More air atomizing nozzles, in more sizes, in more materials



Spraying Systems Co.®



With hundreds of air atomizing nozzles to choose from, there's a nozzle for every application

A look ahead

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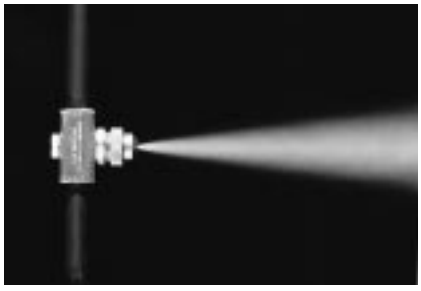
Air atomizing nozzles are among the most versatile of spray nozzle types, with many diverse applications. And for nearly 60 years, Spraying Systems Co. has designed and built air atomizing nozzles to meet these wide ranging requirements. As a result, our extensive selection of high quality air atomizing nozzles is simply unmatched.

But just as important as our vast product line, is the depth of our experience and technical resources. It's these resources that can make the difference in the performance of your spray system. And that's why, if you have a spray system problem or are looking for ways to improve your existing system...we can help. We'll perform a free, on-site evaluation or drop size and spray performance tests in our state-of-the-art spray laboratories. We'll provide custom design and engineering assistance if necessary. And we'll work with you to determine the best air atomizing nozzle for your application.

A brief introduction to air atomizing nozzles...

The extremely fine atomized spray produced by air atomizing nozzles is the result of compressed air being mixed with liquid under pressure. Air atomizing nozzles are available in a variety of sizes, body designs and materials. Hundreds of complete spray set-ups, which consist of specific air cap and fluid cap combinations are also available for a wide range of applications. Here are just a few of the applications that are ideal for air atomizing nozzles.

- Die lubrication
- Spray coating
- Chain lubrication
- Spray injection
- Web spraying
- Moisturizing
- Pattern lubrication
- Humidification
- Cooling
- Gas conditioning
- Dust control



The following pages offer a brief overview of our full line of air atomizing nozzles. For more detailed specifications and performance data on a particular air atomizing nozzle, be sure to contact your Spraying Systems Co. sales engineer to discuss your special needs.

A choice of pressure and capacity set-ups

To produce an atomized spray, liquid is combined with air by means of either a standard liquid pressure installation, or, for very low pressure applications, a siphon or gravity fed installation. Depending on your capacity requirements, we provide various spray set-ups — each consisting of an air cap and a fluid cap — which are interchangeable within each nozzle series. A customized spray can be selected from hundreds of nozzle caps, and will vary according to the pressure installation selected.

A choice of internal or external mix and spray patterns

Our air atomizing nozzles are also available with an internal or external mix. With an internal mix nozzle, the liquid and air are mixed within the air cap to produce a completely atomized spray with a round, wide-angle round, 360° circular, flat or deflected-type spray pattern. Effective for higher viscosity liquids and abrasive suspensions, an external mix nozzle controls the liquid atomization by varying the air pressure. Since liquid and air mix after leaving the nozzle, there is no change in liquid flow rate.

