

MF PLANTERS

Built to achieve maximum accuracy



When it comes to planting, accuracy is what matters.

Accuracy affects your yields. Our planters are built to help you achieve and maintain maximum accuracy and precise seed placement. With specific technologies at the crucial points in the planter's operation, our design allows seed to move efficiently and uninterrupted from hopper to placement. We pledge to give you a planter that delivers high-level accuracy and will continue to provide that accuracy consistently time and time again.

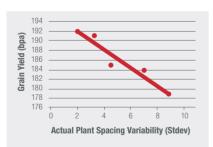
Effects of Seed Spacing and Depth on Various Crops.

Multiple studies have shown us the affect of spacing and depth on crop yields. In corn, a change of just 1 inch can mean a loss of more than 2 bushels an acre. In beans, even slight

variations in depth can have enormous impact on germination. For the conscientious farmer, accuracy is not a luxury. It's a necessity with bottom line results.

Corn

There is a significant relationship between deviations in plant spacing and lower yield. Per inch of deviation, more than 2 bushels per acre (bpa) can be lost. In an eight-year study, researchers found spacing inaccuracy of an inch could cause between a 2.2 bpa loss and a 2.5 bpa loss. Source: Purdue University



As the distance between seeds becomes more variable (expressed in this chart as standard deviation) the yield per acres decreases dramatically. The Massey Ferguson design has specific features to increase and maintain spacing accuracy.

Soybeans

Depth of soybean seed plays a major factor in whether seedlings are able to emerge. In most cases, farmers aim to plant soybeans between 1 and 1½ inches deep. In a university study, researchers showed that as depth varied from optimum soybean plant emergence rate dropped by as much as 70%. Source: lowa State University, North Dakota State University

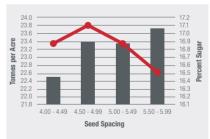


As the depth of planting increases, the emergence rate of plants falls off considerably. Only Massey Ferguson planters have a patented calibration system for setting and quickly verifying that you're planting at a precise depth.

Sugar beets

Sugar beet spacing has a definite sweet spot. Too high of a population per foot and the yield drops. Too low of a population per foot and the sugar content in the beets will lower.

One test found the highest sugar content (17.1%) on fields with seed spacing between 4.5 and 5 inches. The sugar percentage dropped to 16.9% for fields sown with seed spacing between 5 and 5.5 inches and to 16.5% for fields planted at seed spacing of 5.5 to 6 inches. Source: Minn-Dak Farmers Co-op



Sugar beets face two competing factors in seed spacing. Seeds that are spaced too close together will reduce the overall tonnage produced (represented by the black bars) while seeds that are spaced too far apart will lower the overall sugar content (represented by the red line). The Massey Ferguson planter system of handling and placing seed helps ensure consistent and accurate placement.

Taking into consideration both tonnage and sugar concentration, this means a farmer can lose \$20 per acre by planting ½ inch to 1 inch off (5- to 5.5-inch spacing) and \$50 per acre if he's 1 inch to 1½ inches off (5- to 6-inch spacing).

Built for accuracy

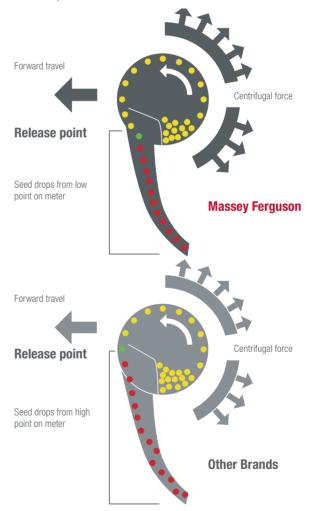
All planters share basic mechanisms intended to open a trench, singulate seed, drop seed at an intended spacing and depth and close the trench. However, the differences in these designs can have major impacts on accuracy.

- ► A system for opening the seed trench most planters use a double disc opener. To be accurate, you want a smooth, consistent slit trench.
- ► The metering system to singulate seed nearly all planters use a disc system.
- ▶ Accuracy can be affected when the disc fails to hold a seed securely, holds seeds at varying distance from each other or causes delays in the dropping of the seed.
- ▶ A seed delivery system planter designs vary significantly in where the seed tube that delivers seed to the seed trench meets the seed meter. The effect this position has on smooth and consistent movement of seed from meter to trench is one of the most important differences in planter designs and the resulting accuracy of seed spacing.
- ▶ A system to set, verify and maintain a particular depth: planting systems vary on how they set and regulate depth. Depth control is crucial in many crops in order to achieve maximum yield potential.
- Wear and maintenance items that must be serviced in order to maintain accuracy. As there are many different planter systems, there are also differing wear and maintenance items between planters. When systems become worn, they can affect accuracy ranging from occasional issues to full planter failure.

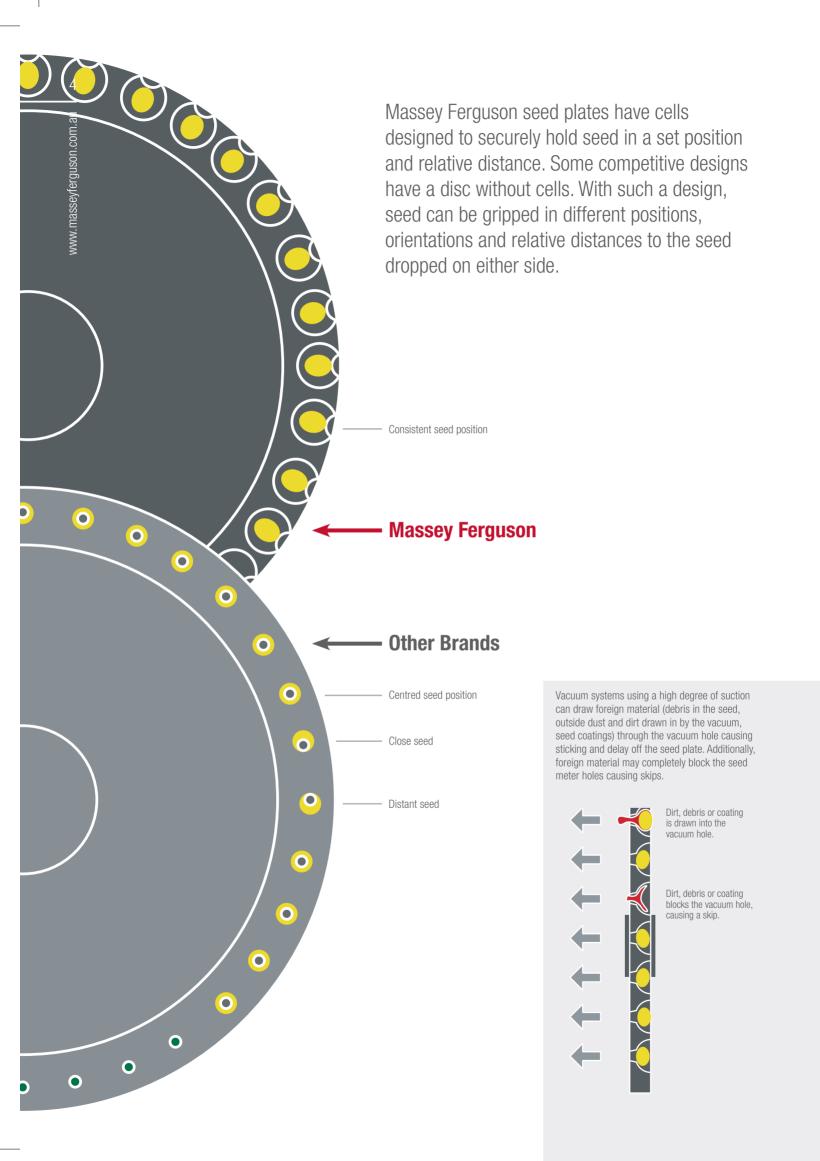
How we do it

The Massey Ferguson approach to achieving planting accuracy is to touch the seed as little and as lightly as possible. You won't find strong vacuums or mechanical delivery systems in our planter. Our view is that every touch of the seed is a chance for something to get moved, damaged, delayed or out of order. Our goal to get the seed where it needs to go in the most simple and practical way. This is a fundamental difference between our planter and many others.

