

Looking for a Fertilizer Application System with Variable Rate Technology?

At AgXcel we believe in the importance of Responsible Nutrient Management which requires the placement of vital nutrients to the soil at the appropriate location and at the appropriate rate. Limiting technology solutions should not be a barrier to appropriate nutrient replacement.

The AgXcel GX30i is an intelligent decision making microprocessor that manages and controls system pressure in a Variable Rate application environment. This patent pending solution was designed and developed by AgXcel to allow for the application of liquid fertilizer in an expansive range. Its dual valve management configuration is controlled by a central microprocessor intelligent module to manage system pressure within a specified range. Today's liquid system application rates are limited by the size of each orifice on each row in which higher rates dramatically increase system pressure and lower rates significantly drop system pressure. Many prescription based applications require application rates that span anywhere from 20GPA-40GPA at any given moment. A single size orifice cannot sustain this broad range of application which in turn minimizes the application range, therefore requiring the user to settle for a lesser range of application.

The AgXcel GX30iVRT addresses this issue with the ability to broaden this range by implementing a 3 stage orifice range system. Exhaustive testing at AgXcel has established the critical benefits of a 3 option orifice system.



GX30 Cab Display



The AgXcel GX30iVRT intelligent module has an array of intelligence built into the system and designed to manage various pressure points seamlessly. With its ability to control each valve independently swath control is improved by allowing instant flow when the system returns to the flow position. With the ability to manage each row independently and up to 12 sections the GX30iVRT has been developed for expandability for future swath features and row management.



Dual body MCV



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information

- A 3 system orifice setup with our Dual Body micro valve set-up allows for a much broader range of application both at higher rates and at lower rates
- 2 orifice sizes are selected, one for the lower and one for the upper range
- The 3rd orifice is created by allowing both micro valves to open which combines the lower and upper range into a dual application ratio, allowing for a much broader range
- AgXcel also uses our GX6 micro tubing technology to size the application range with 11 different sizes, for solutions that are viscous or have a high particle content.
- The micro valve controls the flow on each row and creates an instant "shut off" point therefore preventing system pressure loss when the liquid system goes into hold mode.
- Systems today use check valves to prevent system "drain out" when the system goes into hold. System pressure will drop down to the check valve pressure setting. So if you have 8lb check valves, system pressure will drop down to approximately 8 psi if not lower.
- With the micro valves system, pressure is maintained when the valve is shut.
- This pressure maintaining feature results in a quicker application start when the system goes back into start mode. The liquid system does not have to build pressure back to its delivering rate which in turn causes start points not to have fertilizer placement until enough pressure is in the system to open up the check valves.
- Lower GPA rates are also achieved at lower PSI ratings. Since there is no longer a check valve that has to open after system pressure is built, with the micro valves they are either flowing or not flowing. This means, even if system pressure reduces down to 2PSI, liquid will still be flowing at the appropriate rate since no pressure is required to open a rated check valve.
- The dual micro valves now serve as the liquid systems "sectional valves" therefore there no longer is the need to run exhaustive amounts of ¾" feed hose throughout the implement.
- Implementing the dual micro valves on each row allows for a more responsive application when the system goes from hold position to run.



Visit our website for more info or watch the
GX30iVRT video on our YouTube channel
search AgXcel!

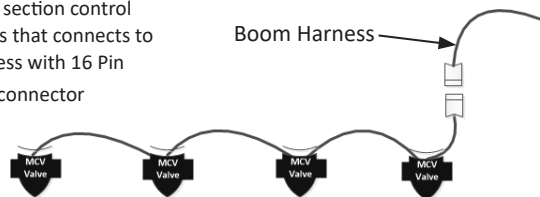


Eliminate the need for large sectional valves in the center of the implement!

AgXcel's Micro Control Valve

The AgXcel MCV solution was designed to eliminate the need for large sectional valves in the center of the implement. This configuration requires the system to build pressure beyond the required application rate in an effort to fill all supply hose and to open up all check valves. The design of the MCV starts with the installation of the AgXcel micro valve installed on the tool bar on each row unit of the implement. For example, if the implement were a 16 row planter there would be 16 micro valves on each row unit on the tool bar. The micro valve would control both the liquid flow to its assigned row as well as control the flow rate of its assigned row.

