# A Guide to Improving the Performance of your Air Control Application




Spraying Systems Co.®

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# How to Use this Guide

Featured on the following pages is information to help you identify the best air control nozzle for your application. To begin, we suggest you start with a thorough analysis of the requirements of your air control application. Then refer to the Selection Guide on page 5 for a complete list of your air control options. Should you need additional assistance, simply contact your local Spraying Systems Co. sales engineer or visit our Web site at www.spray.com.

### To learn more about our line of air control nozzles

In addition to offering a large selection of nozzle types, sizes, and materials, you'll find that our sales engineers and technical services staff have a wealth of hands-on experience. So whether your requirements involve product drying, material conveying, or product cooling — we can help. And, with sales offices located throughout the world, you're only a phone call away from direct assistance. Or, you can visit our Web site at www.spray.com for access to a variety of innovative ideas for your air control application.

# Nozzle Specification

## Importance of Specifying the Best Air Control Nozzle



Whether you're in the automotive, surface treatment, food processing, die casting, or steel industry, you're likely concerned about process improvement, air consumption, and noise reduction. Air control nozzles are one component that can improve the quality of your production while reducing operating costs. Plus, specifying the right air control nozzle can reduce noise problems in your plant, which is particularly important for complying with OSHA safety regulations.

With more than 60 years of experience, Spraying Systems Co. is the world's leading spray nozzle manufacturer. Among the products we manufacture is a large selection of air control nozzle types, sizes, and materials that are expressly designed to improve performance, reduce noise, and save on air costs in most drying, cooling, and conveying applications. Here are some examples.

## Tips for using air control nozzles

- Always select the lowest flow nozzle that will achieve the desired result to maximize air consumption savings and noise reduction.
- Install a pressure regulator and gauge in the air line before the air control nozzles, and regulate pressure down to the absolute minimum necessary to achieve the desired result. Lower pressures improve safety, reduce noise, and could save hundreds of dollars a year in operating costs!
- To minimize noise, increase the distance between the target surface and the nozzle, if possible. Remember that noise is caused by air impacting on the target work-piece, particularly edges or holes.
- Install adjustable ball joints with air control nozzles to provide simple, accurate adjustment of nozzle orientation.
- Don't aim the nozzle straight at the target for cleaning applications. Angle the nozzle 15° to 45° to ensure that the contaminant is removed from the product surface.
- WindJet® air control nozzles, in an appropriate material, can be used with $CO_2$, Nitrogen, steam, or other compatible gases for special heating or cooling applications.
- To create an air curtain, nozzles don't always need to be positioned as closely as on an air knife. Nozzles can be up to 12" (30 cm) apart depending on the application.
- You can aim the air control nozzle to "wipe" sideways across a moving target at a comparatively shallow angle for many blow-off applications. This can reduce the number of nozzles needed.
- Angle WindJet Airknife Manifolds like a snowplow above a moving conveyor so that the contaminant is forced off the belt, rather than back.
- Proper filtration of compressed air is key for efficient air control nozzle performance. Be sure to use a filter/separator to remove excess oils and water just prior to your application.

# Nozzle Specification continued

### Improve process control

Our air control nozzles convert a low-pressure volume of compressed air into a targeted, high-velocity concentrated stream or flat fan of high-impact air. This creates a better quality air pattern than open pipes, drilled holes, and many other air control nozzles. That means dependable, repeatable performance that can improve your process.

### Reduce noise in the workplace

Noise from compressed air is one of the biggest environmental hazards in the workplace today. Using air control nozzles can reduce the perceived noise from compressed air by over 50 percent. The table at right summarizes the potential noise reductions.

### Save on compressed air costs

Compressed air is an expensive utility. A properly designed and maintained air control system can save hundreds or even thousands of dollars each year in operating expenses. So in addition to improving your processes and making your workplace quieter, air control nozzles can pay back their cost many times over. The table at right summarizes the potential savings from using our air control nozzles instead of an open pipe.

### Noise Reduction Provided by WindJet® Nozzles

| Air Pressure | Noise Level from 5/32" (4 mm) open pipe at distance of 5 ft. (1.5 m) | Noise Level from 707 or 727 WindJet Air Control Nozzle | Noise Reduction from WindJet Air Control Nozzles | Perceived Noise Reduction |
|---|---|---|---|---|
| 15 psig (1 bar) | 70 dB(A) | 63 dB(A) | 7 dB(A) | 38% |
| 30 psig (2 bar) | 80 dB(A) | 70 dB(A) | 10 dB(A) | 50% |
| 45 psig (3 bar) | 84 dB(A) | 74 dB(A) | 10 dB(A) | 50% |
| 60 psig (4 bar) | 88 dB(A) | 76 dB(A) | 12 dB(A) | 56% |
| 70 psig (5 bar) | 92 dB(A) | 80 dB(A) | 12 dB(A) | 56% |
| 100 psig (7 bar) | 98 dB(A) | 85 dB(A) | 13 dB(A) | 60% |

### Cost Savings Provided by WindJet Nozzles

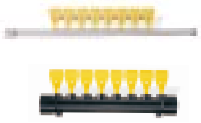
| Open Pipe Size | Air Consumption SCFM (Nl/min) | Equivalent Air Control Nozzle | Air Consumption Reduction | Annual Air Cost Savings ($$)** |
|---|---|---|---|---|
| 5/32" (4 mm) | 32 (900) | 707 or 727 WindJet nozzle | 17% | $175 |
| 1/4" (6 mm) | 70 (2000) | 4 nozzle WindJet cluster head | 25% | $550 |
| 5/16" (8 mm) | 160 (4500) | 4 nozzle WindJet cluster head | 33% | $1,650 |
| 3/8" (10 mm) | 200 (5700) | 7 nozzle WindJet cluster head | 28% | $1,800 |
| 1/2" (12 mm) | 300 (8600) | 7 nozzle WindJet cluster head | 40% | $3,825 |
| 5/8" (16 mm) | 525 (15,000) | 13 nozzle WindJet cluster head | 33% | $5,500 |
| 3/4" (20 mm) | 775 (22,000) | 13 nozzle WindJet cluster head | 55% | $13,125 |

**Based on eight-hour, five-day work week and energy cost of $.25 for 1000 cubic feet of air.



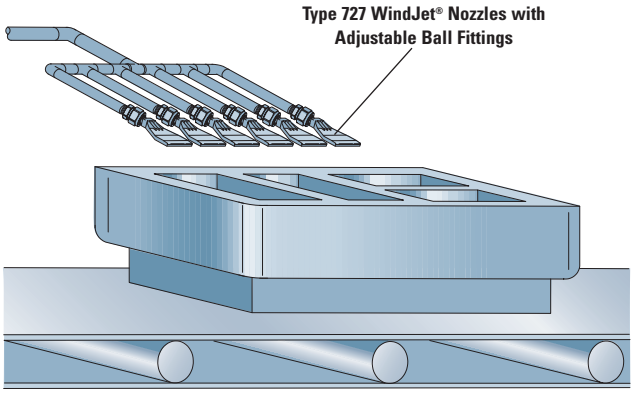
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# Selection Guide

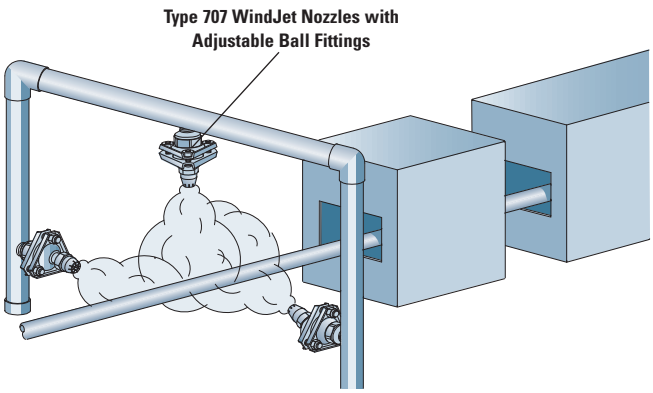
| Model Type | Maximum Coverage at 6" (150 mm) Distance from Nozzle | Maximum Capacity | Maximum Pressure | Inlet Connection NPT or BSPT | Available Materials | Page No. |
|---|---|---|---|---|---|---|
| AA727 WindJet® Nozzle  | 2-1/4" 57 mm | 43.4 scfm 1198 Nl/min | 100 psi 7 bar | 1/4 (M or F) | ABS Plastic, Aluminum, PPS | 8 |
| AA707 WindJet Nozzle  | Produces a concentrated targeted pattern at approximately 6" (150 mm) from nozzle | 45 scfm 1237 Nl/min | 125 psi 8.6 bar | 1/4 (M) | ABS Plastic, Aluminum, PPS, Stainless Steel, PVDF | 8 |
| UniJet® Blow-off Nozzle  | 16-1/2" 419 mm | 61 scfm 1591 Nl/min | 100 psi 6 bar | 1/8, 1/4, 3/8 (M or F) | Brass, 303 Stainless Steel | 11 |
| UniJet TK Nozzle  | 15-1/2" 394 mm | 31.1 scfm 881 Nl/min | 60 psi 4 bar | 1/8, 1/4, 3/8 (M or F) | Brass, 303 Stainless Steel | 11 |
| FloodJet® K Nozzle  | 15-1/2" 394 mm | 31.1 scfm 881 Nl/min | 60 psi 4 bar | 1/8, 1/4, 3/8 (M) | Brass, 303 Stainless Steel, 316 Stainless Steel, Polyvinyl Chloride | 14 |
| WindJet Airknife Manifolds  | 67-3/4" 1720 mm | 888 scfm 24480 Nl/min | 90 psi 6 bar | 3/4, 1, 1-1/4 (M) | Aluminum | 16 |
| | 16" 406 mm | 10.7 scfm 293 Nl/min | 100 psi 7 bar | 1, 1-1/2 (M) | Nylon | 18 |
| WindJet Lances  | Produces a concentrated targeted pattern at approximately 6" (150 mm) from nozzle | 585 scfm 16081 Nl/min | 90 psi 6 bar | 3/8, 1/2, 3/4, 1 (F) | Aluminum, Brass | 20 |
| WindJet Air Gun  | Produces a concentrated targeted pattern at approximately 6" (150 mm) from nozzle | 15 scfm 420 Nl/min | 100 psi 6 bar | 1/4 (F) | Brass | 23 |

