure out, and had overall nice fit and finish, allowing you to turn the knobs with a light twist of the fingers. The controls on these systems also adjusted the spray width from an even, wide pattern down to a small circular one almost effortlessly.

Four sprayers rise to the top
In the end, three systems emerged as Best Overall: the Apollo 835, the Apollo ECO-3 with the E7000 non-bleeder-style gun, and the Fuji Spray Mini-Mite 3. All three had superior quality spray, very comfortable handles, and easy-to-use, ergonomic

Out of the way. The hose on the Fuji Spray Mini-Mite 3 attaches out of the way at the end of the handle, and has an easy-to-grip coupling that makes it a snap to attach.

In the way. The hose on the Earlex SprayStation is close to the fluid-adjustment knob underneath, making it harder to turn the knob, and also to spray in tight spaces.

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adjustment knobs that adjust the spray very nicely.

For the Best Value award, the Fuji Spray Mini Mite 3 and the Earlex SprayStation HV 5500 both win. At $590, Fuji rings in at about half the price of the Apollo 835 without compromising on features. If you want to start spraying but the Fuji is still a little out of reach, the Earlex SprayStation is even more affordable at $300, and has a great spray quality, if you don’t mind compromising on a few adjustability features.

Teri Masaschi has been a finishing pro for 45 years and teaches regularly across the country.

**Best test.** Masaschi tested each system by spraying dark-colored solvent-based and water-based lacquer onto white cardboard, making it easy to see the size of the spray droplets and the shape of the spray pattern.

**Good pattern.** You want a tapered, symmetrical spray pattern that makes it easy to lay down an even coat of finish and overlap strokes without leaving lines behind.

**Poor pattern.** A sloppy or pear-shaped spray pattern makes it almost impossible to blend overlapping strokes together.
<table>
<thead>
<tr>
<th>MODEL</th>
<th>STREET PRICE</th>
<th>EASE OF ADJUSTMENT</th>
<th>SPRAY QUALITY</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apollo 835 Turbospray</td>
<td>$900</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Tested with the A7500 QT non-bleeder-style gun that’s comfortable to hold, and easy to use and adjust.</td>
</tr>
<tr>
<td>Apollo ECO-3/E7000 gun</td>
<td>$700</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Non-bleeder-style gun is comfortable to use and simple to adjust. System produces a nice spray pattern.</td>
</tr>
<tr>
<td>Campbell Hausfeld HV2002</td>
<td>$250</td>
<td>Poor</td>
<td>Poor</td>
<td>Gun has an uncomfortable handle, and the top-mount hose interfered with spray adjustments. This bleeder-style gun requires the user to adjust three controls to change the spray pattern.</td>
</tr>
<tr>
<td>Campbell Hausfeld HV2500</td>
<td>$400</td>
<td>Poor</td>
<td>Fair</td>
<td>Gun has the same setup as the HV2002. Produced an asymmetrical spray pattern, and could not produce a fine spray.</td>
</tr>
<tr>
<td>Campbell Hausfeld HV3000</td>
<td>$460</td>
<td>Poor</td>
<td>Poor</td>
<td>Same gun setup as other Campbell Hausfeld systems. Did not produce a symmetrical spray pattern.</td>
</tr>
<tr>
<td>Earlex SprayPort HV 6003</td>
<td>$550</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Air and fluid knobs located on the back of a non-bleeder-style gun, making it easy to dial in a nice spray pattern. The system had plenty of power, but the gun was not as comfortable as several others.</td>
</tr>
<tr>
<td>Earlex SprayStation HV 5500</td>
<td>$300</td>
<td>Good</td>
<td>Very good</td>
<td>Great performance with a comfortable bleeder-style gun and simple controls.</td>
</tr>
<tr>
<td>Fuji Spray Mini-Mite 3 T-Series</td>
<td>$590</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Gun has a comfortable handle and a dedicated spray-width adjustment knob. The spray pattern was consistent and impressive.</td>
</tr>
<tr>
<td>Graco FinishPro 7.0</td>
<td>$900</td>
<td>Good</td>
<td>Good</td>
<td>This gun worked well, but sprays fast and heavy, making it better suited to professionals covering large areas. The non-bleeder-style gun has a comfortable handle and the system packs nicely into the carrying-case-style turbine.</td>
</tr>
<tr>
<td>Lex-Aire LX-60C</td>
<td>$995</td>
<td>Fair</td>
<td>Very good</td>
<td>Air volume and spray pattern on this bleeder-style gun are both controlled by adjusting the air cap, which was stiff and difficult to turn.</td>
</tr>
<tr>
<td>Rockler HVLP Spray System</td>
<td>$147</td>
<td>Poor</td>
<td>Poor</td>
<td>Cup mounts to gun with threads, making it difficult to clean. The gun handle is uncomfortable, and the bleeder-style gun could not be adjusted to spray a fine mist. Hose attaches to top of the gun, and often got in the way.</td>
</tr>
<tr>
<td>3M 23K-Pro 1</td>
<td>$850</td>
<td>Very good</td>
<td>Very good</td>
<td>This non-bleeder-style gun worked well and was comfortable to hold. But it uses a cup system with disposable liners that added inconvenient steps to the process.</td>
</tr>
<tr>
<td>Titan Capspray 75</td>
<td>$900</td>
<td>Poor</td>
<td>Good</td>
<td>This non-bleeder-style gun produced a nice spray pattern but sprays fast and heavy, making it better suited to professionals covering large areas. Gun was not very comfortable, with overly complicated adjustments.</td>
</tr>
<tr>
<td>Wagner Flexio 890</td>
<td>$190</td>
<td>Poor</td>
<td>Poor</td>
<td>Convenient on/off switch on the body. Produced a nice spray pattern, but not a very fine spray. There is no hook to hang the spray gun from, and the hose is permanently connected to the gun, so it tips over easily.</td>
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