Connecting to an SPR-2000™ controller will give each nozzle its own fluid and air supply. This gives the most consistent spray results since fluid and air supply are consistent for each nozzle. This is the preferred method.

1. Direct Operation (page 7)

2. Daisy Chain Operation (page 8)

Connecting to an SPR-2000™ controller will give each nozzle its own air supply, but they will share a fluid line (daisy chained). This approach has fewer connections back at the solenoid valve bank, but is more susceptible to having nozzles spray differently due to differing fluid pressures at each nozzle.

3. Manual Valve Operation (page 9)
Connecting to an SPR-2000™ controller will give each nozzle its own fluid supply, air supply, and actuation air.
Important Operator Information

Consult this documentation in all cases where this caution symbol appears. This symbol is used to inform you of any potential HAZARD or actions that require your attention.

Use of this equipment in a manner other than that specified by Unist, Incorporated may compromise design integrity and become unsafe.

**WARNING:** This equipment is not intended for use in explosive environments.

**ADVERTENCIA:** Este equipo no está diseñado para uso en atmósferas explosivas.

**AVVERTIMENTO:** Questa apparecchiatura non è inteso per l’uso in ambienti esplosivi

**WARNUNG:** Das Ausrüstung darf in einer explosiven Umgebung NICHT verwendet werden.

**AVERTISSEMENT:** Cet équipement n’est pas prévu pour une utilisation dans des environnements explosifs
Identifying Symbols

Caution - ISO 7000-0434B
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Thank You
Thank you for your purchase of the Unist Low Volume Spray Nozzles. Please take the time to read this operation manual to take full advantage of your new nozzles.

System Requirements
- **Air supply pressure**: 40-100 psi [3-7 bar] (dry filtered compressed air)
- **Fluid supply pressure**: 20-100 psi [1.4-7 bar]
- **Maximum cycle rate**: 200 cycles per min
- **Operating temp range**: 40-150˚F [4-65˚C]
- **Fluid viscosity range**: 31-3500 SUS

**Introduction**

**Fine tune fluid flow rate independently with needle valve (LIQUID)**

**Integral valve features immediate on/off control**

**Delivers consistent & controlled spray pattern**

**Standard Low Volume Spray Nozzle (4210 Series)**

**Remote Low Volume Spray Nozzle (4230 Series)**

**Remote Low Volume Spray Nozzles utilize needle valves that are built into the solenoid valve. This allows adjustment of the spray pattern if the nozzle is in a hard to reach area.**

Figure 1: Standard Low Volume Spray Nozzle

Figure 2: Remote Low Volume Spray Nozzle
How It Works

The Low Volume Spray Nozzle has an integral valve that maintains fluid pressure right to the tip of the nozzle, and uses the air signal to actuate a diaphragm that operates the nozzle. This provides immediate on and off control, which eliminates lag and prevents messy fluid drips.

Pressurize fluid is in the area highlighted in red. When the nozzle is off, the piston assembly is sealed against the small O-ring at the tip of the nozzle. When the nozzle is on, the piston assembly is pulled away from the small O-ring, as shown in Figures 3 and 4.

Figure 3: Turning the Low Volume Spray Nozzle on

Figure 4: Up-close view of the piston assembly pulled away from the small O-ring (nozzle spraying)
A compressed air signal from the valve goes to the chamber highlighted in red. When the nozzle is on, the chamber is pressurized. When the nozzle is off, the chamber is not pressurized and the spring forces the piston assembly against the bottom O-ring, turning the fluid flow off, as shown in Figures 5 and 6.

Figure 5: Turning the Low Volume Spray Nozzle off

Figure 6: Up-close view of the piston assembly pushed up against the small O-ring (nozzle closed)
Installation

Mounting

Dimensions

Articulating Arm
If your nozzle came with an articulating arm, thread the stud into the nozzle and then mount the arm where desired.

Adjustable Magnet Mount
If your nozzle came with an adjustable magnet mount, screw the bar clamp into the nozzle and then mount the magnet mount where desired.

Modular Mounting System
If your nozzle came with a modular mounting system, assembly is shown on the next page.
Modular Mounting System Assembly

Mounting the nozzles using the modular mounting system requires three items:

1. The modular mounting kit (PN 301409-WW-HH, where WW is the length of the horizontal rods in inches and HH is the length of the vertical rods in inches).