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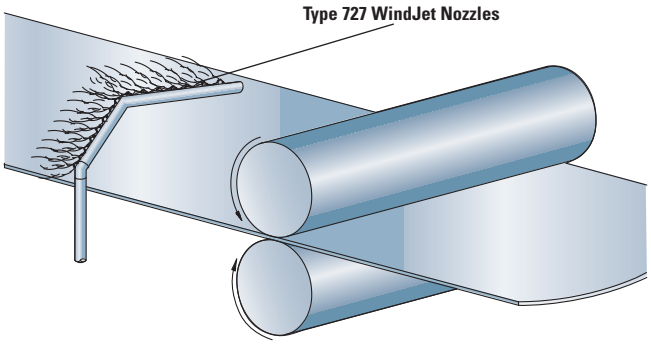
# Application Solutions



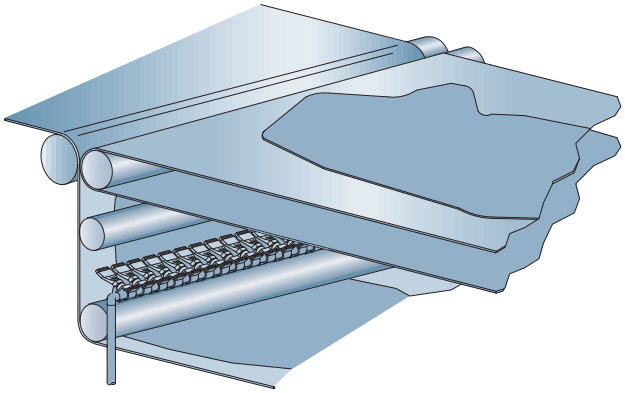

***Blowing Sand Out Of Molds***



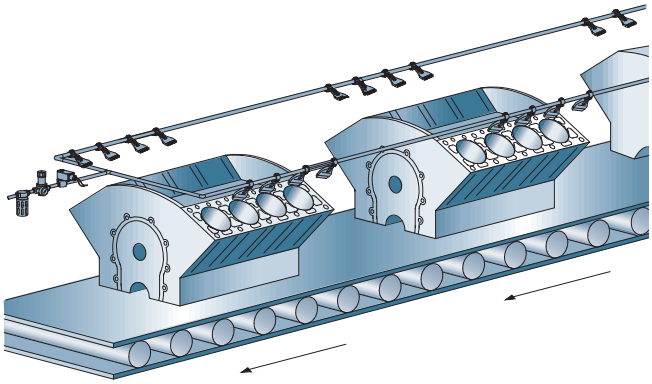

***Air Blowing To Remove Water Before Painting***



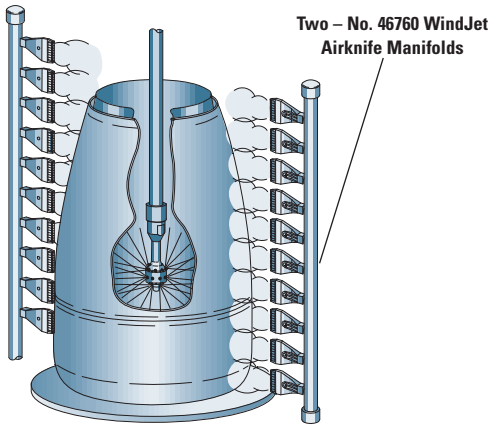

***Blowing Solutions Off Steel During Galvanizing***



***Dust Blow-Off After Burnishing Leather***



***Removing Burrs From Piston Holes***

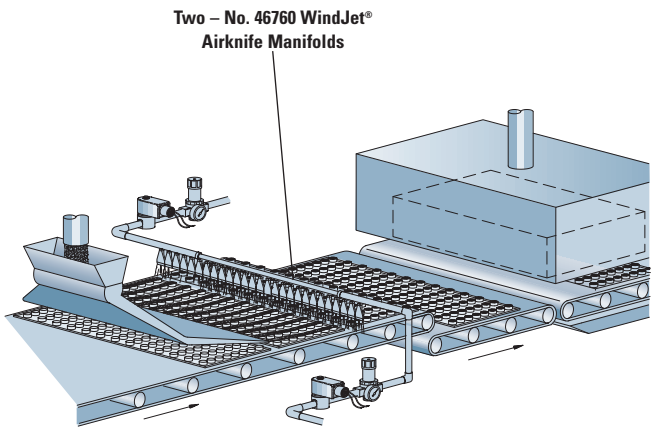



***Air Dry Chamber***

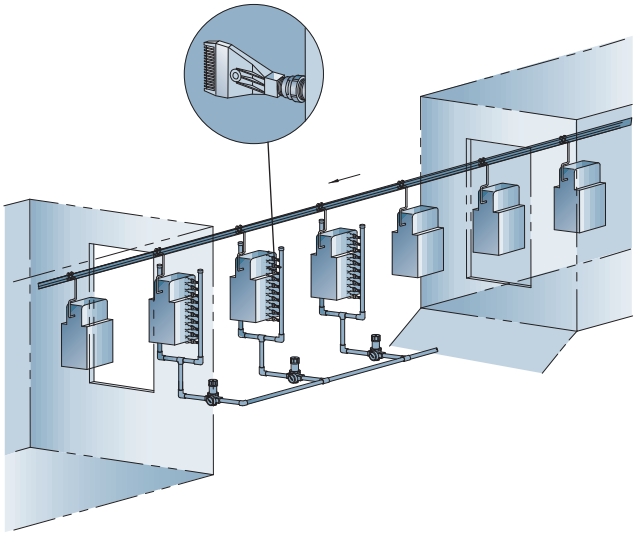


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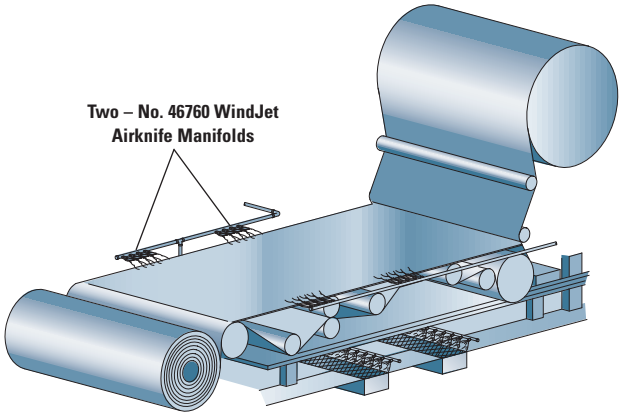
# Application Solutions continued



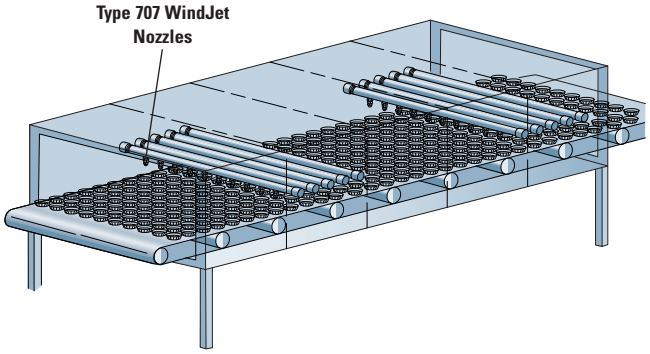

***Cake Frosting Air Control Application***



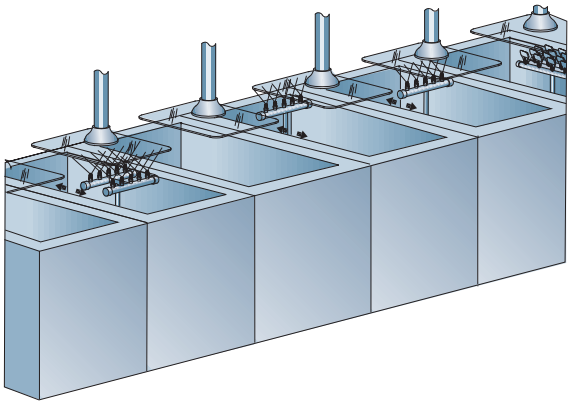
***Nozzles/Adapters To Smooth Out Clay Coating***



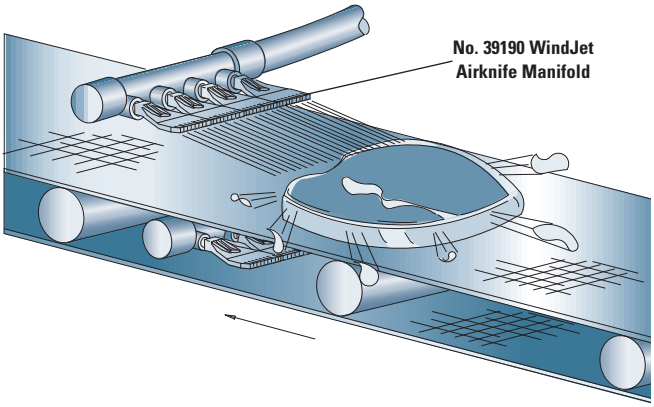

***CIP Air Control System On Tissue Machine***




***Smoothing Out Chocolate Candy***



***Spraying/Coating Television Screens***




***Removing Fat From Cooked Meat***

# WindJet® Nozzles

## Design Features – AA727 WindJet Nozzles

The AA727 WindJet nozzle generates a quiet, efficient, controlled flat fan distribution of compressed air. The nozzle's air stream is discharged through 16 precision orifices that ensure uniform distribution and spray pattern integrity. The AA727 WindJet nozzles are offered in durable ABS plastic, PPS (polyphenylene sulfide) — a chemical-resistant, high-performance thermoplastic that withstands temperatures up to 300°F (149°C) — and sturdy aluminum. Recessed orifices on the ABS and PPS models protect against external damage, and also provide an air escape should the nozzle accidentally be placed against a flat surface. A convenient 3/16" (4.8 mm) dia. mounting hole on the ABS and PPS models ensures correct positioning on the header or manifold for fixed applications. The nozzles feature a 1/4" NPT or BSPT inlet connection.



