# ATOMIZING NOZZLES


These atomizing nozzles enhance the utility of Western's chemical pumps by dispersing the chemical precisely at the injection point. This expands the chemical's surface area, promoting better mixing and more efficient chemical utilization.

Western's chemical pumps administer chemicals rapidly with every piston stroke. This intermittent and rapid chemical injection maximizes the operation of Western's nozzles in atomizing the chemical.

For decades, Western Chemical Pumps atomizing injection nozzles have demonstrated reliable engineering and design, earning the trust of its users through rigorous testing and proven performance.

**FEATURES**

- Adjustable dial controlled injection pressure
- Functions optimally with the designed operation of Western's chemical pumps
- ANX model is designed to be used with "hot tap" type installations to allow removal for maintenance without impacting production
- Stainless steel is standard for improved reliability
- Efficient design for precision injection



MADE IN USA

## AN MODEL

| AN | -2 | -3/4 | PART NUMBER |
|---|---|---|---|
| ↑ | ↑ | ↑ | **Model** |
| AN | | | Atomizing Nozzle |
| | | | **Material** |
| | -2 | | Stainless Steel (standard) |
| | -2Q | | 316 Stainless Steel |
| | | | **Connection** |
| | | -1 | 1" MNPT |
| | | -3/4 | 3/4" MNPT |

## OPTIONS & UPGRADES

**Material**: Upgrade to Q model for enhanced corrosion resistance

**Seals**: Standard FKM (Viton™) O-rings, PTFE (Teflon™) available

*Other unique or special order materials are available to fit your needs. Please inquire with your Western Chemical Pumps, Inc. distributor. Specify desired options when placing order.*

### INSTALLATION AND OPERATION

The AN nozzle is designed to fit standard 1" and 3/4" internal pipe thread.

To start the atomizing nozzle, open the gauge cutoff valve (AN16-2) to the stop screw (1/2 turn). Loosen the prime valve (D16-2Y) (1 turn). Start the chemical pump. When all of the air has been bled from the line, close the prime valve. Pressure on the gauge will build up to line pressure plus atomizing differential pressure.

Atomizing differential pressure can be controlled by the control screw (AN2). Turn clockwise to decrease differential pressure and counterclockwise to increase differential pressure.

A differential pressure of approximately 800 psi over line pressure is required to lift the spray nozzle and create proper atomization. The nozzle can lift at lower differential pressures, but will produce less atomization.

De-activate the pressure gauge after proper operation of the nozzle by closing the gauge cutoff valve and opening the prime valve to release pressure trapped by the gauge.

### MAINTENANCE AND TROUBLESHOOTING

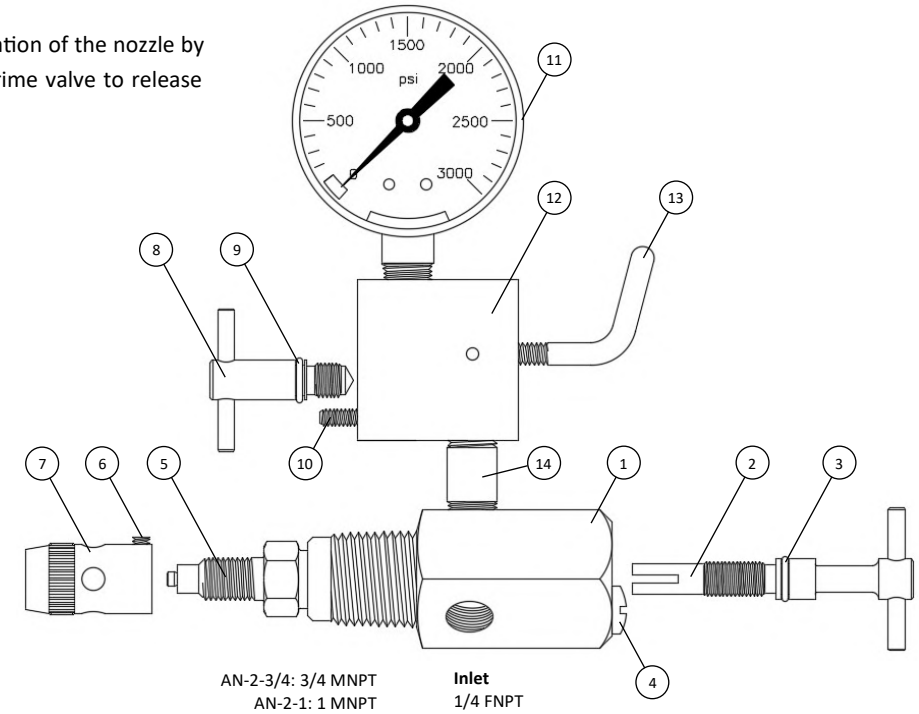
Periodically check operation of the nozzle by closing the prime valve (D16-2Y) and opening the gauge cutoff valve (AN16-2). If pressure fluctuates as the pump strokes, then the nozzle is operating properly. Weak or no pressure fluctuation indicates a possible blockage. Rotate the control screw (AN2) clockwise all the way in to lift the nozzle off its seat and allow a blockage to pass. Return the control screw back to the preferred operating position.