2. A bar clamp and nozzle stud kit, one for each nozzle to be mounted (PN 301596). This kit includes a 1/4-20 x 3/4” SHCS bolt, a stainless steel sleeve, and a bar clamp.

3. The Low Volume Spray Nozzle(s) to be mounted.

When you are assembling the modular mounting kits, you will need the following tools:

• A 3/16” Allen wrench for bar clamps
• A 3/32” Allen wrench for the set screw in the base clamp

Note: Assembly is easier if you do it with the mount lying flat, then stand it up when it has been assembled.
3. Slide a bar clamp on the vertical bars, one for each horizontal bar in the mount. When the clamp is at the desired height, tighten the clamp on the vertical bar.

4. Slide the horizontal bars into the clamps on the vertical bar and tighten.

5. Attach the base plate to the mount, and tighten the two set screws.

6. Stand the mount up, so it is standing on the base plates.

7. Attach the nozzles to the nozzle mounting clamps.
   
   a. Slide the stainless steel sleeve into the bar clamp.
   
   b. Insert the 1/4-20 bolt from the bottom of the mounting clamp, through the sleeve, into the nozzle body, and tighten until the nozzle is secure.
   
   c. Mount the assembly where desired, and adjust the angle and position of the nozzles by loosening the bar clamp on the horizontal bar, and sliding or rotating the nozzle as needed.
Installation

The nozzles in the 4210 standard family can be connected to a controller, such as the SPR-2000™ controller, so that each nozzle has its own fluid and air supply (is directly connected) or so that they share a fluid line (daisy chained). The direct method (Figure 19) is preferred because it gives consistent fluid and air pressure across all nozzles in the bank. The daisy chain approach (Figure 20), has fewer connections back at the solenoid valve bank, but is more susceptible to variations due to differing fluid pressures at each nozzle. The same options are available with a manual air valve, although it is rare a manual valve is used with more than one nozzle.

Fluid & Air Connections

4210 Series (Direct Operation)

1. Connect clear nylon tubing to the LIQUID port of the nozzle. Route the tubing to the valve stack. Ensure that there is no fluid pressure on the valve stack, and plug a straight male quick disconnect fitting into the appropriate female quick disconnect of the valve stack.

2. Remove the nut from the male quick disconnect and trim the tube length such that it will just slide over the barb on the fitting.

3. Slide the nut onto the hose and then push the tube onto the barb of the quick disconnect. Use a 1/2” wrench to keep the male quick disconnect from rotating and tighten down the nut with a 3/8” wrench. Repeat for the remaining valve/nozzle combinations.

4. Connect the black nylon tubing between the AIR port of the valve and the AIR port of the nozzle. Repeat for the remaining nozzles.

5. Connect compressed air to the inlet of the regulator on the top of the valve stack.

6. Connect pressurized fluid to the liquid inlet on the bottom of the valve stack.
4210 Series (Daisy Chain Operation)

Fluid ports can be daisy chained together, but performance will vary depending on how many nozzles are in the chain, the length of the tubing between nozzles, and how many nozzles are spraying at the same time. Tubing should be kept as short as possible for best response time and performance.

1. Connect clear nylon tubing between a pressurized fluid supply and the LIQUID port of the first nozzle in the chain.

2. Insert the fluid supply tubing into output side of tee on the first nozzle, route the tubing, and insert it into the input side of second nozzle’s tee. Repeat this for each nozzle in the chain.

3. At the last nozzle in the chain (this has an elbow for the LIQUID input and not a tee), attach the fluid tubing into the elbow.

4. Connect black nylon tubing between the outlet of each valve to the AIR port of each nozzle.

5. Connect compressed air to the regulator on the inlet of the valve stack.
Installation

4210 Series (Manual Valve Operation)
When an electronic controller is not used, a manual valve operation is also an option.