***AA727-1/4–***
***(ABS Plastic Male Conn.)***



***AA727-1/4F–***
***(ABS Plastic Female Conn.)***



***Y727-AL–***
***(Aluminum)***



***AA727-1/4-RY–***
***(PPS)***

## Design Features – AA707 WindJet Nozzles

The AA707 WindJet nozzle produces a tightly directed round spray pattern with minimum noise levels and features extended ribs to protect the recessed orifices against external damage. The ribs also provide an air escape should the nozzle be placed against a flat surface, and they accommodate a deep well socket. The AA707 WindJet nozzles are available in durable ABS plastic, chemical-resistant PPS (polyphenylene sulfide) — a high-performance thermoplastic that withstands temperatures up to 300°F (149°C) — sturdy aluminum, stainless steel, and PVDF. The aluminum and stainless steel versions feature interchangeable caps that control air usage. The aluminum caps are color coded for easy identification of flow rates. The nozzles feature a 1/4" NPT or BSPT (M) inlet connection.



***AA707-1/4–***
***(ABS Plastic)***



***AA707-1/4-AL–***
***(Aluminum)***



***AA707-1/4-RY–***
***(PPS)***



***AA707-1/4-SS–***
***(Stainless Steel)***



***AA707-1/4-KY–***
***(PVDF)***



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# WindJet® Nozzles continued

## Performance Data – AA727 WindJet Nozzles

| Nozzle Inlet Conn. NPT or BSPT | Nozzle Type | Capacity Size | Capacity (scfm) | | | |
|---|---|---|---|---|---|---|
| | | | 10 psi | 30 psi | 60 psi | 90 psi |
| 1/4 (M,F) | AA727 AA727-F | 11 | 5.0 | 8.9 | 14.4 | 19.8 |
| | | 15 | 6.8 | 12.8 | 21.3 | 29.6 |
| | | 23 | 9.9 | 18.4 | 30.9 | 43.4 |

| Nozzle Inlet Conn. NPT or BSPT | Nozzle Type | Capacity Size | Capacity (Nl/min) | | | |
|---|---|---|---|---|---|---|
| | | | 0.7 bar | 2 bar | 4 bar | 6 bar |
| 1/4 (M,F) | AA727 AA727-F | 11 | 142 | 246 | 396 | 19.8 |
| | | 15 | 193 | 357 | 586 | 816 |
| | | 23 | 280 | 510 | 852 | 1198 |

## Performance Data – AA707 WindJet Nozzles

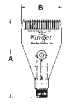
| Nozzle Inlet Conn. NPT or BSPT | Nozzle Type | Capacity Size | Cap Color (aluminum only) | Capacity (scfm) | | | |
|---|---|---|---|---|---|---|---|
| | | | | 10 psi | 30 psi | 60 psi | 90 psi |
| 1/4 (M) | AA707 | 11 | green | 5.2 | 9.6 | 16.0 | 22.3 |
| | | 15 | yellow | 6.4 | 12.4 | 21.0 | 29.4 |
| | | 23 | red | 10.4 | 19.2 | 32.3 | 45.0 |

| Nozzle Inlet Conn. NPT or BSPT | Nozzle Type | Capacity Size | Cap Color (aluminum only) | Capacity (Nl/min) | | | |
|---|---|---|---|---|---|---|---|
| | | | | 0.7 bar | 2 bar | 4 bar | 6 bar |
| 1/4 (M) | AA707 | 11 | green | 147 | 266 | 442 | 612 |
| | | 15 | yellow | 181 | 345 | 578 | 810 |
| | | 23 | red | 294 | 530 | 889 | 1237 |

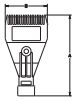
# WindJet® Nozzles continued

## Dimensions & Weights – AA727 WindJet Nozzles

AA727



AA727-F

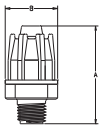


| Nozzle Type | Inlet Conn. NPT or BSPT | A | B | Net Weight |
|---|---|---|---|---|
| AA727 (M) | 1/4 | 3-9/16" 91 mm | 2" 48 mm | 2 oz. .06 kg |
| AA727-F (F) | 1/4 | 3-9/16" 91 mm | 2" 48 mm | 2.2 oz. .06 kg |

Based on largest/heaviest version of each type.

## Dimensions & Weights – AA707 WindJet Nozzles

AA707



| Nozzle Type | Inlet Conn. NPT or BSPT | A | B | Net Weight |
|---|---|---|---|---|
| AA707 (M) | 1/4 | 1-7/8" 48 mm | 1" 25 mm | 1.6 oz. .05 kg |

Based on largest/heaviest version of each type.

## Materials

| Materials | Material Code | Nozzle Type | |
|---|---|---|---|
| | | AA727 | AA707 |
| ABS Plastic | (none) | • | • |
| Aluminum | AL | • | • |
| Polyphenylene sulfide | RY | • | • |
| Stainless Steel | SS | | • |
| PVDF | KY | | • |

## Ordering Info

**WINDJET NOZZLE (PPS)**

**AA727 – 1/4 – RY – 15**

Nozzle Type | Inlet Conn. | Material Code | Capacity Size

## Ordering Info

**WINDJET NOZZLE (ABS)**

**AA727 – 1/4F – 11**

Nozzle Type | Inlet Conn. (Female) | Capacity Size

## Ordering Info

**WINDJET NOZZLE (ALUMINUM)**

**AA707 – 1/4 – AL – 11**

Nozzle Type | Inlet Conn. | Material Code | Capacity Size

BSPT connections require the addition of a "B" prior to the nozzle number. Example: AAB727-1/4-RY-15.



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# UniJet® Nozzles

## Design Features

The UniJet Blow-off nozzle assemblies are specially designed for use with air. A horizontal slot across the tip of the nozzle delivers a uniform flat spray pattern. The nozzles are available in brass or 303 stainless steel. The UniJet TK tips are compatible with standard UniJet nozzle bodies. The TK spray tips feature a round orifice and a large, unobstructed air volume passage with a wide angle, medium-velocity spray. A precision-machined deflector surface provides accurate control of deflection and spray angle. The tips are available in brass or 303 stainless steel. Bodies are available with 1/8", 1/4", or 3/8" NPT or BSPT male connections (Type TT) and female connections (Type T).



*UniJet Blow-off Assembly*



*UniJet TK Nozzle Assembly*

## Performance Data – UniJet Blow-off Nozzles

| Nozzle Inlet Conn. NPT or BSPT | Tip Type | Width of slot | Capacity (scfm) | | | | Coverage at 6" Distance from Nozzle | |
|---|---|---|---|---|---|---|---|---|
| | | | 10 psi | 25 psi | 50 psi | 100 psi | 10 psi | 50 psi |
| 1/8, 1/4, 3/8 (M or F) | L | .008" | .60 | 1.3 | 2.1 | 3.6 | 10" | 16-1/2" |
| | P | .013" | 1.2 | 2.0 | 3.1 | 5.4 | 5-1/2" | 10" |
| | Q | .023" | 2.2 | 3.9 | 6.2 | 10.7 | 8-1/2" | 13" |
| | R | .045" | 3.9 | 6.4 | 11.0 | 19.0 | 6" | 9-1/2" |
| | U | .045" | 6.3 | 11.0 | 18.5 | 31 | 10-1/2" | 14-1/2" |
| | V | .091" | 12.5 | 23 | 37 | 61 | 9" | 13-1/2" |

| Nozzle Inlet Conn. NPT or BSPT | Tip Type | Width of slot mm | Capacity (Nl/min) | | | | Coverage at 150 mm Distance from Nozzle | |
|---|---|---|---|---|---|---|---|---|
| | | | 0.7 bar | 2 bar | 4 bar | 6 bar | 1 bar | 4 bar |
| 1/8, 1/4, 3/8 (M or F) | L | .20 | 17.0 | 41 | 68 | 93 | 275 mm | 419 mm |
| | P | .33 | 34 | 63 | 101 | 140 | 152 mm | 254 mm |
| | Q | .58 | 62 | 123 | 201 | 278 | 228 mm | 330 mm |
| | R | 1.1 | 110 | 207 | 357 | 493 | 158 mm | 241 mm |
| | U | 1.1 | 178 | 354 | 595 | 807 | 275 mm | 368 mm |
| | V | 2.3 | 354 | 724 | 1184 | 1591 | 238 mm | 343 mm |