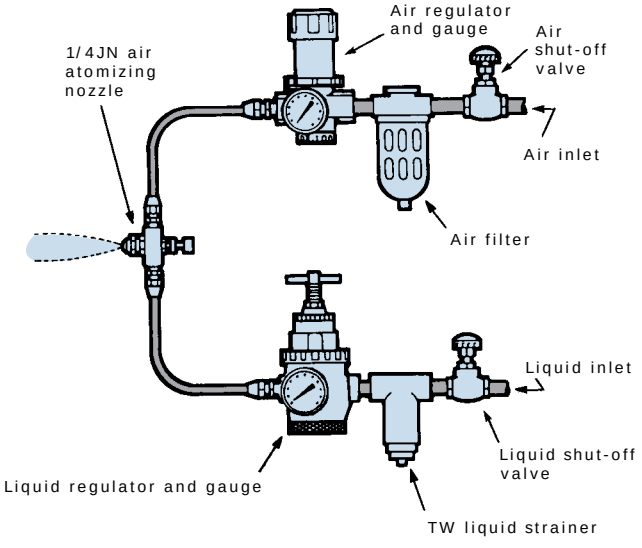


Atomization control is key to drop size

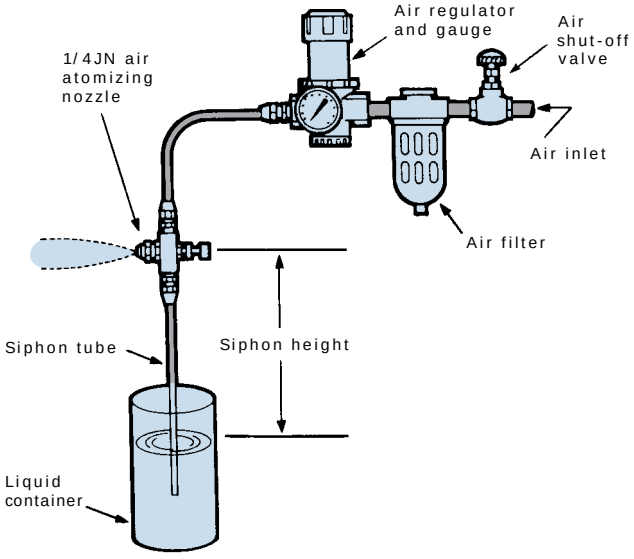
Each spray set-up can be adjusted by changing air and liquid pressure to provide fine, medium, or coarse drop size atomization. For example, finer atomization — useful for rapid heat transfer — is achieved by increasing the air pressure and/or lowering the liquid pressure, resulting in a high ratio of air flow to liquid flow. Conversely, for coarser atomization, simply adjust for a higher liquid to air ratio.

Built for long-lasting spray performance

We manufacture our air atomizing nozzles using the highest quality materials, ensuring long-lasting spray performance. The most popular material choices offered are nickel-plated brass, and 303 or 316 stainless steel. Our QuickMist™ air atomizing nozzles are made from Kynar® PVDF. Other machinable materials, including Lucite® and PVC, may be special ordered.



The liquid is supplied to the nozzle under pressure. Air and liquid can be externally or internally mixed to produce the atomized spray.



The liquid is supplied by either a liquid siphon or gravity feed. These set-ups are designed to draw liquid through the feed line into the air flow where it is atomized.

Kynar is a trademark of Atochem North America, Inc.



Kynar QuickMist™ air atomizing nozzle reduces air consumption and maintenance time



The new Kynar QuickMist air atomizing nozzle combines six important features:

- Uses significantly less air than conventional air atomizing nozzles.
- Provides the same degree of atomization at the same liquid flow rates as conventional air atomizing nozzles.
- A quick-connect spray setup for reduced maintenance time.
- PVDF construction for chemical resistance.
- Automatic spray alignment for improved product quality.
- Exclusive patented design.

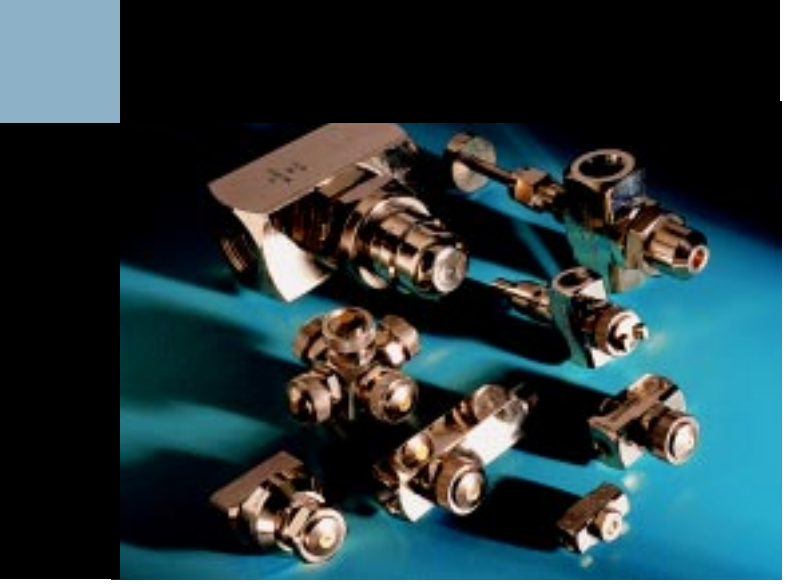
The Kynar QuickMist nozzle's super tough, chemical-resistant fluoropolymer construction means it can be used in temperatures up to 200°F (93°C). This makes the nozzle particularly well-suited for chemical, food processing, and electronics applications which require a variety of temperature ranges and resistance to acids, bases, and oxidizing agents.