Figure 21: 4210 Series (manual valve operation)

1. Connect clear nylon tubing between a pressurized fluid supply and the LIQUID port of the nozzle.

2. Connect compressed air to the manual valve.

3. Connect black nylon tubing between the manual valve and the AIR port of the nozzle.
4230 Series (Remote Operation)

The nozzles in the 4230 remote family can be connected to a controller, such as the SPR-2000™ controller, so that each nozzle has its own Liquid, Atomize air, and On/Off air supply. The compressed air will turn the nozzle on and off. The liquid and atomize air are used to create the nozzle spray.

1. Connect the clear nylon tubing to the Liquid port of the nozzle. Route the tubing to the valve stack. Ensure that there is no fluid pressure on the valve stack, and plug a 90 degree male quick disconnect fitting into the appropriate female quick disconnect of the valve stack.

2. Remove the nut from the male quick disconnect and trim the tube length such that it will just slide over the barb on the fitting.

3. Slide the nut onto the hose and then push the tube onto the barb of the quick disconnect. Tighten down the nut with a 3/8" wrench. Repeat for the remaining valve/nozzle combinations.

4. Connect black nylon tubing between the On/Off air port of the valve and the On/Off air port of the nozzle. Repeat for the remaining valve/nozzle combinations.

5. Connect the red nylon tubing between the Atomize air port of the valve and the Atomize air port of the nozzle. Repeat for the remaining valve/nozzle combinations.

6. Connect compressed air to the inlet of the regulator on the top of the valve stack.

7. Connect pressurized fluid to the liquid inlet on the bottom of the valve stack.

Figure 22: 4230 Series (remote operation)
This procedure is for setting up and operating the spray nozzles using a Unist SPR-2000™ controller. If other controllers are used, the details will change, but the general approach will still be valid. This assumes the nozzles have already been installed.

**Preliminary**

**At The Nozzle (4210 Series Only)**

1. Close the LIQUID needle valve on the side of the nozzle body by turning the needle valve clockwise until the needle valve is closed.

   ![Figure 23: Closing LIQUID needle valve](image)

2. Close the AIR needle valve on the other side of the nozzle body by turning the needle valve clockwise until the valve is closed, then open it 1/2 turn counter-clockwise.

   ![Figure 24: Closing AIR needle valve](image)

3. Repeat for each nozzle.

**At The Valve Stack (4230 Series Only)**

1. Close the Atomize needle valve on the top of solenoid valve that is attached to a nozzle by turning the needle valve clockwise until the valve is closed, then open it 1/2 turn counter-clockwise.

   ![Figure 25: Closing Atomize needle valve](image)

2. Close the Liquid needle valve on the lower part of the solenoid valve that is attached to a nozzle by turning the needle valve clockwise until the needle valve is closed.

   ![Figure 26: Closing Liquid needle valve](image)

3. Repeat for each solenoid valve in the stack at the controller.

4. Use the controller to turn off all the solenoid valves in the stack. If using the SPR-2000™ with the factory supplied program, this is already done.

   ![Figure 27: Turning off solenoid valves](image)
5. Ensure all fluid connections between the solenoid valves and the Liquid ports on the nozzles are secure, then turn on fluid pressure to the solenoid valve stack.

![Figure 28: Checking all fluid connections](image)

6. Ensure that the fluid pressure coming to the controller is above 20 psi [1.4 bar].

   a. If you have a Unist tank, you can turn on fluid pressure by sliding the manual slide valve on the tank towards the regulator.

   ![Figure 29: Turning on fluid pressure from tank](image)

7. Turn on air pressure to the solenoid valve stack, and set the air pressure with the regulator. The pressure should be above 40 psi [3 bar] for one nozzle. If you are using multiple nozzles at the same time, the pressure should be greater than 40 psi [3 bar], but should not exceed 100 psi [7 bar]. For a system with 2 to 4 nozzles, 40 psi [3 bar] is generally a good starting point.

Prime The System

Ensure Air Is Connected

1. Actuate the solenoid valve and ensure air is coming out of the attached nozzle using the prime button on the SPR-2000™ controller.

   ![Figure 30: Actuate each solenoid valve with prime button](image)

   a. If no air is coming out, refer to the Troubleshooting: Air not coming out of nozzle section of this manual (page 9).

2. (4210 series) Close the AIR needle valve on the side of nozzle body. (4230 series) Close the Atomize needle valve at the top of the solenoid valve.