# UniJet® Nozzles continued

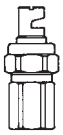
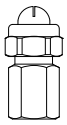
## Performance Data – UniJet TK Nozzles

| Nozzle Inlet Conn. NPT or BSPT | Capacity Size | Orifice Dia Nom. | Capacity (scfm) | | | Coverage at 6" Distance from Nozzle | |
|---|---|---|---|---|---|---|---|
| | | | 10 psi | 30 psi | 60 psi | 10 psi | 50 psi |
| 1/8, 1/4, 3/8 (M or F) | .50 | .024" | .16 | .30 | .40 | 2" | 5" |
| | .75 | .028" | .22 | .40 | .60 | 2-1/2" | 5-1/2" |
| | 1 | .033" | .34 | .60 | .90 | 3" | 6" |
| | 1.5 | .041" | .54 | 1.0 | 1.5 | 3-1/2" | 6-1/2" |
| | 2 | .046" | .68 | 1.2 | 1.9 | 4" | 7-1/2" |
| | 2.5 | .052" | .94 | 1.7 | 2.6 | 4" | 7-1/2" |
| | 3 | .057" | 1.1 | 2.1 | 3.1 | 5" | 8" |
| | 4 | .065" | 1.4 | 2.5 | 4.0 | 5" | 9" |
| | 5 | .073" | 1.9 | 3.4 | 5.1 | 6" | 10-1/2" |
| | 7.5 | .091" | 2.8 | 5.2 | 7.8 | 6" | 10-1/2" |
| | 10 | .104" | 3.9 | 7.1 | 10.6 | 7" | 11" |
| | 15 | .129" | 6.4 | 11.7 | 17.4 | 7" | 12" |
| | 20 | .148" | 7.9 | 14.5 | 21.7 | 8-1/2" | 14-1/2" |
| | 30 | .180" | 11.4 | 20.7 | 31.1 | 8-1/2" | 15-1/2" |

| Nozzle Inlet Conn. NPT or BSPT | Capacity Size | Orifice Dia Nom. mm | Capacity (Nl/min) | | | Coverage at 150 mm Distance from Nozzle | |
|---|---|---|---|---|---|---|---|
| | | | 0.7 bar | 2 bar | 4 bar | 0.7 bar | 3.5 bar |
| 1/8, 1/4, 3/8 (M or F) | .50 | .61 | 4.5 | 8.1 | 12.0 | 51 mm | 127 mm |
| | .75 | .71 | 6.2 | 11.5 | 17.3 | 64 mm | 140 mm |
| | 1 | .84 | 9.6 | 17.4 | 26 | 76 mm | 152 mm |
| | 1.5 | 1.0 | 15.3 | 28 | 41 | 89 mm | 165 mm |
| | 2 | 1.2 | 19.3 | 35 | 53 | 102 mm | 190 mm |
| | 2.5 | 1.3 | 27 | 48 | 74 | 102 mm | 109 mm |
| | 3 | 1.5 | 31 | 58 | 89 | 127 mm | 203 mm |
| | 4 | 1.7 | 40 | 71 | 113 | 127 mm | 228 mm |
| | 5 | 1.9 | 54 | 96 | 144 | 152 mm | 267 mm |
| | 7.5 | 2.3 | 79 | 146 | 220 | 152 mm | 267 mm |
| | 10 | 2.6 | 110 | 200 | 300 | 178 mm | 279 mm |
| | 15 | 3.3 | 181 | 330 | 493 | 178 mm | 305 mm |
| | 20 | 3.8 | 225 | 409 | 615 | 216 mm | 368 mm |
| | 30 | 4.6 | 320 | 586 | 881 | 216 mm | 394 mm |

# UniJet® Nozzles continued

## Dimensions & Weights

| | Nozzle Type | Length | Hex. | Net Weight |
|---|---|---|---|---|
| TK  | T + TK (F) | 1-15/16" 51 mm | 13/16" 21 mm | 2-1/2 oz. .07 kg |
| | TT + TK (M) | 2" 51 mm | 13/16" 21 mm | 2-1/4 oz. .06 kg |
| Blow-off  | T + Tip | 1-13/16" 48 mm | 13/16" 21 mm | 2-1/4 oz. .06 kg |
| | TT + Tip | 1-7/8" 48 mm | 13/16" 21 mm | 2-1/4 oz. .06 kg |

Based on largest/heaviest version of each type.

## Materials

| Materials | Material Code | Spray Tip/Nozzle | |
|---|---|---|---|
| | | TK | Blow-off |
| Brass | (none) | • | • |
| 303 Stainless Steel | SS | • | • |

## Ordering Info

**UNIJET TK COMPLETE NOZZLE**

| NOZZLE BODY | | | | SPRAY TIP | | |
|---|---|---|---|---|---|---|
| 1/4 | TT | – SS | + TK | – SS | .50 | |
| Inlet Conn. | Body Type (Male) | Material Code | Tip Type | Material Code | Capacity Size | |

## Ordering Info

**UNIJET BLOW-OFF COMPLETE NOZZLE**

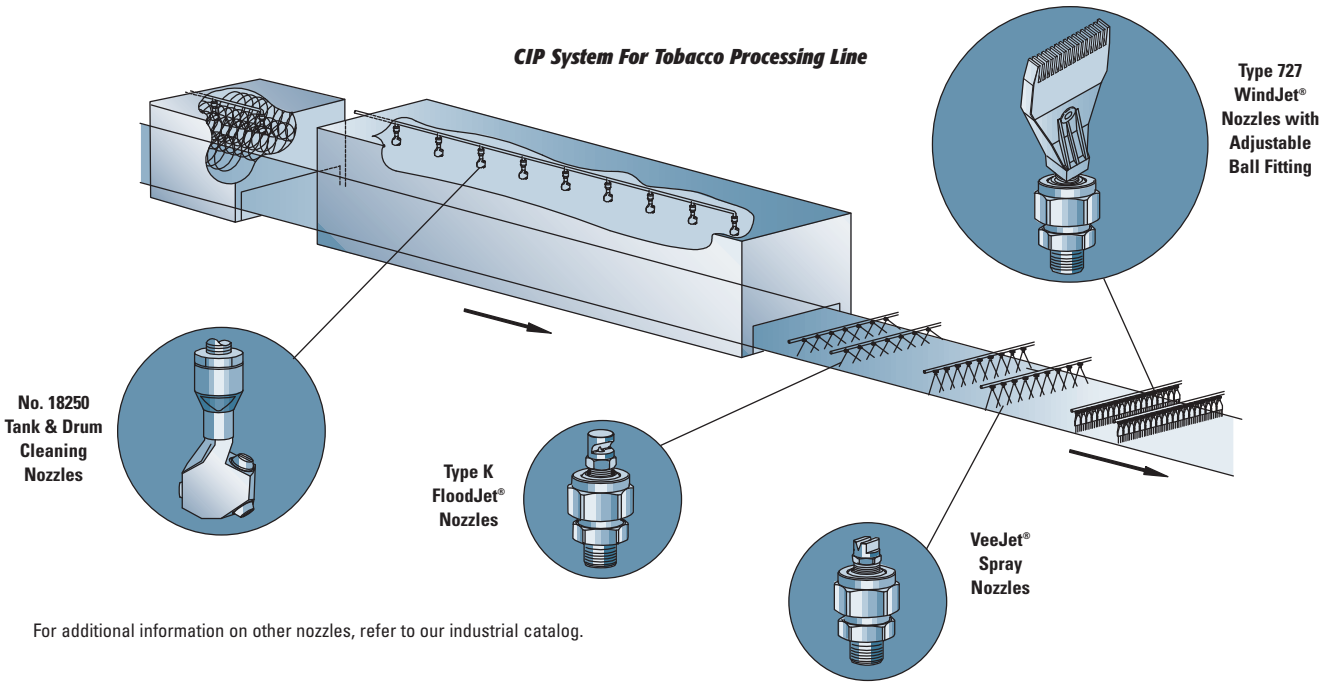
| NOZZLE BODY | | | SPRAY TIP | |
|---|---|---|---|---|
| 1/4 | T | – SS | + L | – SS |
| Inlet Conn. | Body Type (Female) | Material Code | Tip Type | Material Code |

## Ordering Info

**UNIJET BLOW-OFF TIP ONLY**

| TIP ONLY | | |
|---|---|---|
| TB | L | – SS |
| Tip Prefix | Tip Type | Material Code |

BSPT connections require the addition of a "B" prior to the inlet connection. Example: B1/4TT-SS+TK-SS.50.




For additional information on other nozzles, refer to our industrial catalog.



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# FloodJet® K Nozzles

## Design Features

The one-piece FloodJet K nozzles for air feature a wide angle flat spray pattern with medium velocity. A round orifice and a large, unobstructed air volume passage minimize clogging problems. A precision-machined deflector provides accurate control of deflection and spray angle. The nozzles are available in brass, 303 stainless steel, 316 stainless steel, and chemical-resistant polyvinyl chloride. The nozzles feature 1/8", 1/4", or 3/8" NPT or BSPT inlet connections.