### TIPS FOR BEST OPERATION

- Use cap (AN8Y) for injection into gas lines
- Remove cap (AN8Y) for injection into liquid lines
- Inject at 800 psi over line pressure for best atomization

| | AN | Standard | Q |
|---|---|---|---|
| 1 | BODY, 1" NPT | AN1S | AN1-1Q |
| 1 | BODY, 3/4" NPT | AN1-6S | AN1-6Q |
| 2 | CONTROL SCREW | AN2 | AN2Q |
| 3 | O-RING, VITON™ | M170-55V | M170-55V |
| 3 | O-RING, TEFLON™ | M170-55T* | M170-55T* |
| 4 | SCREW | AN26 | AN26Q |
| 5 | NOZZLE ASSY | AN3 | AN3 |
| 6 | SETSCREW | AN9 | AN9 |
| 7 | CAP | AN8Y | AN8Q |
| 8 | GAUGE CUTOFF VALVE | AN16-2 | AN16-2Q |
| 9 | O-RING, VITON™ | D46-5V | D46-5V |
| 9 | O-RING, TEFLON™ | D46-5T* | D46-5T* |
| 10 | STOP SCREW | AN16-3 | AN16-3Q |
| 11 | GAUGE, 0-3000 PSI | AN52 | AN52Q |
| 12 | BLEED BLOCK | AN16S | AN16Q |
| 13 | PRIME VALVE | D16-2Y | D16-2Q |
| 14 | NIPPLE | AN54 | AN54Q |

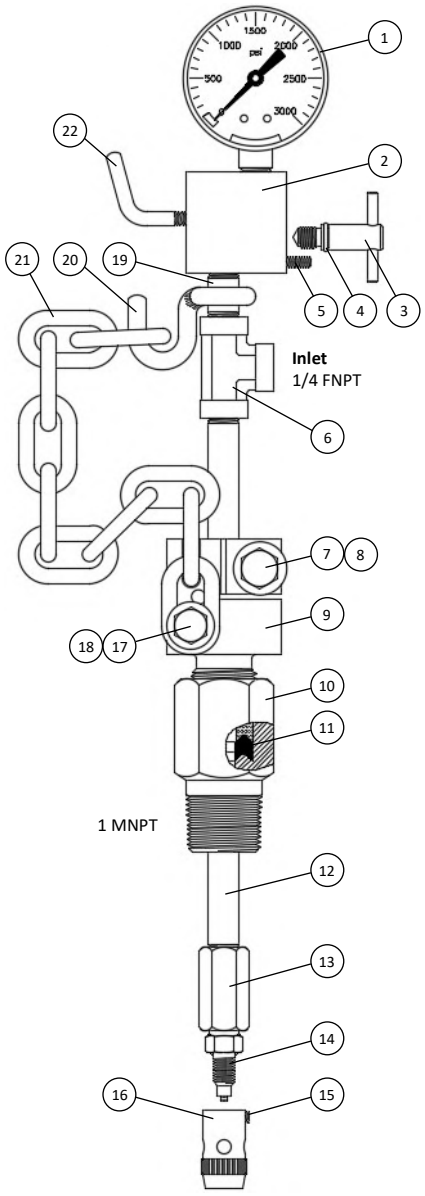
**Optional equipment*




All images are for illustrative purposes. Actual product may differ.

## ANX MODEL

| ANX | -2 | -3/4 | PART NUMBER |
|---|---|---|---|
| ↑ | ↑ | ↑ | **Model** |
| ANX | | | Atomizing Nozzle with Extension |
| | | | **Material** |
| | -2 | | Stainless Steel (standard) |
| | -2Q | | 316 Stainless Steel |
| | | | **Extension Tube Length** |
| | | -12 | 12" |
| | | -18 | 18" |
| | | -24 | 24" |
| | | -30 | 30" |
| | | -36 | 36" |
| | | -48 | 48" |




## OPTIONS & UPGRADES

**Material**: Upgrade to Q model for enhanced corrosion resistance

**Seals**: Standard FKM (Viton™) O-rings, PTFE (Teflon™) available

*Other unique or special order materials are available to fit your needs. Please inquire with your Western Chemical Pumps, Inc. distributor. Specify desired options when placing order.*

### INSTALLATION AND OPERATION

The ANX nozzle is designed to fit standard 1" internal pipe thread.

To start the atomizing nozzle, open the gauge cutoff valve (AN16-2) to the stop screw (1/2 turn). Loosen the prime valve (D16-2Y) (1 turn). Start the chemical pump. When all of the air has been bled from the line, close the prime valve. Pressure on the gauge will build up to line pressure plus atomizing differential pressure.