   ![Figure 31: Closing AIR needle valve](image)

   ![Figure 32: Closing Atomize needle valve](image)

3. Repeat for each nozzle.
Ensure Fluid Is Connected
1. Open the LIQUID needle valve on the nozzle body (4210 series) or the valve stack (4230 series) by turning the needle valve 1 full turn counter-clockwise. Actuate the solenoid valve and wait for the fluid to fill the tubing and for a steady stream to come out of the nozzle. Depending on fluid pressure, fluid viscosity and tubing length, this can take a minute or more.

![Figure 33: Opening the LIQUID needle valve (4210)](image)

2. If no fluid appears, refer to the Troubleshooting: Fluid not coming out of nozzle section of this manual (page 9).

3. Close the LIQUID needle valve.

4. Repeat for each nozzle.

Adjust The Spray Pattern
1. For each nozzle on the stack (4210 series) turn the AIR needle valve on the side of the nozzle body 1/2 turn counter-clockwise to open it. (4230 series) Turn the Atomize needle valve on the top of the solenoid valve attached to the nozzle 1/2 turn counter-clockwise to open it.

2. Place a piece of cardboard or other absorbent material in the spot that will be sprayed. Actuate the valve for 1-2 seconds and check the spray pattern.

3. Adjust the LIQUID and AIR flow control valves until the desired spray pattern is obtained. If necessary, adjust the air and fluid pressure as well. Lock the needle valves in place by turning the jam nut clockwise until tight.

4. Repeat for each nozzle.

Note: Too much atomizing air flow will cause excessive mist and result in an undesirable fog.

Using the Unist SPR-2000™ or SPR-2000 JR™ controller or the customer supplied controller, the valves will need to be programmed to cycle at the appropriate time for the necessary duration to satisfy the application. Consult the SPR-2000™ or SPR-2000 JR™ manual for further details.

Adjust The System For Pressure Drops
1. Depending on the system configuration, having multiple nozzles operating at once can cause a pressure drop across the valve stack in both the air and the fluid. To account for this, simulate the anticipated drop by turning on as many nozzles as you anticipate would be on at any one time in your operation. If the spray nozzles are no longer giving spray pattern set in step 3, increase the incoming air and fluid pressure at the controller’s or fluid supply regulator until they are once again giving the desired spray pattern.
Troubleshooting

Fluid not coming out of nozzle

- Check fluid supply level.

- Check to ensure that tubing is connected to *liquid* port of the nozzle and the *liquid* port of the valve.

- Check fluid supply pressure and ensure that it is above 20 psi [1.4 bar].

- Check air supply pressure and ensure that it is above 40 psi [3 bar] (for one nozzle). If you are firing multiple nozzles at the same time the pressure should be greater than 40 psi [3 bar], but most likely not having to exceed 60 psi [4 bar].

- Check for fluid pressure at the nozzle by removing the tube from the liquid port (relieve the pressure supply before disconnecting, and aim the end of the tube away from you, then turn fluid pressure back on). If not:
  - Ensure that the flow control valve is not all the way closed (4230 series nozzle and valve stack).
  - Check that the quick disconnect fitting is fully inserted (cannot be removed by pulling on it).
  - Check for clogged quick disconnect fitting.

- Check that set screw on the rear hex plug is close to flush with the face of the plug. Use a 3/32” Allen wrench to adjust if recessed too far.

Fluid sputtering

- Check fluid supply level.

- Check fluid supply pressure and ensure that it is above 20 psi [1.4 bar].

- Check for debris within the valve body. This requires disassembling the nozzle. Follow the Rebuild Kit Instructions on page 16 using the existing parts instead of the new parts when re-assembling.
Spray pattern uneven

- Check for a clogged spray tip or debris in nozzle body.
  - Remove nut and tip, clean as needed.
  - Inspect liquid discharge port and remove any debris or blockages.
- Check for a damaged spray tip, ensuring nothing is blocking the liquid discharge port and both side ports are clean and free of obstructions.

Fluid or mist coming from exhaust port of solenoid valve.

- The nozzle needs to be rebuilt. Order a rebuild kit from Unist and follow the instructions on page 16.