***FloodJet K Nozzle***

## Performance Data

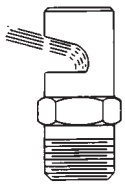
| Nozzle Inlet Conn. NPT or BSPT | | | Capacity Size | Orifice Dia Nom. | Capacity (scfm) | | | Coverage at 6" Distance from Nozzle | |
|---|---|---|---|---|---|---|---|---|---|
| 1/8 | 1/4 | 3/8 | | | 10 psi | 30 psi | 60 psi | 10 psi | 50 psi |
| • | | | .50 | .024" | .16 | .30 | .40 | 2" | 5" |
| • | | | .75 | .028" | .22 | .40 | .60 | 2-1/2" | 5-1/2" |
| • | | | 1 | .033" | .34 | .60 | .90 | 3" | 6" |
| • | | | 1.5 | .041" | .54 | 1.0 | 1.5 | 3-1/2" | 6-1/2" |
| • | • | | 2 | .046" | .68 | 1.2 | 1.9 | 4" | 7-1/2" |
| • | • | | 2.5 | .052" | .94 | 1.7 | 2.6 | 4" | 7-1/2" |
| • | • | | 3 | .057" | 1.1 | 2.1 | 3.1 | 5" | 8" |
| • | | | 4 | .065" | 1.4 | 2.5 | 4.0 | 5" | 9" |
| • | • | | 5 | .073" | 1.9 | 3.4 | 5.1 | 6" | 10-1/2" |
| • | • | | 7.5 | .091" | 2.8 | 5.2 | 7.8 | 6" | 10-1/2" |
| • | • | | 10 | .104" | 3.9 | 7.1 | 10.6 | 7" | 11" |
| • | • | | 15 | .129" | 6.4 | 11.7 | 17.4 | 7" | 12" |
| • | • | | 20 | .148" | 7.9 | 14.5 | 21.7 | 8-1/2" | 14-1/2" |
| | | • | 30 | .180" | 11.4 | 20.7 | 31.1 | 8-1/2" | 15-1/2" |

# FloodJet® K Nozzles continued

## Performance Data

| Nozzle Inlet Conn. NPT or BSPT | | | Capacity Size | Orifice Dia Nom. mm | Capacity (Nl/min) | | | Coverage at 150 mm Distance from Nozzle | |
|---|---|---|---|---|---|---|---|---|---|
| 1/8 | 1/4 | 3/8 | | | 0.7 bar | 2 bar | 4 bar | 0.7 bar | 3.5 bar |
| • | | | .50 | .61 | 4.5 | 8.1 | 12.0 | 51 mm | 127 mm |
| • | | | .75 | .71 | 6.2 | 11.5 | 17.3 | 64 mm | 140 mm |
| • | | | 1 | .84 | 9.6 | 17.4 | 26 | 76 mm | 152 mm |
| • | | | 1.5 | 1.0 | 15.3 | 28 | 41 | 89 mm | 165 mm |
| • | • | | 2 | 1.2 | 19.3 | 35 | 53 | 102 mm | 190 mm |
| • | • | | 2.5 | 1.3 | 27 | 48 | 74 | 102 mm | 190 mm |
| • | • | | 3 | 1.5 | 31 | 58 | 89 | 127 mm | 203 mm |
| • | | | 4 | 1.7 | 40 | 71 | 113 | 127 mm | 228 mm |
| • | • | | 5 | 1.9 | 54 | 96 | 144 | 152 mm | 267 mm |
| • | • | | 7.5 | 2.3 | 79 | 146 | 220 | 152 mm | 267 mm |
| • | • | | 10 | 2.6 | 110 | 200 | 300 | 178 mm | 279 mm |
| • | • | | 15 | 3.3 | 181 | 330 | 493 | 178 mm | 305 mm |
| • | • | | 20 | 3.8 | 225 | 409 | 615 | 216 mm | 368 mm |
| | | • | 30 | 4.6 | 320 | 586 | 881 | 216 mm | 394 mm |

## Dimensions & Weights

| K | Inlet Conn. NPT or BSPT (M) | Length | Hex. | Net Weight |
|---|---|---|---|---|
|  | 1/8 | 1-7/16"<br>31 mm | 9/16"<br>14 mm | 1 oz.<br>.03 kg |
| | 1/4 | 1-13/32"<br>34 mm | 9/16"<br>14 mm | 1 oz.<br>.03 kg |
| | 3/8 | 1-3/4"<br>45 mm | 11/16"<br>18 mm | 2 oz.<br>.06 kg |

Based on largest/heaviest version of each type.

## Materials

| Materials | Material Code | Nozzle Type |
|---|---|---|
| | | K |
| Brass | (none) | • |
| 303 Stainless Steel | SS | • |
| 316 Stainless Steel | 316SS | • |
| Polyvinyl Chloride | PVC | • |

## Ordering Info

**FLOODJET K COMPLETE NOZZLE**

**1/8 K – SS – 11**

| Inlet Conn. | Nozzle Type | Material Code | Capacity Size |
|---|---|---|---|

BSPT connections require the addition of a "B" prior to the inlet connection. Example: B-1/8K-SS-11.



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# 46760 WindJet® Airknife Manifold

## Design Features

When AA727 WindJet nozzles in ABS are mounted on an aluminum pipe, a flat fan spray with a very high-impact, sharp cutting edge is created. Not only does the Model 46760– WindJet Airknife Manifold offer uniform distribution across the impact or blow-off area, it also delivers a much higher impact than conventional blower-type knives. Impact can be increased from moderate to very high by simply adjusting operating pressure. This level of performance makes the WindJet Airknife Manifold ideal for sweeping wide areas. The WindJet Airknife Manifold coverage ranges from 8" to 60" (200 to 1500 mm). It operates via a standard compressed air line at pressures from 10 to 100 psi (0.7 to 7 bar).



***Model 46760– WindJet Airknife Manifold***

## Performance Data

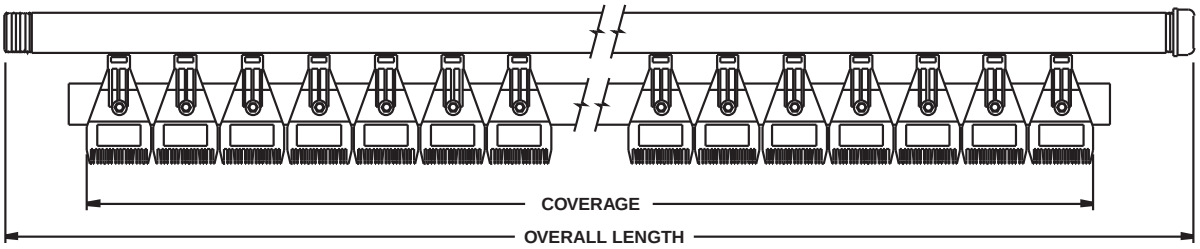
| Pipe Size | Number of 727-15 WindJet Nozzles | Capacity (scfm) | | | | | Overall Length | Coverage |
|---|---|---|---|---|---|---|---|---|
| | | 10 psi | 30 psi | 40 psi | 60 psi | 90 psi | | |
| 3/4 | 4 | 27.2 | 51.2 | 62.8 | 85.2 | 118 | 20-1/2" | 7-7/8" |
| | 6 | 40.8 | 76.8 | 94.2 | 128 | 178 | 20-1/2" | 11-13/16" |
| | 12 | 81.6 | 154 | 188 | 256 | 355 | 36-1/4" | 23-5/8" |
| 1 | 16 | 109 | 205 | 251 | 341 | 474 | 44-1/8" | 31-1/2" |
| | 20 | 136 | 256 | 314 | 426 | 592 | 52" | 39-3/8" |
| 1-1/4 | 24 | 163 | 307 | 377 | 511 | 710 | 59-7/8" | 47-1/4" |
| | 30 | 204 | 384 | 471 | 639 | 888 | 67-3/4" | 59-1/16" |

| Pipe Size | Number of 727-15 WindJet Nozzles | Capacity (Nl/min) | | | | | Overall Length | Coverage |
|---|---|---|---|---|---|---|---|---|
| | | 0.7 bar | 2 bar | 3 bar | 4 bar | 6 bar | | |
| 3/4 | 4 | 772 | 1428 | 1880 | 2344 | 3264 | 520 mm | 200 mm |
| | 6 | 1158 | 2142 | 2820 | 3516 | 4896 | 520 mm | 300 mm |
| | 12 | 2316 | 4284 | 5640 | 7032 | 9792 | 920 mm | 600 mm |
| 1 | 16 | 3088 | 5712 | 7520 | 9376 | 13056 | 1120 mm | 800 mm |
| | 20 | 3860 | 7140 | 9400 | 11720 | 16320 | 1320 mm | 1000 mm |
| 1-1/4 | 24 | 4632 | 8568 | 11280 | 14064 | 19584 | 1520 mm | 1200 mm |
| | 30 | 5790 | 10710 | 14100 | 17580 | 24480 | 1720 mm | 1500 mm |

# 46760 WindJet® Airknife Manifold

## continued

### Dimensions



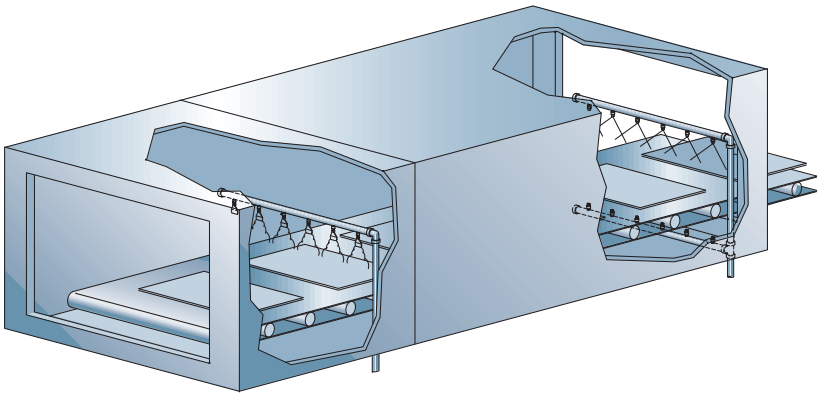

### Ordering Info

**WINDJET AIRKNIFE MANIFOLD**

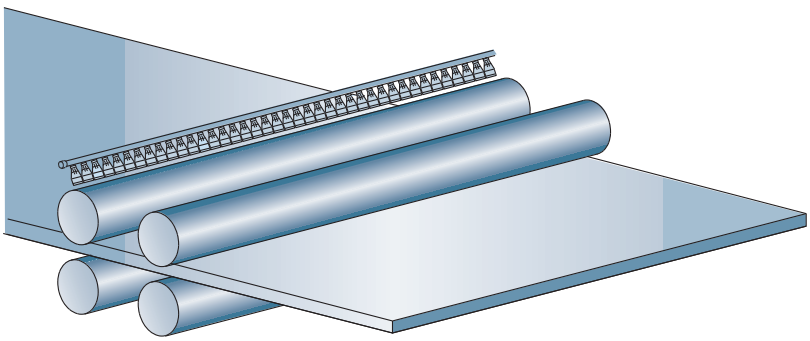
**46760 – 3/4 – 4 – AL**

| Airknife No. | Pipe Size | Number of WindJet Nozzles | Material Code |
|---|---|---|---|

BSPT connections require the addition of a "B" prior to the part number. Example: B46760-3/4-4-AL.