Massey Ferguson planters use a positive air system instead of a vacuum system. It doesn't require seals that can fail and it requires less energy for accurate operation.

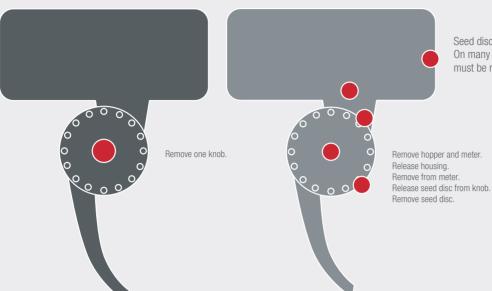


The edge drop system drops seed slightly forward from vertical. This allows the seed to travel a relatively short distance, mostly in free fall, down through the seed tube. Other planters drop the seed higher and straight down. This allows more opportunity to cause ricochet and misplacement.

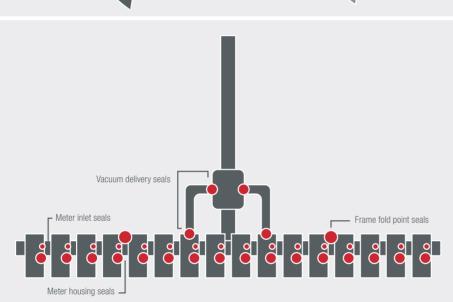


Massey Ferguson

Other Brands

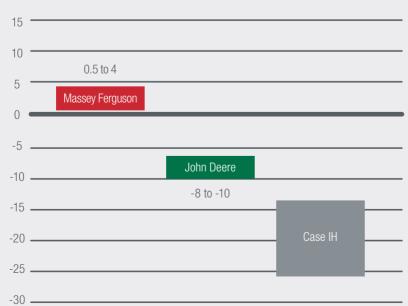


Seed discs can be changed quickly and simply. On many other planters, the entire hopper must be removed.

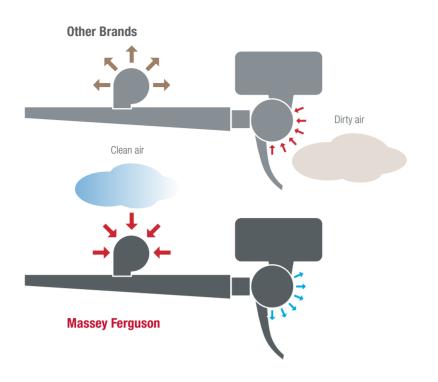


Air seals can and do wear out over time. In most vacuum systems, even a slight diminishment in vacuum strength can have a significant impact on singulation.

Inches of water column

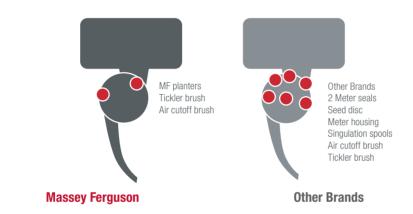


Vacuum systems consistently require large volumes of hydraulic energy to generate sufficient vacuum for accurate seed singling. Interruptions in hydraulic flow can affect accuracy.

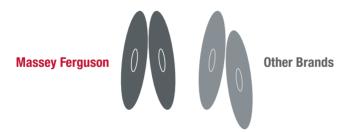


Planters using a vacuum system draw air from the area around the metering unit. In many planting operations, this air includes a significant amount of dust drawn into the planter meter and in or around the seals. This can cause premature wear of seals and components.

Massey Ferguson Planters use positive air that is drawn forward and above the planter, reducing the likelihood that excessive dust will be pulled into the planter.

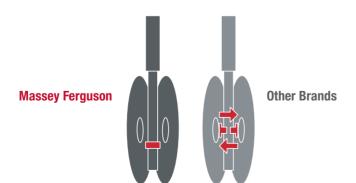


The Massey Ferguson meter only has one moving part and the simple replacement of the brushes keeps your planter dependable and accurate. Our competitors' planters feature gaskets, seals, wear indicators and may even require periodic replacement of the meter housing and seed disc.



An offset disc design has one disc positioned further forward on the leading edge of the opener. This can result in uneven wear to the two opener discs requiring additional maintenance intervals for the differing wearing disc.

The Massey Ferguson design features opener discs with opposing bearings so each of the discs share the cutting duties equally for more consistent seed trench opening and extended functional life of the opener discs.



A seed tube clip is used on Massey Ferguson Planters to hold the seed tube securely to the shank. Other designs use wings to hold the seed tube away from the disc openers. Wings can transmit movement from the discs to the seed tube resulting in inaccuracy.

The New 9000 Series

The 9000 Series makes some important improvements to the previous designs while preserving the simplicity and commitment to unrivalled accuracy.

Seed Meter

- ► The entry of seed at the lowest area of the seed sump allows gravity to assist in seed pickup as well as more surface area to pick up seed providing superior seed singling.
- ▶ The longer tapered entry to the air cut off brush gently lays the seed down for a more consistent retention of the seed in each seed cell.

Row Unit

- ► The larger double disc seed trench openers (16-inch) allow for deeper seed placement.
- New cast row unit assembly removes the flex/tolerances versus welded construction.
- ► The new cast and machined row unit assembly provides strength and precise, consistent alignment of all components.

Frames

▶ 9812 Forward Fold – 12-row

Seed Depth Adjustment and Indicator

The depth adjustment handle provides adjustment and visual indication of plating depth along all row units from 0.25 to 4.5 inches in 1/4 inch increments. Each notch aligned left and right changes the depth 1/2 inch. Walking the handle one notch at a time,

side to side, increases the depth 1/4 inch. Seed depth placement numbers are moulded into the casting providing a convenient visual indicator of the depth of seed placement (in inches) for each row unit.

Depth Gauge Wheel Adjusting Link

The gauge wheel depth adjustment mechanism contains a threaded bolt for the calibration of the seed planting depth as the seed trench disc openers wear and the diameter is reduced. The patented calibration system provides confidence the depth indicator is



accurate through the entire depth range. Increased yields are experienced as the walking beam gauge wheels equalise the depth of the planted seed between the soil height on the left and right gauge wheel.



Gauge Wheel Arm Shaft Bushing and Seal

The new design incorporates non-metallic composite bushings and shaft seals for maintenance free performance. The seal reduces the ingestion of foreign material into the maintenance-free composite bushings. Extended operating time improves performance and reduces



maintenance to increase the productivity of the planter.

Heavy Duty Gauge Wheel Arms

Additional material has been added to the gauge wheel arms. An increased gauge wheel arm life can be expected in abusive planting conditions. No grease zerks are present in the gauge wheel arm pivot. The pivot bearing incorporate non-metallic composite bushings and shaft seals for maintenance-free



performance. The gauge wheel arm depth stops are cast into the row unit for consistent range of motion between row units.

Bearing and Heavy Duty Cast Hub

The new heavy duty cast hub (retainer) increases the retention of the bearing for greater durability. The new double row ball bearing offers extended bearing life of the seed trench openers.