Fluid leaking out of tip

- Check for debris in nozzle body. This requires disassembling the nozzle. Follow the Rebuild Kit Instructions on page 16 using the existing parts instead of the new parts when re-assembling.
- Check for damaged O-ring at tip of nozzle (internally). Nozzle needs to be rebuilt. Order a rebuild kit from Unist and follow the instructions on page 16.

Air not coming out of nozzle

- Check that the solenoid valve on the controller is opening.
- Check that the *AIR* needle valve (4210) or *Atomize* needle valve (4230) is open.
- Check that pressurized air is being supplied to the controller.
- Check that the regulator is set to an appropriate pressure.
- Check that there are no leaks in the tubing or at the air input connections.
2. Unscrew and remove the spray nozzle threaded plug from the spray nozzle body using a 1-1/16" wrench.

3. Remove the diaphragm spring from the body.

4. Remove the piston rod diaphragm assembly from the body by gripping the top of the piston with pliers.

5. Remove the spray nozzle insert from the body. It may be helpful to use the old piston rod diaphragm assembly inserted into the center bore of the spray nozzle insert to gently wiggle the insert to loosen it from the body.

Before starting make sure you have these tools:

1. 5/16" combination wrench
2. 1-1/16" combination wrench
3. Standard pliers
4. Dental pick or similar tool
5. Compressed air gun and/or thin piece of wire
6. Flashlight
7. Lubriplate 630-AA or equivalent grease

1. If you have the 4210 series nozzle with needle valves you will need to use a 5/16" wrench to unscrew and remove them from both sides of the spray nozzle body. It is also recommended to remove the nozzle tip as this will help you in step 8.
6. Remove the 1" OD O-ring from the spray nozzle body. It may be helpful to use a dental pick or similar tool to gently loosen the O-ring from the bore.

7. Remove the 3 mm ID O-ring from the bore in the spray nozzle body. It may be helpful to use a dental pick or similar tool to gently loosen the O-ring from the bore.

8. Remove the 1.2 mm ID O-ring from the end of the bore in the spray nozzle body. The O-ring may drop out of the block simply by turning the block upside down with the nozzle facing up. If it does not, place the nozzle on a piece of paper with the spray tip facing up. Using a compressed air gun, shoot compressed air down the tip of the nozzle. Check the paper or the inside of the nozzle body for the O-ring. If that doesn’t work, use a thin piece of wire and press it down the nozzle tip to free the O-ring.

9. Clean out the inside of the spray nozzle body with a rag and ensure it is free of debris or any other foreign matter.

10. Place the spray nozzle body on a work surface and support it so the nozzle is facing down. Be sure not to damage the nozzle tip.
11. Insert the new 1.2 mm ID O-ring into the end of the bore in the spray nozzle body. It may be helpful to use the old piston rod diaphragm assembly to help you press the O-ring down and fully seat the O-ring squarely into the end of the bore. Use a flashlight to ensure that the O-ring has been installed squarely in the end of the bore. Holding the nozzle body up to a light and checking to ensure that the inside of the nozzle tip looks circular is a sign that the O-ring is seated properly.

12. Apply a light coat of Lubriplate 630-AA or equivalent grease to the new 3 mm ID O-ring and install squarely into the bore of the spray nozzle body. This is a tight fit and is sometimes difficult to install. Place a drop of Lubriplate 630-AA or equivalent grease on top of the O-ring.

13. Apply a light coat of Lubriplate 630-AA or equivalent grease to the inner bore of the nozzle body.

14. Install the new 1” OD O-ring squarely into the bore in the spray nozzle body.

15. Re-install the spray nozzle insert into the block ensuring that the face with the Ø.236” protrusion is installed facing the inside of the body.
16. Install the new piston rod diaphragm assembly into the spray nozzle body by pressing down and rotating the piston back and forth until it slips past the O-ring and bottoms out in the nozzle body.

17. Install the new diaphragm spring onto the piston rod diaphragm assembly ensuring that the spring is properly seated and centered on the brass piston.

18. Re-install the spray nozzle threaded plug and torque to 10 ft-lbs.

19. **(4210 series only)** Apply a light coat of Lubriplate 630-AA or equivalent grease to the O-rings on the new needle valve assemblies and install into the sides of the spray nozzle body. Torque each needle valve assembly to 10 in-lbs.