AgXcel section control harness that connects to Y harness with 16 Pin round connector



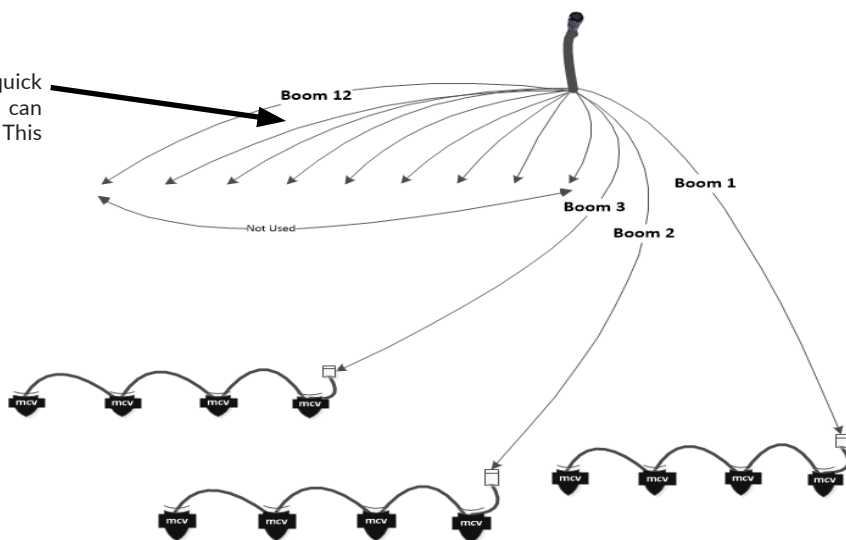
MCV's are designed to daisy chain together for a quick and simple installation process. Any configuration can be achieved for various implement configurations. This is helpful when swath control is being utilized.



MCV Body with 1/4" PTC in/out

AgX MCV Features & Benefits Include:

- Very Low voltage draw and very fast
- Complete setup for Planters, Drills, Strip-Till Application Systems
- Compatible with John Deere GS2, Ag Leader, Trimble, Raven, Micro-Trak & more
- Works for in furrow and 2x2 Solutions
- Kit comes complete with mounting bracket and harnesses
- Maintain Consistent Pressure
- Eliminate the need for check valves on every row
- Customized to YOUR needs



MCV System Benefits

- Since the AgXcel micro control valve can control the flow of each row, this eliminates the need for a check valve on each row. When a standard check valve is utilized on a liquid system, reliance on a spring to open and shut the valve is required when the system is set to hold and then to run. Many times standard check valves have a tendency to stick in the open or closed position. Standard check valves also have a 3% - 7% spring tolerance so the pressure required to open a check valve on each row will vary as well. What this leads to is a varied application rate at lower pressures since each row is responding differently to system pressure and the end results are over and under application of fertilizer on each row. This tolerance is completely eliminated as the valves either open or closed and when system pressure runs below 5PSI liquid will still flow at the specified rate given that no check valve spring is required to be opened.
- Unlike with standard check valves, when the system is placed into the hold position, such as when making turns in a field, the standard check valve will allow pressure to drop down to the check valves pressure rating. So if system pressure is at 25 PSI for the specified application rate, and then the system is placed into the hold position,

pressure will be allowed to escape by the check valve until it reaches the check valves pressure rating, this means that pressure could drop up to 75% of its operating pressure.

- The MVC is either in the open or closed position, and when the system is placed in the hold position pressure is maintained with a minimum of a 4% pressure drop. What this signifies is that when the system is placed back into the run position there is no longer a delay of application, liquid application is instant. This feature eliminates the ends rows of fields having the tiered look when liquid did not catch up with the speed of the implement.
- Studies were performed by AgXcel on the duration of time spent by a liquid system to prime sectional valves and all the plumbing when a system goes from a hold position to a run position. The studies performed showed that there is a 10-15 second delay from the time the system is placed in the run position to the time it takes for liquid to flow through the row applicator. This delay equated to an average of 25ft- 35ft of travel from the end of the row to the start of application.

HIGH SPEED PLANTING?

5 - 10 MPH?

DOING VARIABLE RATE?

10 - 60 GPA?

AgXcel

We've got your solution!
The AgXcel GX30iVRT

Intelligent Variable Rate Technology



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