

MORRIS

QUANTUM

AIR DRILL



WE GROW BETTER CROPS

morrisequipment.ca



Take your operation to the next level.

Farmers who own Morris Equipment tell us they grow better crops and appreciate our established reputation for accuracy and reliability.

Farmers #1 challenge today is getting their crop planted on time. They are achieving this with larger machines and more hours in the field. Our customers have told us: stay the course on precision and reliability and shift your design focus to making our equipment easier to use and building it to last. The Quantum drill is chock full of ideas to make those long hours more productive with automated features like our ICT sectional control system, headland management and packing force control. The all-new frame built with the Duraloc™ welding joint, heavy duty cast row units and the extensive use of stainless steel demonstrate our commitment to building equipment that passes the test of time.

Our Customers tell us they grow better crops with Morris Equipment.

Why settle for a good crop when you can grow a great crop?



Seeded same day, same rates, same depth, same fertilizer placement

In this demonstration in Falher, AB, the Morris canola population was 7 plants/ft² and was a full leaf stage more advanced versus the farmer's independent opener machine at 5 plants/ft². Rapid uniform emergence and low seedling mortality is why Morris Quantum owners know they grow better crops.



Agronomically Superior by Design

Accurate depth control:

In 2008, Morris introduced the Contour drill, the first independent opener drill with a 1:1 contour ratio.

It was a superior design, so Morris continued to incorporate the same principles into the Quantum row unit. Other competitors have since followed our lead.

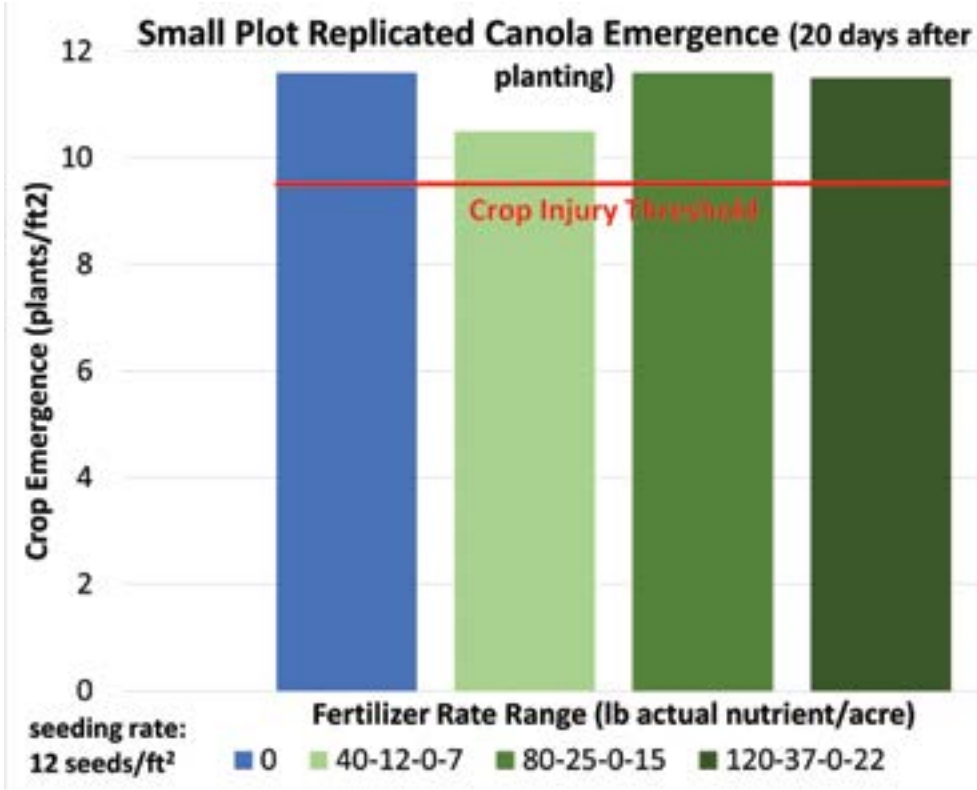


Outstanding fertilizer-seed separation

The Morris double shoot openers are a patented design that provide outstanding seed and fertilizer separation. Seed is directed to the outer edge of the seed bed with 90% of the seed found in a 1" wide ribbon (a 50-70% range is typical for same plane double shoot openers). Fertilizer drops into a channel cut by the opening knife and stays where it's put.

How much fertilizer can I safely apply in the band?

We use a crop injury threshold to provide our customers with advice on safe fertilizer rates.



This threshold is set at 85% of the unfertilized crop emergence. Any fertilized crop with emergence at or above the crop injury threshold is acceptable. The small plot replicated canola summary shows that all fertilizer rates tested are above the red line and safe.

Superior product separation leads to more rapid uniform crop emergence and reduced seedling mortality.