20. Re-install the spray nozzle tip if it was removed in step 1.

21. If you are using the nozzle adapter you will need to make sure the O-ring is still there when reinstalling.
## Appendix A: 4210 Series Drawing

![Figure 58: 4210 Series drawing](image-url)

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>PART NUMBER</th>
<th>QTY.</th>
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<tbody>
<tr>
<td>10</td>
<td>LV SPRAY NOZZLE BODY, STANDARD</td>
<td>4211</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>NEEDLE VALVE, CARTRIDGE ONLY, FOR LIQUID OR AIR</td>
<td>4220</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>COMPRESSION SPRING</td>
<td>302992</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>O-RING, ID .864, CS .070, VITON</td>
<td>OR-020V75BN</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>O-RING, 2mm CS X 3mm ID, VITON</td>
<td>301339</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>O-RING, 1mm CS X 1.2mm ID, VITON</td>
<td>301340</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>LV SPRAY NOZZLE THREADED PLUG, W/ #10-32 SET SCREW</td>
<td>4217A</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>LV SPRAY NOZZLE INSERT</td>
<td>4216</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>PISTON ROD ASSEMBLY</td>
<td>4212</td>
<td>1</td>
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**Figure 58: 4210 Series drawing**
**Appendix B: 4230 Series Drawing**

![Diagram of 4230 Series drawing]

**REBUILD KIT 303823**

<table>
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<td>9</td>
<td>BALL, STAINLESS .125 DIAMETER</td>
<td>71-2031-1</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>COMPRESSION SPRING</td>
<td>302992</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>LV SPRAY NOZZLE BODY, REMOTE ADJUST</td>
<td>4231</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>O-RING, ID .864, CS .070, VITON</td>
<td>OR-020V758BN</td>
<td>1</td>
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<tr>
<td>5</td>
<td>O-RING, 2mm CS X 3mm ID, VITON</td>
<td>301339</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>O-RING, 1mm CS X 1.2mm ID, VITON</td>
<td>301340</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>LV SPRAY NOZZLE THREADED PLUG, W/ #10-32 SET SCREW</td>
<td>4217A</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>LV SPRAY NOZZLE INSERT</td>
<td>4216</td>
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<tr>
<td>1</td>
<td>PISTON ROD ASSEMBLY</td>
<td>4212</td>
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</table>

*Figure 59: 4230 Series drawing*
### Appendix C: 4210 Series Part Numbering Scheme

**Figure 60: 4210 Series part numbering scheme**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Nozzle Body Assembly, Without Spray Tip &amp; Fittings</td>
<td>4210111</td>
</tr>
<tr>
<td>5</td>
<td>O-Ring, ID .070, CS .070, Viton</td>
<td>OR-004V75BN--1</td>
</tr>
<tr>
<td>4</td>
<td>Nozzle Adapter Block</td>
<td>301442--1</td>
</tr>
<tr>
<td>3</td>
<td>Spray Nozzle, Cone Tip</td>
<td>4218-1-</td>
</tr>
<tr>
<td>2</td>
<td>Spray Nozzle, Retaining Nut</td>
<td>4219 11-</td>
</tr>
<tr>
<td>1</td>
<td>Spray Nozzle, Fan Spray Tip</td>
<td>42211--</td>
</tr>
</tbody>
</table>

**Table of Part Numbers**

<table>
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<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4210-FE-Y</td>
<td>Liquid Fitting</td>
<td>6</td>
</tr>
<tr>
<td>4210-CI-Y</td>
<td>Liquid Fitting</td>
<td>5</td>
</tr>
<tr>
<td>4210-AD-Y</td>
<td>Liquid Fitting</td>
<td>4</td>
</tr>
</tbody>
</table>

**Legend**

- **F**: Fan Spray
- **CI**: Cone Spray
- **AD**: Nozzle Adapter
- **FE**: Fan Spray
- **LI**: Liquid Fitting
- **AIR**: Air Fitting

**Explanation**

- **Diagram** showing the part numbering scheme with various components labeled and part numbers indicated.

---

**NOT SHOWN IN VIEWS**

- See isometric illustrations.