You can also select from a number of spray setups and patterns, including round spray, wide-angle round spray, and flat spray.

The Kynar QuickMist nozzle helps maintain consistent product quality by providing perfect nozzle alignment every time. Flat sprays can be aligned in 45° increments thanks to ribs on the nozzle body and the retainer cap which guide the spray setup sub-assembly into place. To help reduce maintenance time, the entire spray setup sub-assembly — consisting of the air cap, VITON® O-rings, and fluid cap — is easily inserted and removed in just seconds, without the use of tools.



The Kynar QuickMist nozzles are also available with mounting lugs to make installation even easier.



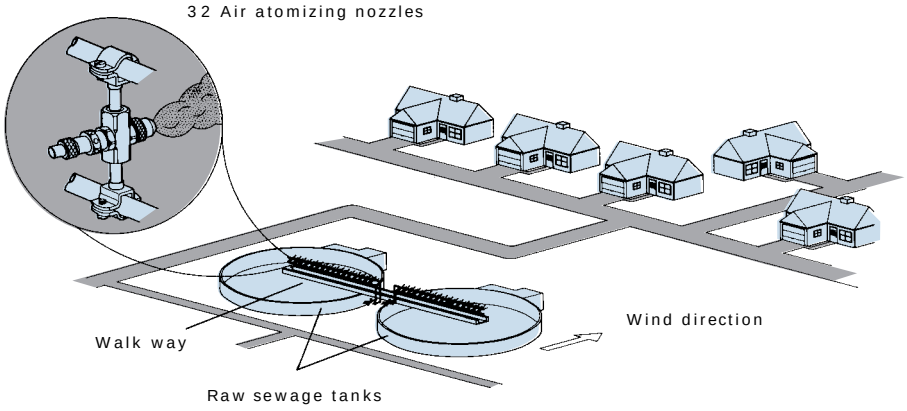
Air atomizing nozzles can be customized to meet your exact requirements

Basic air atomizing nozzles offer a wide variety of capacities

Depending on your application's requirements, you can choose from six different basic air atomizing models. Our J and JJ Series of air atomizing nozzles include:

- **Low Capacity Series.** Our 1/8J and 1/4J models range in capacity from 0.13 gph to 72 gph (0.49 l/h to 280 l/h).
- **Low Capacity Compact Series.** Our 1/8JJ models range in capacity from 0.13 gph to 25.7 gph (0.49 l/h to 88 l/h).
- **Medium Capacity Series.** Our 1/2J models range in capacity from 4.1 gph to 306 gph (15.5 l/h to 1,158 l/h).
- **High Capacity Series.** Our 1J models range in capacity from 24 gph to 1,740 gph (91 l/h to 6,586 l/h).

These models are designed to operate at air pressures ranging from 10 psi to 60 psi (0.7 bar to 4.0 bar) and can be specified with pressure or siphon/gravity liquid feed spray set-ups. They are available in an array of body styles and with a variety of options, including single, twin and multiple assemblies, steam jackets, thin or thick wall mounted versions, various inlet positions, built-in strainers and more. Choice of material includes nickel-plated brass, stainless steel, Lucite and polyvinyl chloride, and other machinable materials.