How it works

- Low-pressure positive air enters the seed meter.
- 2 Seeds are held in each seed cell by the gentle air pressure.
- 3 The seed meter's one moving part, the seed disc, rotates anticlockwise with a seed retained in each cell.
- 4 As the cell reaches the tickler brush, excess seed is removed from the cell if more than one seed is present.
- 5 When the seed advances around the meter, the air cutoff brush gently shuts off the air and holds the seed in place until reaching the bottom of the seed disc rotation.
- 6 The exclusive Edge Drop design of the seed disc gently releases the seed, allowing it to free-fall naturally into the seed tube at regular intervals as accurately and consistently as gravity itself.
- 7 Seed is released in a slight rearward motion permitting the seed to be oriented rearward and fall down the curved seed tube into the seed trench.

Seed Meter Design

- One Meter, Many Crops
 - ► Massey Ferguson Planters plant nearly any row crop: corn, soybeans, natto beans, sunflowers, edible beans, snap beans, cotton, milo, sugar beets, sorghum, or peanuts.
- 2 Positive Air Design Means No Seals to Maintain
 - ► The exclusive design of the positive air metering system completely eliminates the need to annually maintain seals.
- 3 Seed Meter Accuracy
 - ▶ The seed release tangent is near the bottom of the seed disc rotation permitting each seed to be released as the seed is travelling downward and slightly rearward in the curvature of the seed tube. Minimal contact of the seed with the seed tube throughout the seed disc speed range provides superior in-row seed spacing and higher yields.

A Gentle Air Pressure

The air flow dynamics are designed to provide uniform air pressure to all areas of the meter providing exceptional seed retaining presence in each seed cell. The superior seed retention in each seed cell provides superior seed singling accuracy.

B Exclusive Edge Drop Seed Disc Design

The translucent seed disc provides visibility of the seed with the seed disc installed in the meter. No seals are required. Air is permitted to escape through each seed cell orifice and around the edge of the disc as it rotates in the meter. The Edge Drop seed disc provides uninterrupted seed release for precision singling of a wide variety of crops.

C Changing Seed Disc

To change from one crop to another, simply remove the large retaining knob and change to the desired seed disc. No tools are required and there is no need to remove the hopper.

D Seed Meter Throat

The seed meter throat accommodates a large volume of seed. Adequate seed flow to the seed disc is of particular advantage to accurately meter large seed or seed with a tacky surface

E Seed Gate

The seed gate controls the seed level in the meter for precise metering of a wide range of seed sizes. The gate also permits shutting off the seed flow to the meter for convenient removal of the seed disc without removing the meter and hopper from the row unit.

F Seed Sump

Seed pick-up starts at the 6 o'clock position. Superior seed pick-up is provided as the combination of air and gravity pulls seed into the seed cell. Seed is exposed to the seed cell for a longer period of time providing superior seed singling.

G Reliable Tickler Brushes

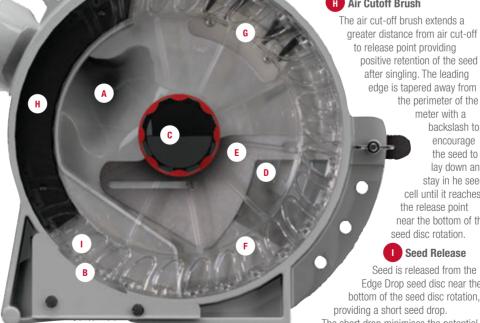
Tickler brushes located at the top of the meter remove doubles and gently drop them back into the seed sump.

H Air Cutoff Brush

after singling. The leading edge is tapered away from the perimeter of the meter with a backslash to encourage the seed to lay down and stay in he seed cell until it reaches the release point near the bottom of the

> seed disc rotation. Seed Release

Edge Drop seed disc near the bottom of the seed disc rotation, providing a short seed drop. The short drop minimises the potential for interference or delay as the seed travels to the seed trench; providing accurate seed spacing.



Features

A High-Rate Seed Sensors (Standard)

Accurately monitors a wide range of seed sizes within a wide range of population rates.

A Seed-Smart Seed Sensors (Optional)

Seed-Smart sensors learn the size of seeds to accurately monitor very small high value seeds at high population levels. A popular option with sugar beet growers.

B Staggered Closing Wheels

The wheels may be staggered for better residue flow between the closing wheels. Staggering also provides superior seed trench closing capabilities in no-till conditions.

Gauge Wheel Bearings

The double-row 40 mm bearings and 16 mm attaching bolt improve the connection between the gauge wheel and the arm. Extended service life of the gauge wheel bearing and attaching hardware can be expected.

D Seed Clip

The seed tube locating clip positively centres the seed drop tube between the opener discs. The clip reduces the potential of the seed tube contacting the rotating disc openers, which causes seed tube vibration and wear. The absence of seed tube vibration assures a more consistent placement of the seed.

E Equalizer Arm

The equalizer arm permits lateral adjustment to obtain proper contact between the opener disc and the gauge wheels. Loosening the retaining bolt and turning the 28 mm hex adjustment mechanism permits lateral adjustment of the closing wheels against the seed trench openers. The geometry of the row unit to the equalizer arm pivot remains consistent through the full range of adjustment and depth settings.

F Seed Meter Accessibility

Open-framed row unit allows unrestricted access to the seed meter for meter inspection and changing seed disc.

G Heavy-Duty Double Disc Seed Trench Openers

The 16" disc openers are 3.5 mm thick for longer life and increased durability. The opposing bearing design permits the disc openers to share the cutting duties equally for extended life and superior cutting action. The opener blades feature double row 26 mm ball bearings with a heavy duty cast hub providing increased retention capacity of the bearing for greater durability and extended service life.

H Heavy-Duty Wheel Arms

The gauge wheel arm incorporates non-metallic composite bushings and shaft seals for maintenance-free performance. The seal reduces the ingestion of foreign material into the maintenance-free composite bushings. Extended operating time improves performance and reduces maintenance to increase the productivity of the planter.

Seed Depth Placement Range

The depth adjustment handle provides a visual indication of plating depth along all row units from 0.25 to 4.5 inches in 1/4 inch increments. Each notch aligned left and right changes the depth 1/2 inch. Walking the handle one notch at a time, side to side, increases the depth 1/4 inch. Seed depth placement numbers are moulded into the casting providing a convenient visual indicator of the depth of seed placement (in inches) for each row unit.

Closing Wheel Adjustment

Closing wheels incorporate a convenient side-to-side adjustment for alignment with the seed trench resulting in better seed-to-soil contact for faster seed germination.

K Sealed Hopper Lids

A positive lock moulded latch ensures a firm attachment of the hopper lid to the hopper. The positive latch in combination with the sealed lid stops air from escaping the hopper and the maximizes efficient use of air supplied to the row units.

Quick Release Meter and Hopper Removal

The hopper mounts into two "C" retainers located at the front of the hopper and retained at the rear by two over-centre latches. Simply disengage the seed meter clutch and lift the meter and hopper off the row unit by tipping the meter and hopper forward. No tools are required.



9100 Series Rigid Frame Planter*

Many operators are looking for a cost-effective planter that can capably handle the wide variety of planting conditions encountered on their operation. The Model 9100 planter is engineered to accept a full complement of liquid or dry fertiliser attachments as well as row-unit-mounted or frame-mounted tillage attachments that make it the ideal match for conventional, reduced tillage, and no-till planting applications.

The 6-row or 8-row 9100 Series main frame is designed to handle the stress of heavy residue and uneven seedbed conditions. And, with the crop versatility of the Massey Ferguson seed metering system, you can quickly change from corn to soybeans by simply changing the seed disc.