<table>
<thead>
<tr>
<th>Part Number Sequence</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4210-XX-Y</td>
<td>Base number and nozzle tip type</td>
</tr>
</tbody>
</table>
### Part Numbering Scheme

#### Figure 6.1: 4230 Series Part Numbering Scheme

<table>
<thead>
<tr>
<th>PART NUMBER SEQUENCE</th>
<th>DESCRIPTION PART NUMBER</th>
<th>DESCRIPTION PART</th>
</tr>
</thead>
<tbody>
<tr>
<td>4230-XX-Y</td>
<td>AIR &amp; LIQUID FITTING TYPE</td>
<td>FE - FAN SPRAY, CI - CONE SPRAY, AD - NOZZLE ADAPTER</td>
</tr>
</tbody>
</table>

#### Description Table

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1913</td>
<td>ELBOW, PUSH-IN, 5/32 OD, 1/8 NPT</td>
<td>1913</td>
</tr>
<tr>
<td>1912</td>
<td>TEE, PUSH-IN, 5/32 OD, 1/8 NPT</td>
<td>1912</td>
</tr>
<tr>
<td>1913</td>
<td>ELBOW, PUSH-IN, 1/4 OD, 1/8 NPT</td>
<td>1915</td>
</tr>
<tr>
<td>1912</td>
<td>TEE, PUSH-IN, 5/32 OD, 1/8 NPT</td>
<td>1912</td>
</tr>
<tr>
<td>1913</td>
<td>ELBOW, PUSH-IN, 6mm OD, 1/8 NPT</td>
<td>302896</td>
</tr>
<tr>
<td>1912</td>
<td>TEE, PUSH-IN, 5/32 OD, 1/8 NPT</td>
<td>1912</td>
</tr>
</tbody>
</table>

#### Part Numbering Example:

```
4230-XX-Y
```

- **XX** represents the Liquid Fitting Type (FE - FAN SPRAY, CI - CONE SPRAY, AD - NOZZLE ADAPTER)
- **Y** represents the Nozzle Tip Type Base Number (00, 01, 02, 03, 04, 05)
Low Volume Spray Nozzle Spray Patterns

Fan Spray

Approximate spray dimensions

<table>
<thead>
<tr>
<th>B</th>
<th>W*</th>
</tr>
</thead>
<tbody>
<tr>
<td>3&quot; [76 mm]</td>
<td>7.5&quot; [191 mm]</td>
</tr>
<tr>
<td>6&quot; [152 mm]</td>
<td>12&quot; [305 mm]</td>
</tr>
<tr>
<td>9&quot; [229 mm]</td>
<td>15&quot; [381 mm]</td>
</tr>
<tr>
<td>12&quot; [305 mm]</td>
<td>18&quot; [457 mm]</td>
</tr>
<tr>
<td>15&quot; [381 mm]</td>
<td>23&quot; [584 mm]</td>
</tr>
<tr>
<td>18&quot; [457 mm]</td>
<td>26&quot; [660 mm]</td>
</tr>
</tbody>
</table>

Conical Spray

Approximate spray dimensions

<table>
<thead>
<tr>
<th>B</th>
<th>D*</th>
</tr>
</thead>
<tbody>
<tr>
<td>3&quot; [76 mm]</td>
<td>1.25&quot; [32 mm]</td>
</tr>
<tr>
<td>6&quot; [152 mm]</td>
<td>2.25&quot; [57 mm]</td>
</tr>
<tr>
<td>12&quot; [305 mm]</td>
<td>3.50&quot; [89 mm]</td>
</tr>
<tr>
<td>18&quot; [457 mm]</td>
<td>4.25&quot; [108 mm]</td>
</tr>
<tr>
<td>24&quot; [610 mm]</td>
<td>5.50&quot; [140 mm]</td>
</tr>
<tr>
<td>30&quot; [762 mm]</td>
<td>6.75&quot; [172 mm]</td>
</tr>
</tbody>
</table>

* Data approximates spray pattern for the Low Volume Spray Nozzles. Please note that these values are a guideline for initial nozzle setup. Actual spray pattern will vary depending on the applied fluid, air and fluid pressures, and needle valve settings.