***Washing/Drying In PCB Manufacturing***



***Cooling Heated Rollers***

# 39190 WindJet® Airknife Manifold

## Design Features

The Model 39190– WindJet Airknife Manifold is also an ideal choice for sweeping wide areas. Model 727 WindJet nozzles in ABS or PPS (polyphenylene sulfide) are mounted to a Nylon pipe to produce a flat fan spray with very high-impact results. Coverages include 8" and 16" (203 mm and 406 mm). Maximum operating pressure is 100 psi (7 bar).



***Model 39190– WindJet Airknife Manifold***

## Performance Data

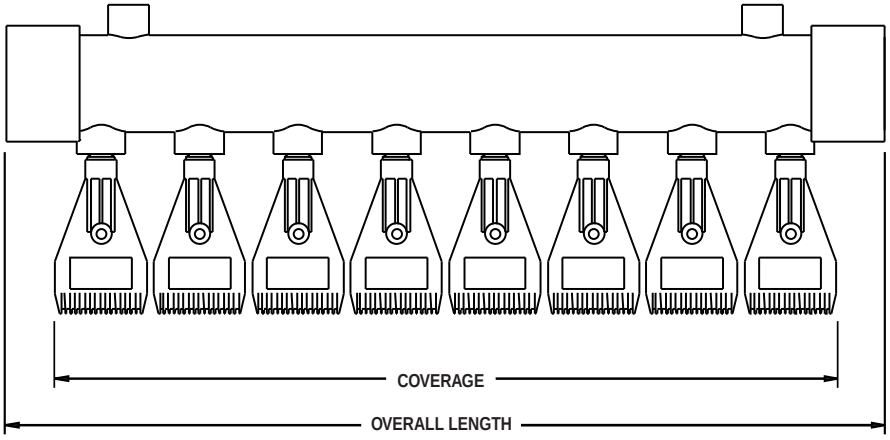
| Pipe Size | Number of 727-15 WindJet Nozzles | Capacity (scfm) | | | Overall Length | Coverage |
|---|---|---|---|---|---|---|
| | | 10 psi | 30 psi | 60 psi | | |
| 1 | 4 | 3.4 | 6.4 | 10.7 | 10" | 6" |
| 1-1/2 | 8 | 3.4 | 6.4 | 10.7 | 18" | 16" |

| Pipe Size | Number of 727-15 WindJet Nozzles | Capacity (Nl/min) | | | Overall Length | Coverage |
|---|---|---|---|---|---|---|
| | | 0.7 bar | 2 bar | 4 bar | | |
| 1 | 4 | 97 | 178 | 293 | 254 mm | 203 mm |
| 1-1/2 | 8 | 97 | 178 | 293 | 457 mm | 406 mm |

# 39190 WindJet® Airknife Manifold

## continued

### Dimensions



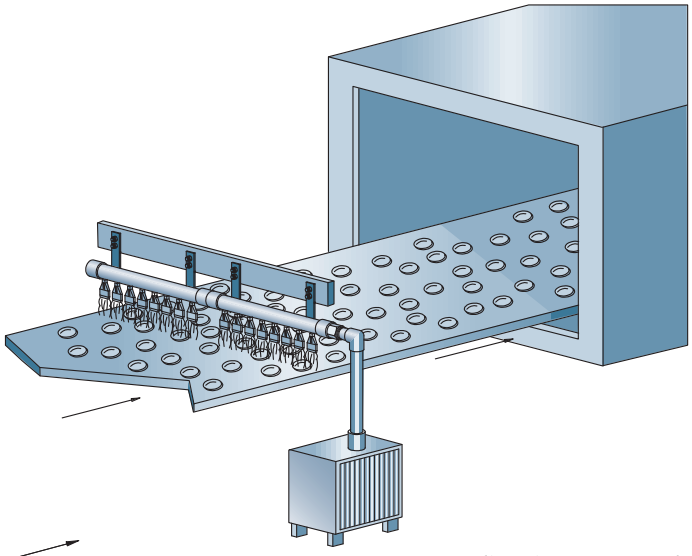

### Ordering Info

**WINDJET AIRKNIFE MANIFOLD**

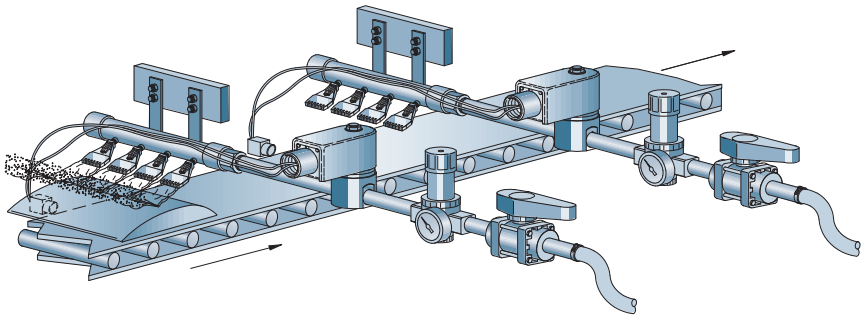
**39190 – 1 – 4 – NY**

| Airknife No. | Pipe Size | Number of WindJet Nozzles | Material Code |
|---|---|---|---|

BSPT connections require the addition of a "B" prior to the part number. Example: B 46760-3/4-4-AL.



***Spreading Pizza Sauce Evenly***



***Removing Water From Outside Of Plastic Bags***

# WindJet® Lances

## Design Features

WindJet lances are ideal for heavy-duty blow-off, drying, or moving applications. Designed for permanent mounting, the lances are available with a single nozzle or with a 4, 7, or 13 nozzle cluster. They also feature on/off control with an integral ball valve.

The lances come with two screw-on or weld-on mounting clamps. Heavy-duty versions can be ordered with all metal nozzles and mounting clamps. An optional adjustable swivel allows fine tuning of nozzle position. The lances are constructed of aluminum and brass; nozzles are available in ABS, PPS, aluminum, stainless steel, and PVDF. Nozzles must be ordered separately.



*Lance with single nozzle*



*Lance with four nozzles (shown with swivel)*



*Lance with seven nozzles*



*Lance with thirteen nozzles (shown with swivel)*

## Performance Data

| Inlet Conn. NPT or BSPT (F) | Lance Type | | *WindJet Nozzle Type | | Capacity Size | Capacity (scfm) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Without swivel | With swivel | 707 | 727 | | 10 psi | 30 psi | 40 psi | 60 psi | 90 psi |
| 3/8 | 45450 (1 nozzle) | 45455 (1 nozzle) | • | | 11 | 5.2 | 9.6 | 11.7 | 16.0 | 22.3 |
| | | | • | | 15 | 6.4 | 12.4 | 15.3 | 21.0 | 29.4 |
| | | | • | | 23 | 10.4 | 19.2 | 23.5 | 32.3 | 45.0 |
| | | | | • | 11 | 5.0 | 8.9 | 10.8 | 14.4 | 19.8 |
| | | | | • | 15 | 6.8 | 12.8 | 15.7 | 21.3 | 29.6 |
| | | | | • | 23 | 9.9 | 18.4 | 22.5 | 30.9 | 43.4 |
| 1/2 | 45459 (4 nozzles) | 45460 (4 nozzles) | • | | 11 | 20.8 | 38.4 | 46.8 | 64.0 | 89.2 |
| | | | • | | 15 | 25.6 | 49.6 | 61.2 | 84.0 | 118 |
| | | | • | | 23 | 41.6 | 76.8 | 94.0 | 129 | 180 |
| 3/4 | 45461 (7 nozzles) | 45462 (7 nozzles) | • | | 11 | 36.4 | 67.2 | 81.9 | 112 | 156 |
| | | | • | | 15 | 44.8 | 86.8 | 107 | 147 | 206 |
| | | | • | | 23 | 72.8 | 134 | 165 | 226 | 315 |
| 1 | 45463 (13 nozzles) | 45464 (13 nozzles) | • | | 11 | 67.6 | 125 | 152 | 208 | 290 |
| | | | • | | 15 | 83.2 | 161 | 199 | 273 | 382 |
| | | | • | | 23 | 135 | 250 | 306 | 420 | 585 |

* WindJet nozzles ordered separately. See page 8.



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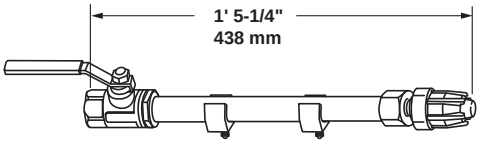
# WindJet® Lances continued

## Performance Data

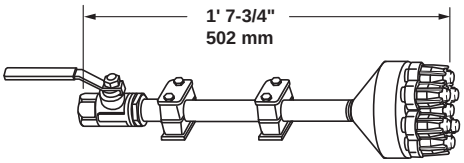
| Inlet Conn. NPT or BSPT (F) | Lance Type | | *WindJet Nozzle Type | | Capacity Size | Capacity (Nl/min) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Without swivel | With swivel | 707 | 727 | | 0.7 bar | 2 bar | 3 bar | 4 bar | 6 bar |
| 3/8 | 45450 (1 nozzle) | 45455 (1 nozzle) | • | | 11 | 147 | 266 | 354 | 442 | 612 |
| | | | • | | 15 | 181 | 345 | 462 | 578 | 810 |
| | | | • | | 23 | 294 | 530 | 708 | 889 | 1237 |
| | | | | • | 11 | 142 | 246 | 323 | 396 | 549 |
| | | | | • | 15 | 193 | 357 | 470 | 386 | 816 |
| | | | | • | 23 | 280 | 510 | 680 | 852 | 1198 |
| 1/2 | 45459 (4 nozzles) | 45460 (4 nozzles) | • | | 11 | 588 | 1064 | 1416 | 1768 | 2448 |
| | | | • | | 15 | 724 | 1380 | 1848 | 2312 | 3240 |
| | | | • | | 23 | 1176 | 2120 | 2832 | 3556 | 4948 |
| 3/4 | 45461 (7 nozzles) | 45462 (7 nozzles) | • | | 11 | 1029 | 1862 | 2478 | 3094 | 4284 |
| | | | • | | 15 | 1267 | 2415 | 3234 | 4046 | 5670 |
| | | | • | | 23 | 2058 | 3710 | 4956 | 6223 | 8659 |
| 1 | 45463 (13 nozzles) | 45464 (13 nozzles) | • | | 11 | 1911 | 3458 | 4602 | 5746 | 7956 |
| | | | • | | 15 | 2353 | 4485 | 6006 | 7514 | 10530 |
| | | | • | | 23 | 3822 | 6890 | 9204 | 11557 | 16081 |

* WindJet nozzles ordered separately. See page 8.