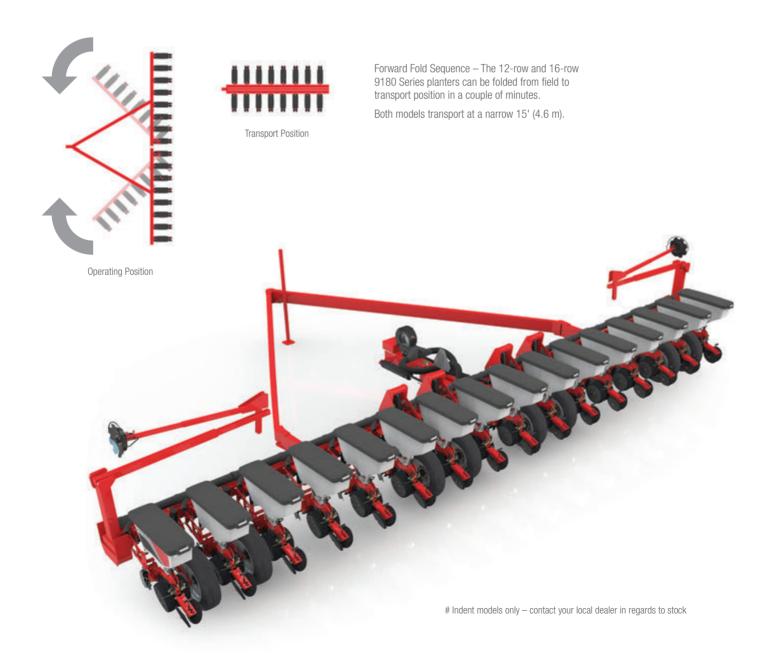
Two Sizes. Many Conditions.

Available in 6-row and 8-row sizes, the 9100 Series is capable of providing uniform seed placement in a wide variety of configurations. Massey Ferguson row unit provides outstanding seed placement in conditions that range from conventional through no-till seeding. The rugged planter is engineered to capably handle a wide variety of optional tillage and fertiliser attachments to expand the capabilities of Massey Ferguson. Available with liquid or granular fertiliser attachments.

9180 Series Forward Fold Planter*

Speed, accuracy and efficiency are all key factors within the narrow window of opportunity during planting season. From the moment you enter the field, the 9180 Series is unfolded and in planting mode in a couple of minutes. Once in planting mode, the 16-row can cover up to a full 40' (12.2 m) each pass, allowing you to precisely plant hundreds of acres a day. When finished, quickly fold to a narrow 15' (4.6 m) from the convenience of the cab for transport to the next field.

The integral 3" x 3" (7.6 cm x 7.6 cm) fertiliser bar provides the ideal platform for mounting a wide selection of optional fertiliser openers. In addition, it enhances structural integrity of the main frame, making the planter the best choice for challenging no-till conditions. The planter accepts conventional, min-till or no-till fertiliser openers that allow you to precisely place starter fertiliser at the selected depth. Available with liquid or granular fertiliser attachments.



9200 Series Wing Fold Planter*

Simplicity of transport is a key consideration with any planter. The 9200 Series wings fold forward to attain a transport width that is nearly half of its field working width. Wing fold planters not only transport narrow, when folded they feature a low and stable transport height. Trifold markers provide a well defined mark to follow even in heavy residue conditions.

Available in rigid or flex frame models, the 9200 Series is offered as a 12-row, 30" row width configuration. The 9202 rigid frame offers one contact tyre seed drive transmission. The 9222 flex frame features two contact tyre seed drive transmissions, one on each half of the planter. No chains are running when the planter is in transport. The absence of drive shafts under the main frame provides optimum under frame clearance for the installation and operation of row-unit-mounted tillage coulters and residue managers.

Row-unit-mounted tillage attachments can be added to prepare a seed zone ahead of the double disc openers. The tillage coulters cut residue and prepare a seed zone to speed soil warm-up and enhance germination rates.

The 9200 Series is equipped with hydraulic wing fold package as standard equipment. The structural design of the wing pivot provides superior strength and durability to accommodate the demands of no-till planting conditions and optional frame mounted fertiliser openers.

The 9200 Series flex frame model hinges at the centre, enabling each wing to flex a full 10 degrees. This enables the frame to flex a full 20 degrees up or down, hugging rolling terrain and terraces. If frame flex is not a requirement on your ground, the 9200 Series is available in a rigid frame model with the same full range of features and attachments.

Row Unit Flexibility

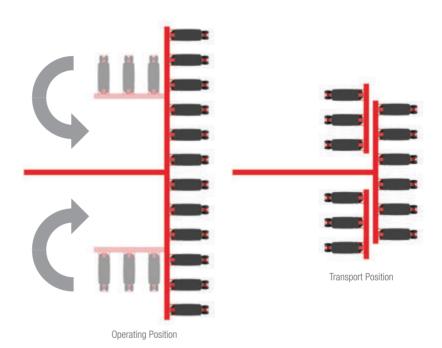
The 9200 Series wing fold planters are designed to accept row-unit-mounted tillage attachments. Optional 3-bushel (0.11 m³) hoppers provide a full 50% more planting time between fill-ups.

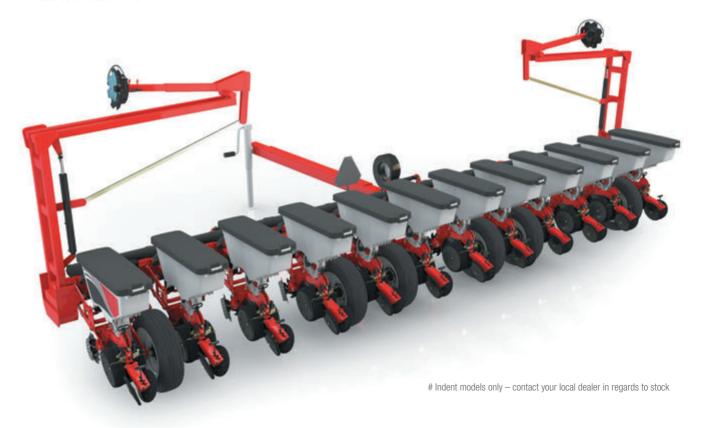
Seed Drive Transmission

Each half of the Model 9222 flex frame planter features an independent contact tyre driven transmission. The Model 9202 rigid frame planter is driven by a single contact tyre driven transmission.

Liquid Fertiliser

For increased productivity, equip the 9200 Series planter with a liquid fertiliser option with two 200-gallon (757 L) poly tanks. A piston meter pump driven by a contact drive tyre dispenses a consistent flow of liquid fertiliser. The ground drive wheels incorporate "float links" providing a smooth, consistent flow of power to the fertiliser pump.





9500 Series Flex Frame^{*}

The 9500 Series Central Fill System (CFS) incorporates time proven design concepts and the 9500 flex frame planters to provide an onboard bulk seed hopper and seed distribution system. The 9500 CFS system allows for more time planting, rather than refilling individual hoppers. The 9500 CFS is designed for planting corn, soybeans, milo, popcorn, and wheat.

The 9500 Series offers a full line of frame and row spacing options that let you tackle a wide range of planting applications. Available row widths of 15" (38 cm), 20" (51 cm) and 22" (56 cm), on frames that range from 30' up to 45' (9.1–13.7 m), the 9500 Series is ideally suited to planting a variety of crops that include corn, soybeans, and sugar beets. When you're ready to switch from 15" (38 cm) soybeans to 30" (76 cm) corn, simply lock up the split rows and quickly change the seed discs. With Massey Ferguson, changing from one crop to another is quick and simple.

