RA-20 Rotary Atomizer

Close-in painting capability with optimal coverage, greater operating flexibility and improved paint savings in a wide range of finishing applications.

Features and Benefits

- **Close-in painting** for high transfer efficiency and superior penetration into part recesses.
- **Outstanding atomization** delivers fine finishers and precise film-build control.
- **Excellent pattern control reduces overspray significantly for reduced paint waste.**
- **Applies a variety of coatings** including solvent-based, high-solids, waterbornes, waterborne emulsions, two-component materials, metallics and 100-percent-solids coatings.
- **Wide pattern adjustability –** from 8 to 42 inches.
- **Compact size** for easier positioning within spray booth.
- **Long-life, air-bearing turbine.**
- **Durable composite cup.**
- **Safe, non-sparking operation.**
- **Choice of manual or automatic controllers.**
- **Special design** helps prevent backflow into turbine at high flow rates and during flushing operation.

The production-proven Nordson RA-20 rotary atomizer delivers painting efficiency and superior finishing quality and operating safety for a wide range of finishing applications. Unlike conventional painting bells, the patented RA-20 has no minimum sparking distance. As a result, it can be positioned close to parts for optimal coverage and minimal overspray.

In addition, the fine atomization and soft spray apply thin, controllable film builds with minimal paint bounceback. The RA-20 delivers superior finish quality in a safer, more productive and cost-efficient painting operation.

The RA-20 rotary atomizer's superior performance and reliability are due to a combination of advanced features. These include vector air for superior pattern shaping, long-life air-bearing turbine design, innovative electrostatic charging system and a proprietary composite cup.

Close-in painting for superior performance.

The close-in painting capability of the RA-20 delivers superior penetration into part contours and recesses. The RA-20 provides stronger electrostatic attraction for more complete parts coverage and reduced touch-up requirements for unmatched finish quality. And overspray is reduced substantially for significant paint savings

Excellent spray-pattern control.

The RA-20 rotary atomizer uses vector air to control pattern shaping, rather than by shaping air from the cup. Elimination of shaping-air holes that can plug with paint reduces rejects, and speeds maintenance and cleaning. In addition, different cup sizes can be easily changed to meet spray pattern requirements.

With the RA-20, spray patterns can be adjusted from eight to 42 inches wide, depending on the coating material used. This allows for application of a precise amount of paint with minimal overspray with less paint waste and lower clean-up costs.

Spray a variety of coating materials.

The versatile RA-20 applies exceptionally fine finishes with a wide variety of coatings. Even if different coatings are sprayed on the same line, the RA-20 controls can automatically adjust to the correct spray parameters.

The RA-20 sprays a wide range of coatings, including:

- **solvent-based**
- **waterbornes**
- **waterborne emulsions**
- **high-solids**
- **two-component materials**
- **metallics**
- **100-percent-solids liquid coatings**

The RA-20 can also accommodate varying coating viscosities and formulations.

Air-bearing turbine ensures reliability.

An advanced air-bearing turbine design of the RA-20 provides long turbine life and reliable performance in today's most demanding painting environments. Since the turbine rides on a thin cushion of air, there are no bearings to wear out.

The turbine speed sensor uses fiber-optic cables and magnetic pick-up, which provides superior resolution and reliability. In addition, turbine-speed drops are minimal between spray and no-spray conditions, which enhances finish quality. This is particularly important with systems that employ automatic triggering systems.

Unique hourglass-shaped composite cup holds the key to painting efficiency.

The RA-20 rotary atomizer uses vector air to control pattern shaping,

Safety and savings.

The RA-20 is FM-listed as "non-incendiary," which contributes to the safest possible painting system operation. It is also FM-approved for use with electrostatic waterborne coating systems when used with the Nordson Iso-Flo® HD voltage block. And, the RA-20 meets the stringent safety requirements of NFPA-33, CE and CSA.

Since the RA-20 cannot generate a fire-producing spark, there is no minimum spraying distance and no need for expensive spark-anticipation devices.

Patented atomizing cup design for operating versatility.

Patented Nordson RA-20 atomizing cups are available in several sizes and styles to optimize atomizer performance based on coating type, part profile and finish requirements. The composite construction of the RA-20 cup contributes to the non-sparking design, and is actually more durable than conventional metal cups. The RA-20 atomizing cup will not chip, crack or lose its shape under normal use.

Three edge styles are available to deliver performance benefits for specific types of coatings:

- **Finned cup –** delivers excellent atomization and finish quality across the widest range of paints and coatings.
- **Smooth cup –** a more suitable choice for thicker coatings such as emulsions and most water-reducible coatings.
- **MicroFin™ cup –** typically provides finer atomization for higher viscosity coatings.

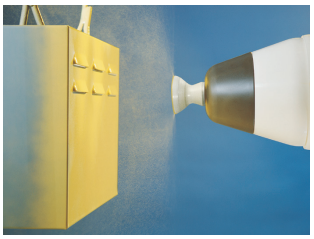
Nordson also offers a pattern control kit for hard-to-atomize coatings for better pattern size control. As part of the kit a special cup/nozzle/distributor is required

Several distributors, including a standard, emulsion and high performance, are also available to provide excellent coating results with a variety of coating materials in a wide range of spray applications.

The benefits of close-in painting.