Thirty-two 11005-1/4J air atomizing nozzles are used to deodorize emissions from a large sewage treatment plant.

Automatic air atomizing nozzles for reliable intermittent spraying

To achieve precise coverage with less waste in applications requiring intermittent atomization for work feed or processing cycles, turn to our automatic air atomizing nozzles. They're ideal for lubrication, coating and moisturizing applications.

Available with a wide variety of spray set-ups, our JAU Series of automatic air atomizing nozzles feature an internal air cylinder for controlled on/off operation up to 180 cycles per minute. This on/off cycle only interrupts the liquid portion of the spray. All nozzle





28JJAU AutoJet Nozzle.

parts are manufactured to precision, quality controlled standards for smooth operation and long life. Materials of construction include a choice of nickel-plated brass or stainless steel. All nozzles feature a hard-drawn stainless steel fluid cap, and stainless steel return springs.

The JAU Series is available in standard, compact, 45° offset, and single air line nozzle body types. Options include shut-off controls, plate mounting and nozzle extensions.

Our J Series AutoJet® air atomizing nozzles produce fine atomization by mixing air and liquid supplied at line pressures up to 125 psi (9 bar). The self-contained air cylinder provides on/off operation at any desired frequency up to 180 cycles per minute. This air cylinder is completely separate from the nozzle body assembly for minimal maintenance and fast and easy cleaning of the nozzle. Capacities range up to 29 gpm (110 l/min).

The J Series AutoJet nozzle body assembly is made in either nickel-plated brass or corrosion-resistant stainless steel.

Low pressure air atomizing spray gun provides superior accuracy, reduces overspray

The 28JJAU AutoJet spray gun is ideal for applications requiring precise intermittent spray performance. This is because the gun is electrically operated, making low atomizing air pressure possible. This low pressure operation significantly improves spray accuracy and reduces overspray. The 28JJAU AutoJet spray gun sprays up to 2,000 cycles per minute and operates at air pressures up to 125 psi (9 bar). All fluid wetted parts are stainless steel, carbide, EPDM rubber or nylon. It can be mounted in any position for added versatility.

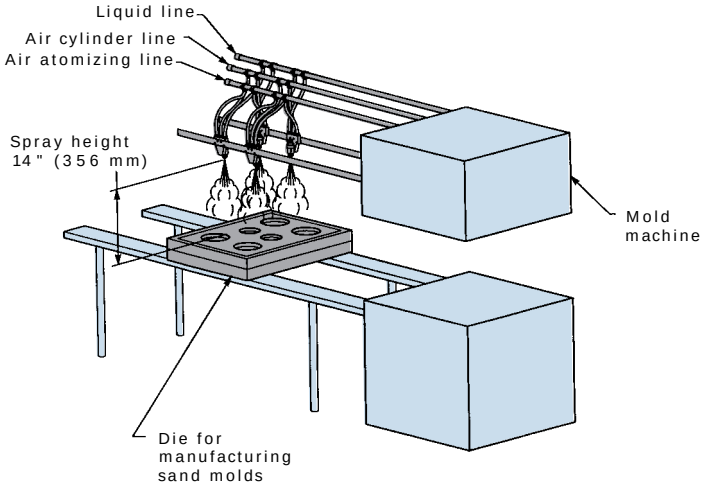


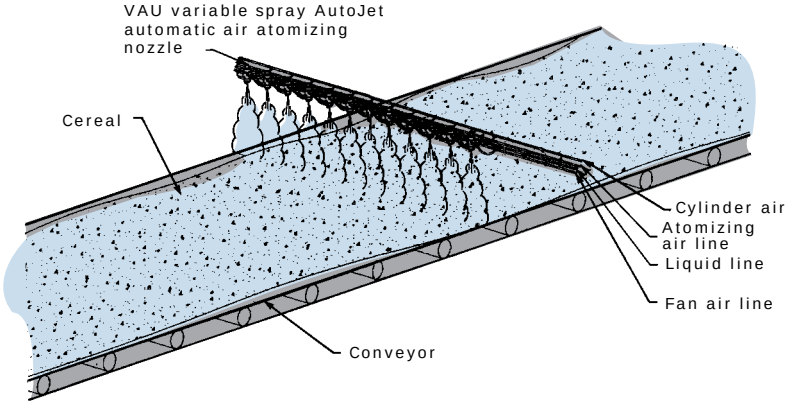
Plate-mounted automatic air atomizing nozzles are used to spray die lubricant on a traveling die to fabricate sand molds for aluminum castings.