Each wing offers an 8-degree flex up or down for a total of 16-degree flex across the width of the frame. Ample flex permits the planter to hug rolling terrain and maintain accurate seed depth the entire working width of the machine. Combine this flexibility with the ability to fold for transport in a couple of minutes and you have a multi-crop planting system designed to get to the field and get the job done.

The 9500 CFS can be configured to plant fields of seed corn or refuge corn (non-Bt). Simply replace the meter cover on specific rows on the outer wings with the 2-bushel or 3-bushel hoppers.

Adjust Population On The Go (applies to all hydraulic drive models)

Every 9500 Series model features variable-rate technology as standard equipment using an ISOBUS compliant terminal.

As you incorporate AGCO technology solutions into your farming operation, the ISO planter is upgradeable to include advanced site-specific planting capabilities.

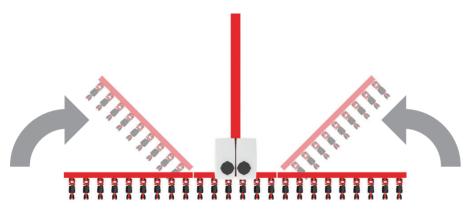
One Planter. Many Applications.

The 9500 excels at conventional, min-till, and no-till farming practices. The unit is designed to accept a wide variety of row-unit-mounted tillage attachments.

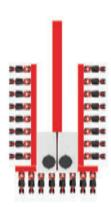
9500 Frame Fold

The forward fold frame design features hydraulically controlled folding of the planter frame from field to transport in a matter of seconds.

A small volume (1/8 bushel, 4404.8 cm³) of seed is maintained at each meter and replenished automatically assuring accurate seed metering (applies to all CFS models).







Transport Position, 9524-22 shown



9700 Series Stacker Toolbar Planters*

The innovative folding mechanism of the 9700 stacker toolbar planter hydraulically lifts the outer wings over the centre section, keeping the chemical and seed hoppers upright for transport. Rear fold markers are low-profile and minimise transport height when in the folded position.

When in the planting mode, the outer wings flex 5 degrees up and 5 degrees down to provide accurate seed depth control the full width of the machine in rolling terrain.

The wings can also be pinned rigid for planting on beds or to provide precise row width for specialty

crop harvesters. Each wing and the centre frame section of the 12- and 16-row stacker toolbar planter feature an independent transmission providing consistent seed-to-seed spacing the full width of the planter.



Operating Position



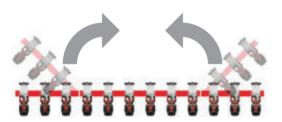
Transport Position



9700 Series Rigid & Vertical Fold Planters*

Each 3-point hitch mounted planter is unmatched in maneuverability and the ability to accurately place corn, soybeans, cotton, sugar beets, peanuts, snap beans and edible beans in conventional tillage and specialty crop applications.

The design of the 9700 Series makes it ideally suited for applications that include conventional tillage, ridge-till, planting on beds, and other applications that do not require a planter mounted fertiliser attachment.



Operating Position



Transport Position



9812, 9816 and 9824 Narrow Transport Planters^{*}

The Models 9812, 9816 and 9824-30 feature a narrow transport width of 12 feet (3.7 m). The Model 9812 is offered in 12-row, 30-inch row spacing. The 9816 is offered as 16-row, 30-inch row spacing and the Model 9824-30" is offered as a 24-row, 30-inch row spacing. Each model is available as ground drive or hydraulic drive and they conveniently fold from planting position to transport position without leaving the tractor cab.

The Models 9812, 9816 and 9824 combine the advantages of the Massey Ferguson positive air seed singling accuracy with the convenience of narrow transport.

Liquid Fertiliser Option

The 750 gallon (2839.1 L) liquid fertiliser attachment may also be combined with the Models 9812, 9816 or 9824 planters equipped with 2- or 3-bushel (0.07 or 0.11 m²) seed hoppers. Double disc or single disc side knife liquid fertiliser openers may be used in combination with row-unit-mounted tillage coulters. An available factory-installed single piston pump and flow divider accurately meters fertiliser to each fertiliser opener on the Model 9812 and 9816. A double piston pump and two 12-row flow dividers are offered for the Model 9824.

The Model 9812 offers a 300 gallon liquid fertiliser attachment in combination with the Central Fill System.

Central Fill System (CFS)

When equipped with CFS, the Models 9812, 9816 and 9824 provide two 45-bushel (1.6 m³) translucent polyethylene hoppers for extended planting between fill-ups and greatly reduce fill-up time. Convenient steps and platform are located at the rear of the planter for access to fill the hopper with seed.

Frame Style

The 9812, 9816 and 9824 planters from Massey Ferguson feature a three-section frame providing exceptional frame durability with user-friendly attachments including row-unit-mounted tillage attachments. The choice of a two-point hitch or drawbar hitch is offered on the 9816 and 9824. Two-point hitch is standard on the Model 9812.

Transport

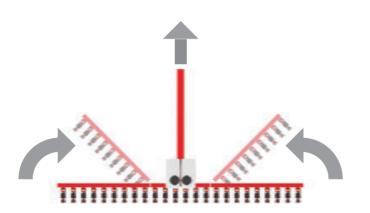
Moving from field to field is more convenient than ever with the narrow transport width of only 12 feet (3.7 m).

Wing Flex

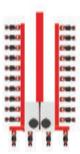
The 30-inch-row-width 9800 Series planters feature wing flex of 21 degrees up and 21 degrees down to provide uniform row unit depth control across the width of the planter in varying terrain.

Flex Shaft Seed Meter Drive with Electric Clutch (Optional)

The Models 9812, 9816 and 9824 feature a "Plug and Play" individual automatic row shut-off system (in combination with a GPS receiver), to control the electric clutches. The weatherproof flex shaft provides a maintenance free operation of the seed meter. The flex shaft provides trouble free operation when planting into standing residue.







Transport Position, 9824 shown



9831 CFS Narrow Transport Planter*

The 31-row 15" (38 cm)/16-row 30" (76 cm) Model 9831 CFS Planter features a unique frame specifically designed to save you time and improve productivity. For starters, it folds to a narrow transport width of 12' 11" (4.0 m) in just minutes — helping you get from field to field quickly and easily. Furthermore, you can count on a generous 33" (83.8 cm) of ground clearance to get through rolling terrain. This underframe clearance also gives you more room for routine maintenance.

Undercarriage Provides Even More Flexibility

The undercarriage itself is unique to the industry. Two trunnion-mounted hydraulic cylinders lift the planter. In the planting mode, the planter lifts the row units $8\text{-}10\text{"}\ (20.3-25.4\ \text{cm})$ above the ground to conveniently turn after each pass across the field. In the transport mode, the planter lifts to its full height for folding the wings.

Wing Section

Each wing section consists of nine row units, with 13 row units on the centre section. To plant 30" (76 cm) corn rows, simply lock up the split rows, leaving five row units on each wing section and six row units on the centre section.

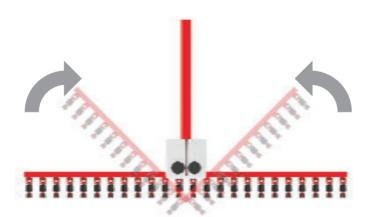
Central Fill Seed Distribution

The 9831 CFS Planter features the same onboard bulk seed distribution system you'll find on the 9500 Series and 9812, 9816 & 9824 Central Fill System. The system includes two 45-bushel (1.6 m³) translucent polyethylene hoppers for a total capacity of 90 bushels (3.2 m³). Each poly hopper sits on a mixing chamber where air and seed are mixed and discharged via a high-capacity blower to individual row units. This proven system saves you from having to fill each individual hopper, so you can spend your valuable time planting instead of refilling.