Soil-Seed Contact

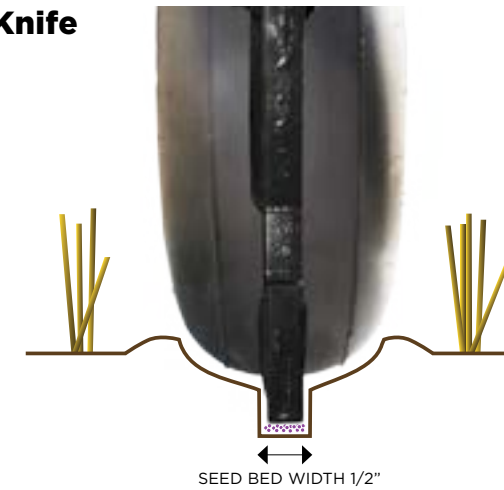
To promote uniform seed germination, we pack the soil around the seed. Packing breaks down large soil aggregates and reduces soil porosity, which allows water to move from higher soil moisture areas to the packed soil surrounding the seed.

Morris has been deliberate in our design efforts to optimize soil-seed contact and seed germination. Our double shoot openers are designed to minimize soil fracturing and maximize soil flow around the boot and into the furrow prior to packing. The packer tire then applies downforce that is distributed across an optimized surface area.

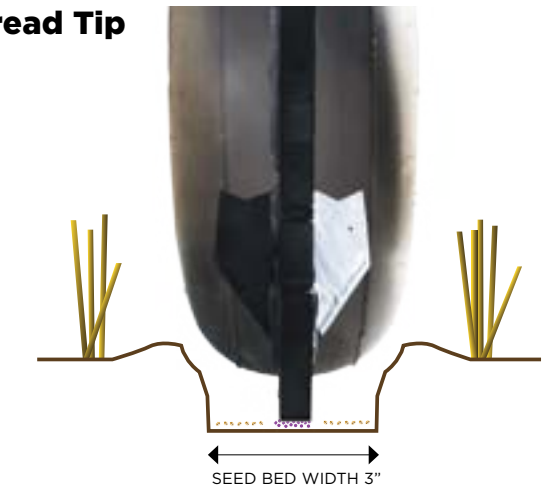
Single & Double Shoot Openers

Single Shoot

Narrow Knife

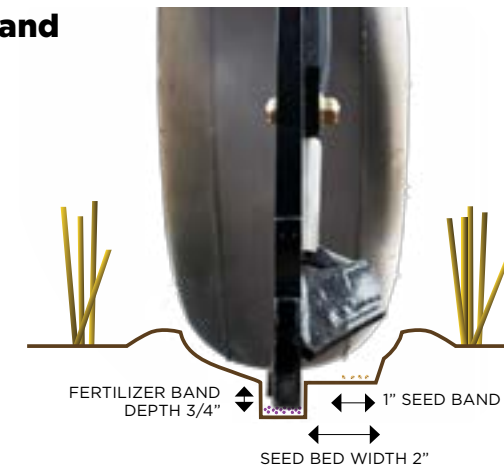


3" Spread Tip

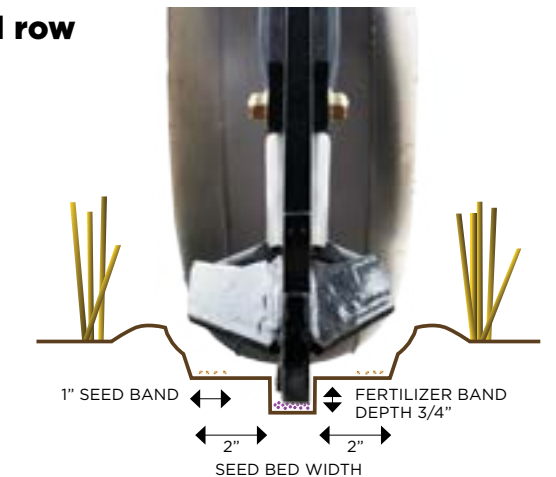


Double Shoot

Side band



Paired row



Key design elements Morris double shoot openers employ to minimize soil disturbance:

1. The 1/2" wide nose opens the soil and cuts rather than fractures soil.
2. The narrow injected polymer boot.
3. Carbide covers the shovel surface to improve wear life and minimize soil disturbance.

The Morris Quantum row unit is the HEAVIEST BUILT in the market.

Our rugged and ultra-durable cast row unit is designed for years of trouble-free service on your farm.



1. 1" Chrome pins at all connections.

5. Cast packer arm

Built heavy duty with left and right versions to eliminate skewing.

2. Packer options

- a. 5.5" x 16" Otico semi-pneumatic
- b. 5.5" x 16" semi-pneumatic
- c. 4.5" x 16" semi-pneumatic
- d. 4" x 16" V-packer

3. Hose holder

A hose holder eliminates the need for hose clamps to fasten the secondary hoses to the boot.