VAA and VAU variable spray AutoJet® nozzles for exceptional distribution and atomization control

When uniform spray distribution is critical, even when spraying viscous liquids, count on our VAA and VAU variable spray AutoJet nozzles to achieve the precise, consistent coating or moisturizing you need. Our unique external mix design enables independent adjustment of the atomizing air, fan air, and liquid flow, which means you can fine-tune the capacity, drop size and spray pattern for precise coverage.

For example, you can reduce the atomizing air pressure to produce a larger drop size. Or you can adjust the fan air line pressure to regulate the spray pattern and coverage without affecting the drop size or flow rate. The result? Accurate, uniform spray distribution. The independent control of the liquid flow also allows you to achieve various distribution patterns with the use of just one nozzle.



VAU variable spray AutoJet nozzles on a manifold apply a uniform coating of heated sugar frosting to dry cereal products as they move along a conveyor.

Multiple configurations provide added versatility

Two basic models are available. The VAU automatic version has a built-in clean-out/shut-off needle that is activated during each spray cycle, virtually eliminating plugging. The VAA version offers continuous operation and can be ordered with a manual shut-off needle, a clean-out needle, or a combination shut-off/clean-out needle.

Both the VAA and VAU AutoJet nozzles provide a second inlet port that can be used for spraying two liquid solutions or as an outlet in recirculating systems — especially helpful when spraying viscous or heated liquids.

The VAA and VAU nozzles can be post, bar, or support mounted using the 3/8"-24 UNF (F) thread connection or optional mounting adapters.

Seven spray set-ups from which to choose

The VAA and VAU AutoJet nozzles feature seven different external mix spray set-ups with flows ranging from 0.74 gph to 47 gph (2.8 l/h to 179 l/h). With the fan air in operation, a flat spray pattern is produced, while a round spray pattern is produced when fan air is shut off. The low to high pressure atomizing range is 10 to 90 psi (0.7 to 6.2 bar), with a minimum of 35 psi (2.4 bar) air pressure required to operate the air cylinder.



Special purpose nozzles to further enhance your spray application



For better evaporative cooling, choose our new FloMax nozzle

Small drops improve evaporation, reduce excess moisture, and sludge buildup. This makes the FloMax nozzle ideal for any evaporative cooling or gas conditioning application. Optional materials are available offering corrosion/erosion resistance, as well as special order FloMax lances for custom installations.

For a high quality, cost-efficient dry fog, choose the AirJet® Fogger nozzle

The AirJet Fogger spray nozzle, a specialized nozzle assembly constructed mostly of high performance nylon, produces a high quality, cost-efficient dry fog. Drop size can average 15 microns or less, and is adjustable to meet specific industrial needs by changing the ratio of compressed air to water.

It requires minimal maintenance time because its built-in check valve, flat spray tip, and interchangeable strainer are quickly serviced by hand and without tools. A relatively large nozzle orifice minimizes clogging. Plus, the nozzle can be used with PVC piping and low pressure air tubing.

Request additional literature...

Industrial Spray Products Catalog 55. Our 210-page catalog features our complete line of spray nozzles and accessories.

Drop Size White Paper No. 336. This 12-page technical report provides information on how to evaluate and interpret drop size data.

Kynar QuickMist™ Nozzle Bulletin No. 399. This four-page bulletin highlights our quick-connect air atomizing nozzle that reduces air consumption and maintenance.

AutoJet® Automatic Spray Gun Bulletin No. 404. Featured in this eight-page bulletin is our line of automatic spray nozzles and spray guns.

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