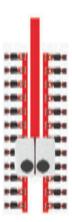
The 9831 CFS is ideal for planting corn, soybeans, milo, popcorn, and wheat. The split rows can be quickly lifted and locked in place to go from 15" (38 cm) narrow rows to standard 30" (76 cm) rows. Hydraulic-drive variable-rate seed metering offers a full range of seeding rates. Standard ISO CAN-based variable rate hydraulic drive varies the seeding rate through your predetermined seeding plan — communicating DGPS position and instructing the planter controller automatically as you move across the field from one grid to another.

Flexing Its Wings

The 9831 CFS is classified as a forward fold, but offers the additional benefits of a three-section flex frame. That means when you are planting, the outer wings will flex as they encounter uneven terrain ... instead of the centre serving as the only pivot point. As a result, you are assured of uniform contact with the ground for more accurate seed placement. The frame also distributes the weight of the planter evenly over the tyres. This design reduces tongue weight, dramatically reducing the stress on the tractor drawbar.







Transport Position



Options and attachments



Single Disc Fertiliser Opener/Liquid Injector

Designed for no-till, minimum till, and conventional tillage operations, this single disc fertiliser opener/liquid injector features a spring-mounted tine injector nozzle for liquid fertiliser application. Liquid fertiliser is placed in the soil without the use of a knife, providing plug-free operation.



Single Disc Fertiliser Opener/Side Knife Liquid or Granular Fertiliser Application

Designed for no-till and minimum tillage applications, this single disc fertiliser opener features an austempered side profile knife to place fertiliser up to 4" (102 mm) deep, providing effective placement of fertiliser with minimal adjustment.



Single Disc Fertiliser Opener/Trailing Knife Liquid or Granular Fertiliser Application

Designed for no-till planting conditions, this 17" (432 mm) disc and knife work well in firm, no-till soil that has residue on the soil surface. The disc cuts residue at the soil surface, and the trailing knife places the fertiliser with minimum soil disturbance.



Double Disc Fertiliser Opener for Liquid or Dry Fertiliser Application

Designed for conventional and minimum tillage applications. Two 13.5" (343 mm) diameter discs are C-spring mounted to an adjustable clamp.

Row Unit Attachments



Combination Residue Manager/Blade

Finger wheels or SharkTooth™ wheels clear seedbed of loose residue while blade works seedbed path. Simply pin the residue wheels up to use the tillage coulter alone.



Tillage Coulter

The row-unit-mounted coulter mounts directly to the face of the row unit and aligns directly ahead of the disc openers. The coulter and the row unit both work off the same parallel links for a precise alignment and depth relationship. The constant alignment of the coulter and disc openers assure that the seed is placed in a seed trench with no air space below the seed that could cause poor seed-to-soil contact and slow germination of the seed.



Floating Residue Manager

13" (330 mm) SharkTooth™ wheel and depth bands provide aggressive residue movement from the path of the row unit. The unit-mounted residue wheels float over the surface and the depth bands assure the right depth of operation and prevent gouging or furrowing of the soil. Floating Residue Managers with finger wheels are also available.



Finger Residue Manager

Ideal for medium to high residue levels, the 13" (330 mm) diameter steel finger wheels clear residue away from the seed opener. Adjusts in 1/4" (6 mm) increments so you can set it low enough to move residue aside, yet high enough to avoid creating an unwanted trench.

	9100 Rigid	9180 Flex	9200 Flex/ Rigid	9500 Flex	9700 Toolbar Rigid	9700 Stacker	9800 Flex	9831 Flex	9936 Flex
Row Unit Attachments									
Angled Rubber Closing Wheels	Χ	X	X	X	Х	X	Χ	X	X
Angled Cast Closing Wheels	Χ	Х	Х	Х	Х	X	Χ	Х	Х
Single "V" Trench Press Wheel (4")	Χ	Х	Х	Х	Х	X	Χ	Х	Х
Standard Duty Down Pressure Springs	Х	X	Х	Х	Х	X	Χ	Х	
Heavy Duty Down Pressure Springs	Χ	Х	Х	Х	Х	X	Χ	Х	
Pneumatic Down Pressure System			Х	Х	Х	12RW, 16R	Χ		Std
Flex Shaft Seed Meter Drive with Auto Row Shut-Off			Х				Χ		Std
Row Unit Mounted Tillage									
Tillage Coulters	Χ	Х	Х	X	Х	X	Χ	Х	X
Residue Managers (30" – 40" Row Spacing)	Χ	Х	X	X	Х	X	Χ		X
Tillage Coulter/Residue Manager Combo (30" – 40" Rows)	Х	X	Х	Х	Х	X	Χ		X
Trash Masters (30" – 40" Row Spacing)	X	Х	Х	Х	Х	X	Χ		Х
Bed Leveller (30" – 40" Row Spacing)	Χ	Х	Х	Х	Х	X	Χ		Х
Frame Mounted Tillage			'	'					
Tillage Coulter	Χ	Х			Х				
Residue Managers	Χ	Х			Х				
Tillage Coulter/ Residue Manager Combo	X	Х			Х				
Strip-Ridge Till	Χ	Х			Х				
Other Options/Attachments									
Liquid Fertiliser	Χ	Х	Х				Χ		X*
Granular Fertiliser	Χ	Х							
Heavy Duty Flat Fold Row Markers	8R	Х	Std	Std	Х		Std	Std	20" & 22"
Rear Fold Low Profile Markers						Х			
Hydraulic Variable Rate Seed Drive				Std	12R	12RW, 16R	Χ	Std	Std
ISOBUS Ready			Х	Х	Hyd Drive Models	Hyd Drive Models	Х	X	Х
Hydraulic PTO Pump	Χ	Х	X	Х	X	X	Χ	Х	

 $^{^{\}star}$ Frame mounted fertiliser openers not available on the 9936

Options and attachments

Row Unit Attachments



Standard-Duty Down Pressure Springs

Provide 5 to 115 lb (2 to 52 kg) down pressure. Recommended for improving row unit stabilisation and penetrating moderate soil conditions.



Pneumatic Down Pressure System

Provide 30 to 400 lb (14 to 181 kg) down pressure. Consists of a central air compressor and a single air bag located between the parallel arms of each row unit. The air pressure down force of all row units is conveniently controlled from one location, providing consistent down force to all row units. Available on select models.



Flex Shaft Seed Meter Drive with Electric Clutch

The drive is placed on each row. It is sealed to provide protection from the elements and provide trouble-free operation. Each drive incorporates an electric clutch controlled through GPS signal that deactivates the clutch to avoid planting into the headland on irregular shaped fields. The electric clutch system also shuts off rows on straight or angled waterways.

Closing Wheels



Angled Rubber Press Wheels

Improve seed-to-soil contact in heavier soil and moderate no-till conditions. Adjust wheels by offsetting them or changing width from 1.25" to 2.88" (32 to 73 mm) for improved performance at various seed depth and soil conditions. Adjustable down pressure: 30 to 275 lb (14 to 125 kg).



Tillage Coulters

5/16" Ripple Blade

Creates little soil disturbance and operates well at all speeds. It provides a narrow seed trench of less than 3/4" (19 mm). For heavy residue or sod, this slices through the toughest conditions.



Angled Cast-Iron Press Wheels

Great for closing the toughest seed trench. Recommended for tough no-till. Adjust wheels by offsetting or changing width for improved performance in high-residue and no-till conditions. Adjustable down pressure: 115 to 310 lb (52 to 141 kg).