A differential pressure of approximately 800 psi over line pressure is required to lift the spray nozzle and create proper atomization. The nozzle can lift at lower differential pressures, but will produce less atomization.

De-activate the pressure gauge after proper operation of the nozzle by closing the gauge cutoff valve and opening the prime valve to release pressure trapped by the gauge.

### MAINTENANCE AND TROUBLESHOOTING

Periodically check operation of the nozzle by closing the prime valve (D16-2Y) and opening the gauge cutoff valve (AN16-2). If pressure fluctuates as the pump strokes, then the nozzle is operating properly. Weak or no pressure fluctuation indicates a possible blockage.

### TIPS FOR BEST OPERATION

- Use cap (AN8Y) for injection into gas lines
- Remove cap (AN8Y) for injection into liquid lines
- Inject at 800 psi over line pressure for best atomization

| | ANX | Standard | Q | | | Standard | Q |
|---|---|---|---|---|---|---|---|
| 1 | GAUGE, 0-3000 PSI | AN52 | AN52Q | 12 | EXTENSION TUBE, 18" | AN21** | AN21Q** |
| 2 | BLEED BLOCK | AN16S | AN16Q | 13 | COUPLING | AN20 | AN20Q |
| 3 | GAUGE CUTOFF VALVE | AN16-2 | AN16-2Q | 14 | NOZZLE ASSY | AN3S | AN3S |
| 4 | O-RING, VITON™ | D46-5V | D46-5V | 15 | SETSCREW | AN9 | AN9 |
| 4 | O-RING, TEFLON™ | D46-5T* | D46-5T* | 16 | CAP | AN8Y | AN8Q |
| 5 | STOP SCREW | AN16-3 | AN16-3Q | 17 | CAP SCREW | AN9-1 | AN9-1Q |
| 6 | TEE | AN22 | AN22Q | 18 | WASHER | AN9-1A | AN9-1AQ |
| 7 | CAP SCREW | AN9-2 | AN9-2Q | 19 | NIPPLE | AN54 | AN54Q |
| 8 | WASHER | AN9-2A | AN9-2AQ | 20 | SAFETY HOOK | AN25 | AN25 |
| 9 | SPECIAL CLAMP | AN19 | AN19Q | 21 | SAFETY CHAIN | AN27 | AN27 |
| 10 | STUFFING BOX | AN18 | AN18Q | 22 | PRIME VALVE | D16-2Y | D16-2Q |
| 11 | V-RING PACKING | AN12 | AN12 | | | | |

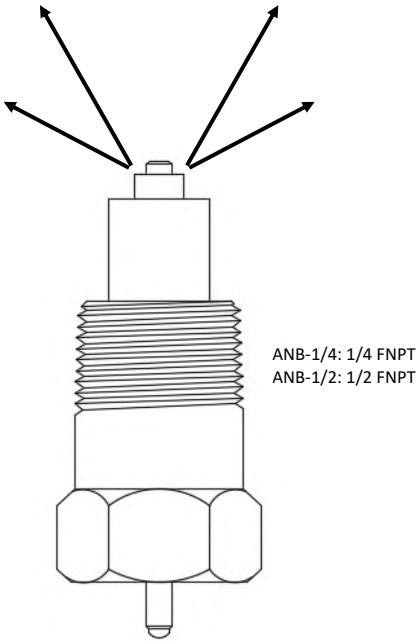
**Optional equipment*

***Different lengths available, specify when ordering*

All images are for illustrative purposes. Actual product may differ.

## ANB MODEL

| ANB | -1/4 | PART NUMBER |
|---|---|---|
| ↑ | ↑ | **Model** |
| ANB | | Atomizing Nozzle Tip Only |
| | | **Connection** |
| | -1/4 | 1/4" MNPT |
| | -1/2 | 1/2" MNPT |



ANB-1/4: 1/4 FNPT
ANB-1/2: 1/2 FNPT

ANB-1/4: 1/4 FNPT
ANB-1/2: 1/4 FNPT

**FEATURES**

- All parts made from stainless steel
- Increases injected chemical surface area to aid in mixing and chemical effectiveness
- Increases energy released at injection point to promote atomization of liquid into gas
- The ANB nozzle is designed to fit standard 1/4” and 1/2” internal pipe thread.

**TIPS FOR BEST OPERATION**

- Functions best with a Western positive displacement pump (MA, MT, DFF, MH) that provides rapid intermittent injection
- Performance improves at higher flow rates
- Connect nozzles as close to the main flow stream as possible
- A differential pressure of approximately 800 psi over line pressure is required to lift the spray nozzle and create proper atomization. The nozzle can lift at lower differential pressures, but will produce less atomization.
- Use rigid tubing to the spray nozzle to prevent pressure loss
- Keep injection point up hill from pump to allow gas bubbles to pass thru the line

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