

Universal™ Signature® Continuous Spray Nozzles

Improve production efficiency and quality with clog-resistant spray nozzles for hot melt adhesive continuous coating applications.

Universal Signature spray nozzles:

- Produce dense, random patterns
- Resist clogging for higher product yield
- Dispense in multiple orientations
- Reduce process costs and overspray

Patented Universal Signature spray nozzles produce random hot melt adhesive patterns with dense, uniform coverage for nonwovens, web coating and product assembly continuous coating applications. Random patterns yield consistent bonding, tolerate process parameter changes, and help improve product quality. For personal hygiene products, random patterns enhance appearance and hand.

Ideal for wide-web lamination, each nozzle extrudes adhesive through multiple orifices where process air jets randomly oscillate filaments in machine and cross-web directions to produce random 22- or 25-millimeter patterns without heavy or light areas. The continuous adhesive filaments provide cleaner operation that reduces maintenance. Larger adhesive orifices and spraying farther from webs produce superior clog resistance that maximizes production uptime for higher product output.



The durable all-steel nozzles are available in 1/4, 1/2, 3/4 and full-width versions to meet specific pattern requirements. Non-handed partial-width nozzles orient for left or right coverage, reducing inventory requirements. Nozzles operate in multiple orientations, including horizontal, and dispense farther from webs, improving web routing and serviceability.

Standard and low-flow nozzle configurations deliver process stability across a wide range of production speeds and flow rate requirements.

Low air consumption reduces compressed air process costs and overspray. Tight edge control of ± 2 millimeters (± 0.08 in.) provides close edge coverage to help improve product quality, avoid contamination of machine rollers and guides, and minimize adhesive waste.

Signature spray nozzles are compatible with all Universal series modules to extend existing equipment investments. Maximum continuous lamination performance is best achieved when paired with UM22 and UM25 modules, cost-effective UM50 modules for wide-web continuous coating, or UM3 modules for metering applications.



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Specifications

Module Compatibility	All Universal modules
Materials of Construction	Stainless steel base, clamp and shims, steel fasteners and elastomeric seal
Edge Control	±2 mm (±0.08 in.)
Nozzle Orifice Sizes (22 and 25 mm)	
Standard	0.5 x 0.5 mm (0.020 x 0.020 in.)
Low-flow	0.4 x 0.4 mm (0.017 x 0.017 in.)
Nozzle to Substrate Distance	30 to 70 mm (1.18 to 2.76 in.)
Adhesive Flow	5 to 150 grams per minute per nozzle @ 5000 cps
Maximum Add-on Weight	14 GSM @ 300 m/min, 7 GSM @ 600 m/min
Production Speed Capability	10 to 650 m/min (33 to 2132 ft/min)
Adhesive Fiber Size	50 to 100 microns
Adhesive Viscosity (Recommended)	1,000 to 3,000 centipoise
Operating Temperature	70° to 205° C (160° to 400° F)
Air Consumption	0.50 to 0.75 scfm per nozzle
Air Pressure (Typical)	0.3 to 1 bar (5 to 15 psi)
Working Hydraulic Pressure	3.4 to 17 bar (50 to 250 psi) at nozzle



A greater nozzle-to-substrate distance decreases exposure to airborne contaminants that can compromise performance.

Number of Adhesive Orifices

Coverage	22 mm Nozzles	25 mm Nozzles
1/4	3	3
1/2	5	6
3/4	8	9
Full	10	12



Wide Universal UM50 modules require fewer modules to cost-effectively meet the demands of continuous laminating applications.



UM50 modules accept two Signature nozzles that include advanced seals for leak-free operation.

For more information, speak with your Nordson representative or contact your Nordson regional office.

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