3/4" Bubble Blade

Wedges soils apart to provide a V Seed trench and operates well at most speeds. It provides a seed trench profile of less than 3/4" (19 mm) in the bottom to 1-1/4" (32 mm) on the top. Works well in compacted soils with high residue.



Single V Trench Press Wheel

Firms both sides of the seed trench in mellow soil conditions. Advantageous for shallow planting in tilled soil. The centre of the seed trench is capped for a soft top. Adjustable down pressure range is 50 to 133 lb (23 to 133 kg).



7/8" 8, 13 or 25-Flute Blades

The 13-flute provides aggressive soil and residue mixing. The 25-flute is less aggressive. Both operate well at most speeds. They provide a seed trench width of 7/8" to 1-1/4 (22 to 32 mm). Cuts through residue very well and ideal for medium soils.

Fertiliser Metering & Other Attachments



Piston Pump

The variable stroke, double-acting, single or double piston metering pump dispenses a consistent flow of liquid fertiliser. All internal parts that come in contact with fertiliser are stainless steel



Flow Divider Package

The piston pump flow divider provides optimum liquid fertiliser metering accuracy to each fertiliser opener. The application rate per acre remains constant over a wide range of planting speeds.



Drive Wheel Rock Guard

Protects drive chain from rocks and root balls



Disc Trash Master

Two 12" (305 mm) diameter solid discs clear a clean path in front of the seed openers moving residue to the side to avoid hair pinning residue into the seed trench. Adjusts in 1/4" (6 mm) increments.



Blower Inlet Screen

Protects blower system from pulling residue into the air system.

Monitors and Technology ISOBUS Monitor Systems

Harness the full potential of Massey Ferguson with the ISOBUS-Ready system. ISOBUS provides a single-point connection for seed drive control and seed monitor functions, and places the controls inside the cab at the operator's fingertips. ISOBUS is an industry standard that enables single-point connection not only to AGCO manufactured tractors, but any tractor that incorporates ISOBUS technology. Other Attachments



C3000 Terminal/Monitor

Features a highly visible touch screen with icon-based user interface on the 12.1 inch colour display. 4 channel map based variable rate planting automatically adjusts planting/seeding rates using Global Navigation Satellite Systems for ISO controlled planters.

The Auto Row Shut-Off feature controls up to 24 sections of individual rows or 36 rows of dual row control. Compatible with the Auto-Guide 3000.



C1000 Terminal/Monitor

Controls and monitors ISOBUS planters on the 7-inch colour display with soft key operation. 4 channel map based variable rate planting automatically adjusts planting/seeding rates using Global Navigation Satellite Systems for hydraulic seed drive. Compatible with Auto-Guide 3000.

Specifications

Model Family		9100 Rigid	9180 Forward Fold	9200 Wing Fold	9500 Flex Frame ¹	9700 Rigid	9700 Vertical Fold	
Frame Type		pull-type, rigid, single bar	pull-type, horizontal forward fold, flex, single bar, 2-section	pull-type, horizontal forward fold, rigid or flex, single bar, 2-section	pull-type, forward wing fold, flex, single bar ¹ , 3-section	mounted, rigid, single bar	mounted, vertical fold, single bar	
Rows/Spacing Available		6R30, 8R30	12R30, 16R30	12R30	12R30/23R15FN, 24R20, 24R22, 16R30/31R15FN	8R30, 12R30	12R30	
Hitch on Planter		Adjustable Clevis	2-Point hitch, ASAE Category II or III	Adjustable Clevis	Adjustable Tab Hitch	Adjustable ASAE Category	Adjustable ASAE Category	
Frame Flex		none	7° up/7° down	10° up/10° down on flex model	8° up/8° down	none	7° up/0° down	
Frame Siz	e: inches (mm)	7 x 7 (178 x 178)	7 x 7 (178 x 178)	7 x 7 (178 x 178) 7 x 7 (178 x 178)		7 x 7 (178 x 178)	7 x 7 (178 x 178)	
Planting Capabilities		Conventional till No-till Ridge-till	Conventional till No-till Ridge-till	Conventional till No-till	Conventional till No-till	Conventional till No-till Ridge-till	Conventional till No-till Ridge-till	
Standard		ground ground chain & sprockets		ground ISO CAN-based variable rat hydraulic drive		ground chain & sprockets	ground chain & sprockets	
Drive	Optional	none	none	none	none	ISO CAN-based variable-rate hydraulic drive on 12-row	ISO CAN-based variable-rate hydraulic drive	
Transmission – Standard		Quick-adjust, centre- mounted. Interchangeable sprockets provide 32 settings to obtain seed rate increments of less than 4%.	2 transmissions, 1 on each wing, Quick-adjust. Interchangeable sprockets provide 32 settings to obtain seed rate increments of less than 4%.	2 transmissions, 1 on each wing, Quick-adjust, interchangeable sprockets provide 32 settings to obtain seed rate increments of less than 4%.	Hydraulic controller & motor with infinite population settings	Quick-adjust, centre- mounted. Interchangeable sprockets provide 32 settings to obtain seed rate increments of less than 4%.	Quick-adjust, centre- mounted. Interchangeable sprockets provide 32 settings to obtain seed rate increments of less than 4%.	
Lift Syste	m	wheel module w/hydraulic cylinder	wheel module w/hydraulic cylinder	wheel module w/hydraulic cylinder	wheel module w/hydraulic cylinder	tractor three-point hitch	tractor three-point hitch	
Number		4	4 on 12R, 8 on 16R Optional 6 or 8 on 12R	6	6 on 23R, 8 on 16R, 8 on 24R, 8 on 31R	tractor 3 pt + optional rear lift assist	tractor 3 pt + optional rear lift assist	
Tyres	Transport Tyre Size	9.5L-15, 6 ply	9.5L-15, 12 ply	9.5L-15, 12 ply	31x13.5L-15, 12 ply	9.5L-15, 6 ply	9.5L-15, 6 ply	
	Number of Trans Tyres	4	2 on 12R, 4 on 16R	4	4	_	-	
	Total Tyres per Planter	4	4 on 12R, 8 on 16R	6	8 (6 on 23R)	2 (4 on 12R 30")	4	
	Optional	_	2 Trans & 2 Drive on 12R	_	_	2 on lift assist models	2 on lift assist models	
Metering	Units	9000 Series, low pressure air system with hydraulically driven blower	9000 Series, low pressure air system with hydraulically driven blower	9000 Series, low pressure air system with hydraulically driven blower	9000 Series, low pressure air system with hydraulically driven blower	9000 Series, low pressure air system with hydraulically driven blower	9000 Series, low pressure air system with hydraulically driven blower	
Blower	Standard	direct drive from tractor remote valve	direct drive from tractor remote valve	direct drive from tractor remote valve	direct drive from tractor remote valve	direct drive from tractor remote valve	direct drive from tractor remote valve	
Drive	Optional	pto-driven hydraulic pump	pto-driven hydraulic pump	pto-driven hydraulic pump	pto-driven hydraulic pump & reservoir	pto-driven hydraulic pump on ground drive models	pto-driven hydraulic pump on ground drive models	
Hopper Capacities Seed Hopper ² : bu (L)		2 or 3 (70.5 or 105.7)	2 or 3 (70.5 or 105.7)	2 or 3 (70.5 or 105.7)	CFS 90 (31720, 2@45 (1586), 2 or 3 (70.5 or 105.7)	2 or 3 (70.5 or 105.7)	2 (70.5)	
Fertiliser	Capability	liquid or granular	liquid or granular	liquid	none	none	none	
Standard Markers		vertical rigid arm on 6RN vertical bifold on 8R	vertical bifold on 12R vertical bifold w/ extension on 16R	trifold	flat fold breakaway on 23R trifold on 16R, 24R & 31R	vertical bifold arm	vertical bifold arm	
	Optional	flat fold breakaway for 8R	flat fold breakaway on 12R trifold breakaway on 16R	none	none	flat fold breakaway	none	
Remote C Requirem	ontrol Valve ents	2 for tractor hydraulic-driven blower, 1 with pto-driven blower pump	3 for tractor hydraulic-driven blower, 2 with pto-driven blower pump	3 for tractor hydraulic-driven blower, 2 with pto-driven blower pump	3 for tractor hydraulic-driven blower, 2 with pto-driven blower pump	2 for tractor hydraulic-driven blower, 1 with pto-driven blower pump	2 for tractor hydraulic-driven blower, 1 with pto-driven blower pump	
Monitor	Standard	SM100	SM400SE	C1000	C1000	SM100 up to 8R, SM400SE on 12R ground drive, C1000 on 12R hydraulic drive SM300 up to 8R	SM400SE on 12R ground drive, C1000 on 12R hydraulic drive	
	Optional	SM300	C1000 or C3000	C3000	C3000	C3000 on 12R hydraulic drive	C3000 on 12R hydraulic drive	
Carrie	Standard	High Rate	High Rate	High Rate	High Rate	High Rate	High Rate	
Sensors Optional		none	Seed Smart	Seed Smart	Seed Smart	Seed Smart on 12R	Seed Smart	
ISOBUS-F	leady	No	No	No	Yes	Yes, when equipped with hydraulic drive option	Yes, when equipped with hydraulic drive option	
Transport	Width: ft (m)	6RN - 16'1" (4.90) 8RN - 20'9" (6.32)	12RN & 16RN – 15' (4.57)	16'4" (4.98)	23R15 & 31R15 - 16'8" (5.08) 24R20 - 16'3" (4.95) 24R22 - 15'8" (4.78)	8RN – 20'9" (6.32) 12RN – 30'9" (9.37)	12RN - 21'4" (6.50)	