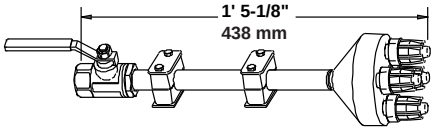
## Dimensions



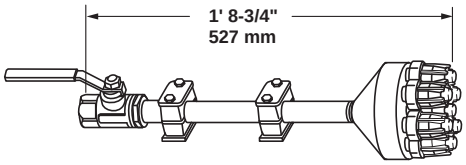

No. 45450, 45455




No. 45461, 45462




No. 45459, 45460




No. 45463, 45464

## Ordering Info

**WINDJET LANCE WITHOUT ADJUSTABLE BALL FITTING**

**45450 – 3/8 – 1 – AL**

| Lance Type | Inlet Conn. | Number of WindJet Nozzles | Material Code |
|---|---|---|---|

## Ordering Info

**WINDJET NOZZLE**

**AA707 – 1/4 – AL – 11**

| Nozzle Type | Inlet Conn. | Material Code | Capacity Size |
|---|---|---|---|

Adjustable ball fittings require the addition of an "A" prior to the inlet connection.
BSPT connections require the addition of a "B" prior to the part number. Example: B45450-3/8-1-AL.



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# WindJet® Air Control System

## Design Features

The WindJet Air Control System is a device used to control the flow of air to a WindJet Airknife Manifold. Utilizing a photoelectric sensor with timing control, the WindJet controller can reduce compressed air costs by as much as 50 percent, based on the product being dried, product spacing, conveyor speed, and the use of open holes.

The timing control features a watertight NEMA 4x polyester enclosure with hinged cover and hanging brackets. The system's photoelectric sensor provides up to a 6.5' (2 m) sensing range, diffused mode, light on/dark on programmable sensitivity adjustment, on/off or one-shot delay timing (0.1 to 10 sec.).

Request Data Sheet No. 48550 for more information.



## Performance Data

| Inlet Conn. NPT (M) | WindJet Controller No. | WindJet Manifold No. | Qty. of AA727-15 WindJet Nozzles | Manifold Coverage | Overall Length of Manifold |
|---|---|---|---|---|---|
| 3/4 | 48550-**-3/4-4 | 46760-3/4-4 | 4 | 7-7/8" | 20-1/2" |
| 3/4 | 48550-**-3/4-6 | 46760-3/4-6 | 6 | 11-13/16" | 20-1/2" |
| 3/4 | 48550-**-3/4-12 | 46760-3/4-12 | 12 | 23-5/8" | 36-1/4" |
| 1 | 48550-**-1-16 | 46760-1-16 | 16 | 31-1/2" | 44-1/8" |
| 1 | 48550-**-1-20 | 46760-1-20 | 20 | 39-3/8" | 52" |
| 1-1/4 | 48550-**-1-1/4-24 | 46760-1-1/4-24 | 24 | 47-1/4" | 58-7/8" |
| 1-1/4 | 48550-**-1-1/4-30 | 46760-1-1/4-30 | 30 | 59-1/16" | 67-3/4" |

| Inlet Conn. NPT (M) | WindJet Controller No. | WindJet Manifold No. | Qty. of AA727-15 WindJet Nozzles | Manifold Coverage | Overall Length of Manifold |
|---|---|---|---|---|---|
| 3/4 | 48550-**-3/4-4 | 46760-3/4-4 | 4 | 200 mm | 520 mm |
| 3/4 | 48550-**-3/4-6 | 46760-3/4-6 | 6 | 300 mm | 520 mm |
| 3/4 | 48550-**-3/4-12 | 46760-3/4-12 | 12 | 600 mm | 920 mm |
| 1 | 48550-**-1-16 | 46760-1-16 | 16 | 800 mm | 1120 mm |
| 1 | 48550-**-1-20 | 46760-1-20 | 20 | 1000 mm | 1320 mm |
| 1-1/4 | 48550-**-1-1/4-24 | 46760-1-1/4-24 | 24 | 1200 mm | 1520 mm |
| 1-1/4 | 48550-**-1-1/4-30 | 46760-1-1/4-30 | 30 | 1500 mm | 1720 mm |

** Specify voltage output of controller box.

## Ordering Info

**WINDJET AIR CONTROL SYSTEM**

**48550 – AC – 3/4 – 12**

| Controller No. | Voltage Output | Inlet Conn. | No. of Nozzles |
|---|---|---|---|



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# WindJet® Air Gun

## Design Features

The 46801 WindJet Air Gun is a hand-held air blow-off gun that's ideal for mobile air control applications. Its interchangeable brass nozzle creates a concentrated, high-impact stream of air. The nozzle is also designed to provide an air escape should the nozzle be accidentally placed against a surface. The air gun's dead-end pressure is less than 30 psi (2 bar) which meets OSHA standards for safe operation.

The WindJet Air Gun features a durable brass-forged body and a comfortable palm-fitting hand grip. The nickel-plated steel trigger has an instantaneous positive trigger action to provide immediate shut-off. Operating at air pressures up to 100 psi (7 bar), the air gun is available with a 1/4" NPT or BSPT (F) inlet connection.



***WindJet Air Gun***

## Performance Data

| Inlet Conn. NPT or BSPT (F) | Capacity Size | Capacity (scfm) | | | | |
|---|---|---|---|---|---|---|
| | | 20 psi | 40 psi | 60 psi | 80 psi | 100 psi |
| 1/4 | 8 | 5.1 | 8.0 | 10.8 | 14.0 | 17.2 |
| | 15 | 9.7 | 15.0 | 21 | 27 | 33 |

| Inlet Conn. NPT or BSPT (F) | Capacity Size | Capacity (Nl/min) | | | | |
|---|---|---|---|---|---|---|
| | | 1 bar | 2 bar | 3 bar | 5 bar | 7 bar |
| 1/4 | 8 | 119 | 176 | 238 | 360 | 482 |
| | 15 | 227 | 346 | 462 | 697 | 932 |

## Dimensions & Weights



| Inlet Conn. NPT or BSPT | Length | Height | Net Weight |
|---|---|---|---|
| 1/4 (F) | 5-7/8" 149 mm | 3-1/2" 89 mm | 13.3 oz. 0.4 kg |

## Ordering Info

| WINDJET AIR GUN | | |
|---|---|---|
| **46801** | **–** | **8** |
| Air Gun No. | | Capacity Size |

BSPT connections require the addition of a "B" prior to the part number. Example: B46801-8.



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*Spraying Systems Co. carries a full line of accessories to serve your application needs. The accessories shown on these pages represent only a small sample. For additional information, please see our industrial catalog or contact your local Spraying Systems Co. representative.*

## Model 36275 Adjustable Ball Fittings



The Model 36275 adjustable ball fitting provides adjustable positioning of a nozzle for more exact control of spray direction. It permits accurate pipe alignment and convenient nozzle positioning without disturbing the pipe connection. The fitting has a relatively small diameter for applications requiring a compact size. Its maximum pressure rating is 300 psi (21 bar). Nozzle removal for cleaning and readjustment is quick and simple.

### Performance Data

| Adjustable Ball Fitting Number | Inlet Conn. NPT or BSPT (M) | Outlet Conn. NPT or BSPT (F) | Total Included Angle of Adjustment |
|---|---|---|---|
| 36275 | 1/8 | 1/8 | 45° |
| | 1/4 | 1/4 | |
| | 1/4 | 1/8 | |
| | 3/8 | 3/8 | |
| | 3/8 | 1/4 | |
| | 1/2 | 1/2 | |
| | 1/2 | 1/4 | |
| | 1/2 | 3/8 | |
| | 3/4 | 3/4 | |

## Model 11438 Air Pressure Regulator



The Model 11438 diaphragm-type air pressure regulator features a balanced valve design and is available in two styles: relieving and non-relieving. The relieving style automatically relieves excessive pressure in a regulated air line. The non-relieving style requires some other means of relief to reduce trapped pressure. The bodies and bonnets are constructed of die cast aluminum, zinc, or stainless steel.

### Performance Data

| Main Port NPT (F) | Gauge Ports NPT (F) | Regulator Type | |
|---|---|---|---|
| | | Relieving | Non-Relieving |
| 1/4 | 1/4 | • | • |
| 1/4 | 1/8 | • | |
| 3/8 | 1/4 | • | • |
| 1/2 | 1/4 | • | • |
| 1/2 | 1/4 | • | |
| 3/4 | 1/4 | • | • |
| 1 | 1/4 | • | • |

## Model 11438 Air Line Filter



The Model 11438 air line filter removes liquid and solid contaminants from air lines to protect equipment from corrosion and excessive wear. All polycarbonate or metal bowls have a 50 micron filter element and are designed to operate at a maximum pressure of 150 psi (10 bar) and a maximum temperature of 125°F (50°C).

