

Dual Shaping Air Basics

What is shaping air?

Shaping air pushes paint toward the part and defines the spray pattern. Without shaping air, paint spray would go sideways – away from the part - as it comes off the edge of the cup.

What is dual shaping air?

Dual shaping air involves two rings of passages that surround the bell cup at the front of the applicator.

Air from the inner ring and air from the outer ring differently affect the paint as it flows from the edges of the bell cup.

- Inner shaping air captures and propels paint to the part. It produces a large pattern with a soft spray, which is good for finishing wide, flat surfaces or many parts.
- Outer shaping air can act as a guide, narrowing wide patterns made by inner shaping air. Outer shaping air produces a tight pattern with a strong spray, which is good for finishing small spaces and tight corners. On the ProBell, outer shaping air can be turned off in favor of a large pattern with a soft spray.

Inner shaping air and outer shaping air work together to drive paint to the part and adjust the paint spray pattern. This combination works especially well for finishing many different parts and complex shapes.

What are the advantages of dual shaping air?

Dual shaping air offers good pattern control and adjustability. By having two shaping airs, you can get into corners and small spaces. This not only increases transfer efficiency to smaller parts and unique geometries, it also improves overall finish quality.



Dual shaping air can also help reduce unnecessary space on your paint line, especially when it's time to change colors or clean equipment.

When solvent is used to flush out a color or to clean your applicator, large gaps usually are needed so that solvent overspray does not affect your product. While this helps minimize defects, it slows productivity.

When it's time to flush solvent through an applicator with dual shaping air, simply turn up the outer shaping air. This creates a narrow and strong spray that effectively cleans the applicator and makes way for the new color or coating.

Since a narrow solvent spray lessens overspray, you can lessen gaps in between parts. This saves time and promotes efficiency along your paint line.

How does dual shaping air fight the Faraday cage effect during electrostatic painting?

The Faraday cage effect happens when you're trying paint into corners with an electrostatic gun. Charged paint spray is attracted to the closest grounded area of the part - not the corner.

One way to combat that is to reduce the voltage of your applicator and increase the air pressure. This allows the dual shaping air to direct the paint into the corner.

The Graco ProBell Rotary Applicator has a system control that allows you to preset changes in applicator voltage and air pressure. If a part with corners comes along the paint line, you can switch to a setting meant for going into corners and avoiding the Faraday effect.