9700 Stacker Toolbar	9812	9816	9824	9831	9936	
mounted, stack fold, single bar	Narrow Transport	Narrow Transport	Narrow Transport	Narrow Transport/ Narrow Row	Large Frame – Flex	
12R30, 12R36, 12R38, 12R40, 12R30 16R30		16R30	24R30	31R15/16R30FN	36R20, 36R22, 36R30	
Adjustable ASAE Category III or IIIN	3 pt or Drawbar	3 pt or Drawbar	3 pt or Drawbar	Adjustable Tab Hitch	Drawbar Swivel Hitch	
° up/5° down or pin rigid 21° up/21° down		21° up/21° down	21° up/21° down	10° up/10° down	36R-30"= 42° each wing (2 section wing), 36R-20" & 36R-22" = 21° degrees each wing	
7 x 7 (178 x 178)	7 x 7 (178 x 178)	7 x 7 (178 x 178)	7 x 7 (178 x 178)	7 x 7 (178 x 178)	7 x 7 (178 x 178)	
Conventional till No-till			Conventional till No-till Conventional till No-till		Conventional till No-till	
ground chain & sprockets	ISO CAN-based variable-rate hydraulic drive	ISO CAN-based variable-rate hydraulic drive	ISO CAN-based variable-rate hydraulic drives	ISO CAN-based variable rate hydraulic drive	ISO CAN-based variable rate hydraulic drive	
ISO CAN-based variable-rate hydraulic drive (8792 and 8776)	Ground drive chain and sprockets	Ground drive chain and sprockets	Ground drive chain and sprockets	none	none	
3 transmissions on 12RN, 1 on 8R Quick-adjust, centre-mounted. Interchangeable sprockets provide 32 settings to obtain seed rate increments of less than 4%		Hydraulic controller & motor with infinite population settings	Hydraulic controller & motor with infinite population settings	Hydraulic controller & motor with infinite population settings	Hydraulic controller & motor with infinite population settings	
tractor three-point hitch	wheel module w/hydraulic cylinder	wheel module w/hydraulic cylinder	wheel module w/hydraulic cylinder	wheel module w/hydraulic cylinder	dual master slave	
	6	8	10	6	4 on 36R-20" & 36R-22" 8 on 36R-30	
9.5L-15, 6 ply	10:00 15 F1 Load range D	255-70R 22.5 radial load range H	255-70R 22.5 radial load range H	32/15.5 X 16.5, 14 ply	36R-20", 36R-22", 36R-30": (2) 30" x 67" Tracks	
_	4	4	4	4	36R20" & 36R-22" 2 tyres per wing: total of 4 per planter.	
2 on 8R, 4 on 12R	6	8	10	6	36R-30" 4 tyres per wing: total of 8 per planter	
-	_	_		_	Tyres: 33x15.5-16.5, 12 ply	
9000 Series, low pressure air system with hydraulically driven blower	9000 Series, low pressure air system with hydraulically driven blower	9000 Series, low pressure air system with hydraulically driven blower	9000 Series, low pressure air system with hydraulically driven blower	9000 Series, low pressure air system with hydraulically driven blower	9000 Series, low pressure air system with hydraulically driven blower	
direct drive from tractor remote valve	direct drive from tractor remote valve	direct drive from tractor remote valve	direct drive from tractor remote valve	direct drive from tractor remote valve	direct drive from tractor remote valve	
pto-driven hydraulic pump	pto-driven hydraulic pump and reservoir	pto-driven hydraulic pump and reservoir	pto-driven hydraulic pump and reservoir	pto-driven hydraulic pump and reservoir	none	
2 (70.5)	2 or 3 or 90 CFS	2 or 3 or 90 CFS	2 or 3 or 90 CFS	90 (3172), 2 @ 45 (1586)	150 CFS	
none	liquid	liquid	liquid	none	liquid	
2-section, rear fold	bifold breakaway	trifold breakaway	trifold breakaway	trifold breakaway	_	
none	none	none	none	none	36R-20" & 36R-22"	
3 for tractor hydraulic-driven blower, 2 with pto-driven blower pump	blower, 2 with pto-driven blower, 2 with pto-driven		4 for tractor hydraulic-driven blower, 3 with pto-driven blower pump	4 for tractor hydraulic-driven blower, 3 with pto-driven blower pump	4 for tractor hydraulic-driven blower	
SM400SE on ground drive, C1000 on hydraulic drive	C1000	C1000	C1000	C1000	C3000	
C3000	C3000	C3000	C3000	C3000	none	
High Rate	High Rate	High Rate	High Rate	High Rate	High Rate	
Seed Smart on 12R	Seed Smart	Seed Smart	Seed Smart	Seed Smart	Seed Smart	
Yes, when equipped with hydraulic drive option	Yes	Yes	Yes	Yes	Yes	
12R30 - 20'8" (6.30) 12R36 - 20'4" (6.20) 12R38 - 25'0" (7.62) 12R40 - 25'0" (7.62) 16R30 - 26'2" (7.97)	12' (3.65)	12' (3.65)	12' (3.65)	12'11" (3.94)	9936-20 & 9936-22: 16'2" 9936-30: 15'	

Note: 1. All models of 9500, except 24R30, use a $3" \times 7"$ bar to mount row units to main $7" \times 7"$ bar. 2. All planters with split rows feature lock-ups.

Every effort has been made to ensure that the information contained in this publication is as accurate and current as possible. However, inaccuracies, errors or omissions may occur and details of the specifications may be changed at any time without notice. Therefore, all specifications should be confirmed with your Massey Ferguson Dealer or Distributor prior to any purchase.







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