## Model 26385 Pressure Gauge

The Model 26385 pressure gauge offers stable, accurate needle readings up to the rated maximum pressure. Eleven bottom inlet models are available from a minimum of 60 psi to a maximum of 300 psi (4.2 to 21 bar).



The gauge features a patented spring suspended movement, protected by a corrosion- and impact-resistant 2-1/2" diameter ABS housing with polycarbonate window.

### Performance Data

| Gauge Type | Inlet Conn. NPT (M) | Max. psi | Optimum Operating Range (psi) |
|---|---|---|---|
| 26385 | 1/4 | 60 | 15-45 |
| | | 100 | 25-75 |
| | | 160 | 40-120 |
| | | 300 | 75-225 |

## 2-Way Solenoid Valves

Our 2-way solenoid valves are designed for automatically operated systems requiring on/off flow. They are normally closed and provide dependable service in both air and liquid lines within the temperature ranges of 40°F to 165°F (5°C to 75°C). Ten watt, class “F” coils are for continuous duty and are UL and CSA approved. Ambient operating temperatures range from 15°F to 122°F (-10°C to 50°C). The coils are rated for dual frequency operation suitable for international use. The coil is encapsulated in a molding compound to resist high humidity and fungus growth. The enclosure can be rotated 360° and is electrostatically powder-coated for durability. It includes a 1/2" NPT connection.



### Performance Data

| Port Conn. NPT (F) | Model Number | Valve Type | Valve Action | Max. Pressure (psi) | Orifice Size | Cv Factor** | Body Material | Seal Material |
|---|---|---|---|---|---|---|---|---|
| 1/4 | 11438-20 | 2-Way | Direct Acting Poppet | 60* | 3/16" | .50 | Stainless Steel | VITON® |
| 1/4 | 11438-21 | | | 205* | 1/8" | .28 | | Kel-F |
| 3/8 | 11438-22 | | Pilot-Operated Diaph. | 150* | 7/16" | 2.5 | Forged or Cast Brass | Buna-N |
| 1/2 | 11438-23 | | | 150* | 5/8" | 4.0 | | |
| 3/4 | 11438-24 | | | 230 | 3/4" | 7.8 | | |
| 1 | 11438-25 | | | 230 | 1" | 13.0 | | |

* For maximum pressures of coils “C” and “D”, write for Data Sheet 11438 - Solenoid (1).
** For use of Cv Factor, write for Data Sheet 11438 - Solenoid (2).

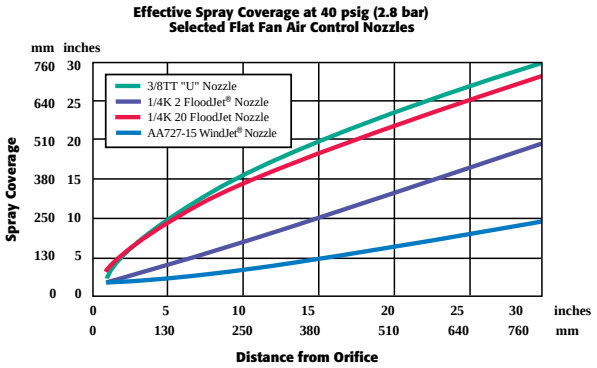
VITON is a registered trademark of DuPont Dow Elastomers.

## Key Considerations for Selecting Air Control Nozzles

*There are four main characteristics that should be considered when selecting an air control nozzle. They are effective spray coverage, sound level, lineal impact force, and specific impact force. Each characteristic plays a role in choosing the most effective nozzle for a given application.*

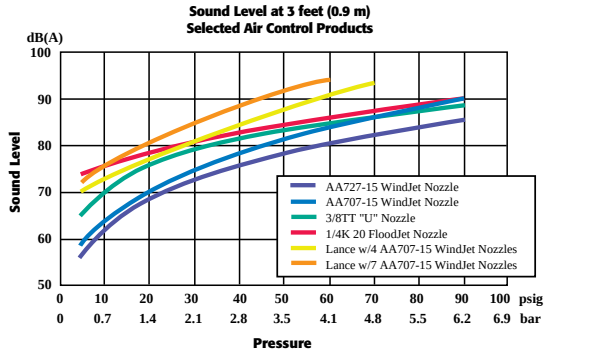
### Effective spray coverage

Spray coverage is described as the width of the spray pattern for a flat fan air control nozzle. Effective spray coverage is the width of the fan, which comprises a minimum spray force measurement. This coverage can be used as a guide for spacing nozzles. Effective spray coverage varies for different types of air control nozzles. The graph shows a selected variety from each of the families. While effective coverage is relatively consistent above 40 psi (2.8 bar), it may decrease at lower pressures. In general, effective coverage increases as distance from the nozzle increases.



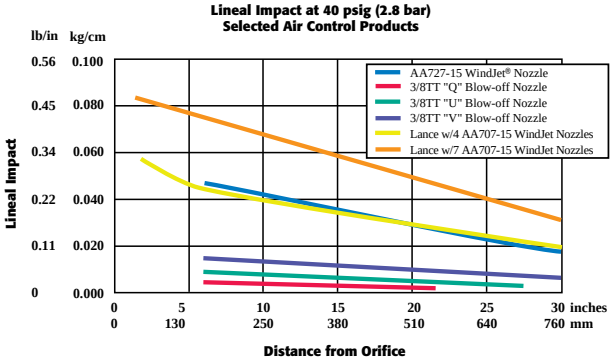

### Sound level

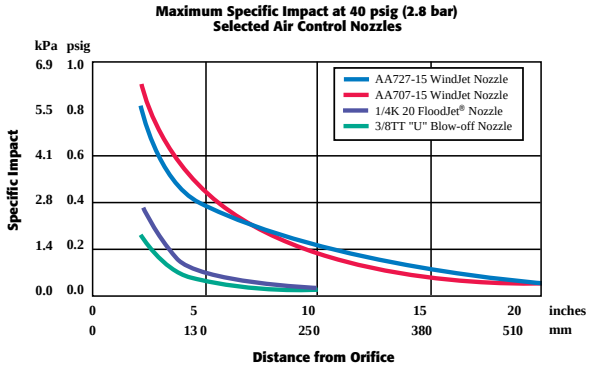
Capacity and nozzle design both affect noise levels. In general, higher flow rates increase noise levels. Other factors include air pressure and obstructions in the nozzle's path. Sound level tests shown on the accompanying graph were conducted by blowing into an open space with no reverberation. Spraying the nozzle against objects will increase sound levels.



## Lineal and Specific Impact Force

There are two types of impact to consider when selecting air control nozzles: lineal impact and maximum specific impact. Both lineal and specific impact increase with pressure. When capacities are the same, a nozzle with a smaller coverage will have greater impact than one with a wider coverage. Lineal impact indicates relative force per unit distance across the spray width. Flat spray patterns have fairly uniform impact distribution across the effective spray coverage. Spacing of nozzles in a header according to the effective spray coverage will provide consistent lineal impact across the entire length of the target surface. Maximum specific impact is a direct indication of spray intensity applied to a surface. It provides maximum force per unit area information, which can be used to compare spray effectiveness under various conditions.




## Air Flow Through Schedule 40 Steel Pipe

| Applied Pressure PSIG | Nominal Standard Pipe Size (scfm) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1/8" | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1-1/4" | 1-1/2" | 2" | 2-1/2" | 3" |
| 5 | .5 | 1.2 | 2.7 | 4.9 | 6.6 | 13 | 27 | 40 | 80 | 135 | 240 |
| 10 | .8 | 1.7 | 3.9 | 7.7 | 11.0 | 21 | 44 | 64 | 125 | 200 | 370 |
| 20 | 1.3 | 3.0 | 6.6 | 13.0 | 18.5 | 35 | 75 | 110 | 215 | 350 | 600 |
| 40 | 2.5 | 5.5 | 12.0 | 23.0 | 34.0 | 62 | 135 | 200 | 385 | 640 | 1100 |
| 60 | 3.5 | 8.0 | 18.0 | 34.0 | 50.0 | 93 | 195 | 290 | 560 | 900 | 1600 |
| 80 | 4.7 | 10.5 | 23.0 | 44.0 | 65.0 | 120 | 255 | 380 | 720 | 1200 | 2100 |
| 100 | 5.8 | 13.0 | 29.0 | 54.0 | 80.0 | 150 | 315 | 470 | 900 | 1450 | 2600 |

| Applied Pressure Bar | Nominal Standard Pipe Size (Nl/min) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1/8" | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1-1/4" | 1-1/2" | 2" | 2-1/2" | 3" |
| .3 | .85 | 2.0 | 4.6 | 8.3 | 11.2 | 22 | 46 | 68 | 136 | 229 | 408 |
| .7 | 1.4 | 2.9 | 6.6 | 13.1 | 18.7 | 36 | 75 | 109 | 212 | 340 | 628 |
| 1.4 | 2.2 | 5.1 | 11.2 | 22 | 31 | 59 | 127 | 187 | 365 | 594 | 1019 |
| 2.8 | 4.2 | 9.3 | 20 | 39 | 58 | 105 | 229 | 340 | 654 | 1087 | 1868 |
| 4.1 | 5.9 | 13.6 | 31 | 58 | 85 | 158 | 331 | 492 | 951 | 1528 | 2717 |
| 5.5 | 8.0 | 17.8 | 39 | 75 | 110 | 204 | 433 | 645 | 1223 | 2038 | 3566 |
| 6.9 | 9.8 | 22 | 49 | 92 | 136 | 255 | 535 | 798 | 1528 | 2462 | 4415 |

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