

## AirMatic<sup>®</sup> AirJet<sup>®</sup> Nozzle Control System

*Drift Management...  
Superior Coverage...  
One System Does It All*



Wouldn't it be nice to select the spray droplet size of your sprayer from the cab without having to change nozzles? Wouldn't it be nice to be informed about potential spray drift conditions and be able to adjust the sprayer with one touch of your finger? Wouldn't it be nice to know that regardless of your changes in speed the spray droplet size remains the same?

The ability to do these things and more is here today with the AirMatic AirJet Control System. It is a completely automated system that uses advanced liquid plus air nozzle technology to give the operator the ability to adjust droplet size on-the-go regardless of changes in speed or liquid pressure. Spray drift management has never been easier or more effective.

This unique system allows for complete control of the droplet size, allowing the operator to select the size droplet needed for the conditions. The system then maintains this droplet size regardless of changes in sprayer speed or system pressure. This makes for a worry free application and gives confidence to the operator that the best possible application is being done.



The AirJet nozzles free up the operator from having to select and change nozzles for different applications or weather conditions. This liquid plus air nozzle is able to produce the size droplets required for any application independent of the spray volume needed. The spray volume can also be reduced without reducing the droplet size. Reducing the liquid volume results in a more efficient application, which means time and money savings for the applicator.



### The AirMatic® Controller – The Key to Making the System Work

The AirMatic controller regulates the flow of air to the AirJet nozzle by sensing the changes in the liquid pressure and adjusting accordingly. This enables the system to maintain a constant droplet size when the ground speed and/or liquid pressure change.

By varying the air pressure and liquid pressure, the system can deliver droplets that fit into any of six categories ranging from extra fine to extremely coarse. For each droplet category there is a different relationship between liquid and air pressure. The AirMatic controller manipulates this relationship to maintain the drop size under ever changing field conditions.

For each relationship there is a minimum and maximum limit of liquid and air pressure. Upon reaching these limits the AirMatic controller instructs the operator to vary the spraying speed accordingly. With the AirMatic controller, regulating drop size is virtually foolproof.

- **Six Droplet Size Settings** – Choose among the six industry-standard drop size categories of Very Fine (VF), Fine (F), Medium (M), Coarse (C), Very Coarse (VC) and Extremely Coarse (XC). As conditions vary, the droplet size can be instantly switched from the sprayer cab at the touch of a finger, all without changes in volume or having to change nozzles.
- **Alarm Mode** – When the system detects a variation in liquid pressure that is beyond the set pressure-to-air relationship, a flashing message on the display alerts the operator to “Drive Slower,” or “Drive Faster.” Likewise, an “Increase RPM” message will flash if the air compressor is working too slowly. This unique warning system helps ensure maximum reliability.
- **Wind Measurement** – An optional anemometer measures wind velocity before spraying and advises the operator on which droplet size to use. A display message alerts the operator when it’s too windy to spray.
- **Full Compatibility** – The AirMatic controller can be used in combination with any TeeJet Technologies automatic rate control.



### The AirJet Nozzle

The AirJet 49880 liquid plus air nozzle works by mixing air with the spray solution inside the nozzle to disperse an atomized pattern of air and droplets. This unique technology makes it possible for an unprecedented level of operator control over drop size.

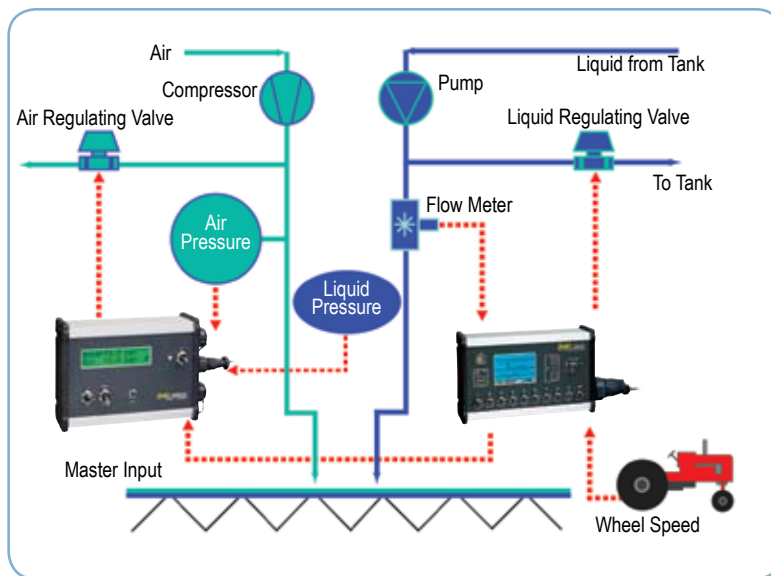
- A metering insert controls the liquid flow and air is fed into the nozzle through an opening perpendicular to the liquid stream. Five sizes of the metering insert are available (031, 035, 042, 052, 062) to accommodate a wide variety of application rates.
- By adjusting both the air and liquid inputs, you can control droplet size over a broad range of pressures with the same nozzle.
- The AirJet can produce droplets of consistent size at a wide range of flow rates. Unlike conventional hydraulic nozzles, the AirJet will not change droplet size as rates and pressures change.
- A specially-designed FloodJet® spray tip is used to create a uniform spray pattern. When the air and droplet mixture exit the nozzle body they are deflected off the FloodJet outlet surface and produce a typical flat spray pattern. The AirJet nozzles are normally spaced 20 in. (50 cm) apart on the boom and oriented so the spray pattern is perpendicular to the target surface.

**Note:** Detailed application information and air and liquid flow capacities are tabulated on Data Sheets 49880-1, 49880-2, 49880-3, 49880-5, 49880M-1, 49880M-2, 49880M-3, 49880M-5.



## How it Works

1. The liquid system delivers the spray solution to the AirJet nozzle mounted on the boom through conventional lines and hoses.
2. An on-board air compressor delivers a regulated volume of air to each AirJet nozzle on the boom through a separate air handling system.
3. The AirJet nozzle mixes the incoming air and liquid spray solution. This mixing causes atomization of the liquid and the air, then delivers the droplets to the target. The liquid plus air technology of the AirJet makes for easy control of the drop size.
4. The air pressure and liquid pressure are monitored and adjusted automatically by the AirMatic controller to maintain the selected drop size.



## Features and Benefits

- Reduce liquid carrier volumes. Replacing much of the water or other carriers with air allows the operator to use spray volumes at the lower end of the pesticide label requirements. This means less time spent hauling water and filling the sprayer.
- One nozzle fits all. The same size nozzle can be used for widely varying applications. For example, an AirJet nozzle can be used to apply both fungicides at high pressures and herbicides at low pressures in drift sensitive areas.
- Variable Rate Solution. With the ability to quickly and easily vary the output, the AirJet AirMatic system becomes a vital part of precision farming variable rate application.



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