The close-in painting capability of the Nordson RA-20 delivers many performance and cost-saving advantages over conventional painting bells:

- **Reduced overspray for less waste and lower paint costs.**
- **Excellent transfer efficiency.**
- **Superior penetration into corners and recesses.**
- **Fine paint atomization for a smooth finish.**
- **Better control of film builds.**
- **Reduced manual touch-up on complex shaped parts.**



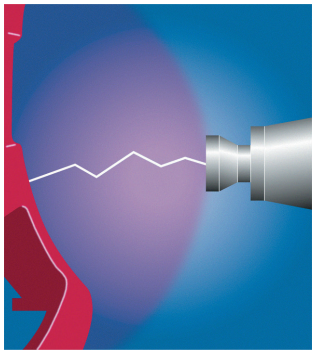
- **Dramatically increased productivity.**
- **Lower VOC emissions.**
- **Cleaner operation and reduced booth maintenance costs.**

RA-20 rotary atomizer controllers: A plus for total paint system efficiency.

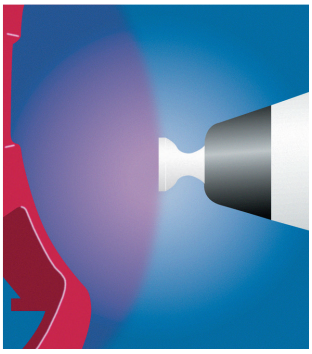
Nordson rotary atomizer controllers are an effective way to enhance the efficiency of a finishing system. From simple spray controls to sophisticated custom-designed systems, Nordson controls can automatically adjust spray patterns, paint flow and turbine speed based on part configuration.

Choice of power supplies for operating flexibility.

The RA-20's external electrostatic charging system provides up to 115 kV charging voltage, but does not generate or store enough electrical energy to harm an operator or ignite solvent materials. The RA-20 is also available with an internal power supply (IPS). The IPS version features lightweight, flexible low-voltage cables that experience less wear in robotic applications.



Conventional metal cup painting bell.



Nordson RA-20 rotary atomizer.

RA-20 Rotary Atomizer

Easy retrofit to existing painting systems.

With minimum production downtime, existing painting systems can be easily and cost-effectively retrofitted with the RA-20 rotary atomizer, electrostatic power unit, cable, controls and interfacing hardware for all the benefits of the RA-20 rotary atomizer.

Commitment to Customer Satisfaction.

At Nordson, we are committed to helping industry become more productive. ISO certification of Nordson facilities and operations attests to excellence in our systems and enhances our ability to provide better quality products and services to our customers. In addition, our exclusive Package of Values® backs every Nordson product and system. The Nordson Package of Values, which includes production testing, application engineering, installation assistance and operator training, is your assurance of satisfaction.

Call Nordson today for more information on how the RA-20 rotary atomizer's superior performance can help you stay a generation ahead of your competition.

RA-20 Specifications

Dimensions	Length*: 16.88 in. (428 mm) Diameter*: 6.44 in. (164 mm)
Weight*	Cable version: 10.36 lbs (4.7 kg) IPS version: 11.68 lbs (5.3 kg) Waterborne version: 9.7 lbs (4.4 kg)
Fluid Pressure & Flow	Fluid pressure: 5 - 100 psi (0.34 - 7 bar) Flow rate, maximum: 50 oz/min at 100 psi (500 cc/min at 7 bar) 130 centipoise material at 100 psi (7 bar), 0.080 orifice: 750 cc/mm
Turbine Speed	45,000 RPM max (continuous operation) for 2 1/2" cup 50,000 RPM max (continuous operation) for 1 1/2" cup
Air Pressure	Bearing air pressure Minimum: 70 psi (4.8 bar) Recommended: 80 – 100 psi (5.5 – 7 bar) Brake air pressure: Plant supply pressure
Air Consumption	Bearing air: 2.5 scfm at 80 psi (70 l/min at 5.5 bar) Turbine air (unloaded): 7.4 scfm (210 l/min) at 30,000 rpm 10 scfm (283 l/min) at 40,000 rpm 14 scfm (396 l/min) at 40,000 rpm 1.3 bar, 1/2" OD with 2" cup 1.9 bar, 1/2" OD tubing with 2" cup 2.0 bar, 1/2" OD tubing at 500 cc/min with 2" cup 3.0 bar, 1/2" OD tubing at 500 cc/min with 2" cup Vector air: 8.1 scfm at 10 psi (229 l /min at .69 bar) 9 scfm at 40 psi (254 l/min at 2.7 bar) 13.2 scfm at 20 psi (374 l/min at 1.38 bar) 17.8 scfm at 30 psi (504 l/min at 2.7 bar) 18 scfm at 80 psi (510 l/min at 5.5 bar)
Air Quality	Clean and dry, with 99% of 0.1 micron contaminants removed
Spray Pattern Size	8 to 42 in. (203 to 609 mm)**
Optional Speed Readout	Magnetic pickup, fiber-optic transmission
Electrostatic Voltage	Internal power supply: 100 kV max XPS 60 and HV cable 60 kV max XPS 115 and IFC-100 cable: 115 kV max
Operating Conditions	0°C to +40°C

*without mounting stem
**Pattern size is dependent on fluid pressure, turbine speed, material viscosity, and many other variables.

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Performance by design