

Rotary Bell Applicator Basics

Graco has had a long history of making great spray applicators like airless, air spray and high volume low pressure (HVLP). Graco also has an applicator called the ProBell Rotary Applicator. This rotary bell applicator atomizes paint and coatings, achieving up to 95 percent transfer efficiency.

The ProBell Rotary Applicator is meant for automatic painting applications. It can be mounted in a fixed position, reciprocating arm, or a robot.

Fluid is delivered to the ProBell Rotary Applicator with a low-pressure supply, much the same as other applicators like air spray and basic HVLP guns.

The difference with the rotary applicator is that the fluid is distributed with a spinning cup. The bell cup is spinning at 20,000 to 60,000 revolutions per minute or RPM. Because of the high rotation speed, the paint is subjected to high centrifugal force.

Centrifugal force is the force that you feel on a spinning amusement park ride. Lucky for you, you're not spinning at over 20,000 RPM.

The paint flows along the surface of the spinning cup. When it reaches the edge, the centrifugal force breaks it apart into a fine cloud of fluid particles.

The droplet size is finer and more consistent than other atomization methods. This fine and consistent droplet size delivers a high quality finish.

The cloud of paint droplets is directed or shaped by the shaping air coming out of the air cap. This allows us to shape and propel the pattern toward the part, which leads to improved transfer efficiency.

To achieve maximum transfer efficiency, electrostatic effect is added. The electrostatic charge is created in the 100-kilo volt power supply within the rotary atomizer.

The bell cup itself is charged. This charge is transferred to the paint as it flows across it. The paint droplets carry the charge and seek the target that is grounded.

Electrostatics also supply wraparound to the back of the part.

The bell rotary atomizer yields a superior finish with up to 95 percent transfer efficiency.

If top-notch finish quality and superb transfer efficiency are important in your automatic finishing application, you should consider the ProBell Rotary Applicator.