4. Depth Cam

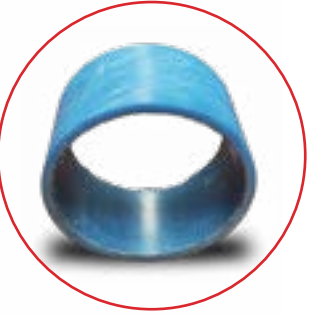
Changing depth on the Quantum is easy. The letter stamped on the depth cam represents 1/4" change in depth.

6. Patented frame mounting system

This mounting system lifts and tightens the row unit square to the frame.

7. Hydraulic cylinder

Our hydraulic ram is designed for years of trouble-free use. Our cylinder rod is 1" diameter and has an over-sized piston that keeps the shaft centered throughout the range of travel.



8. Bushings

Morris uses extended wear bushings for its greaseless pivot points with 75% greater wear area than leading competitors.

9. Extended depth range

A removable shim below the depth cam can increase seeding depth by 1".



1:1 contour ratio. Why settle for less than the best?

This parallel linkage system has 16" of vertical travel when the depth control and penetration angle of the opener does not change. **This means superior crop emergence on the crowns of hills and through washouts.**

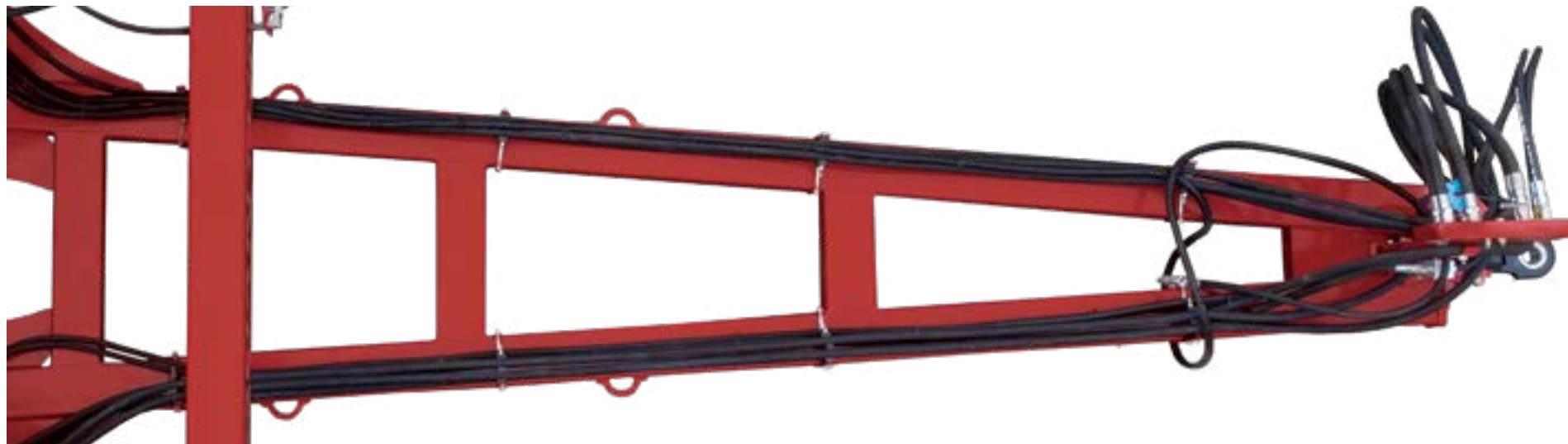
Re-inventing the air drill



Air drill frames have traditionally been fastened with butt joints and reinforced with gusseting to reduce frame cracking. Morris invested in a tube laser and this allowed us to develop and patent a new stronger welding joint to build frames. The Duraloc™ welding joint possesses 154% greater breakaway strength according to third party testing.

Durability

From the front hitch to the back, and every millimetre in between, the all-new Quantum is completely redesigned from the ground up for exceptional strength, durability, and longevity.



Class leading trash clearance and row spacing choice.



Row Spacing Options:

- a. 10", 12" & 15" imperial spacing.
- b. 25, 30 & 38 cm metric spacing.

Trash Clearance:

Better trash clearance saves you time and money! Spending more time seeding and less time preparing your land to seed just makes sense. Optimizing trash clearance starts at ground contact so the Quantum row unit design has an oversized influence on trash flow. The high catch point and reclined shank allow a fluid and consistent flow of crop residue through the Quantum frame. Morris offers an optional 4th row kit to increase trash flow versus the normal three 3 rank configuration.



Strong hitch

Engineered tough, without compromise! Placing the centre row unit at the rear of the drill is one of the new ideas Morris has used to make this heavy duty hitch.



Big Primaries, Big Capacity.

The primary lines on the Quantum drill have been increased to 3" diameter to accommodate the increased fertilizer rates farmers use today to maximize yields. Stainless pipe is used in straight sections and urethane-lined flexible hose in curves and wing-folds. Primary lines are plumbed outside the frames to eliminate the possibility of catching and kinking during folding into transport.



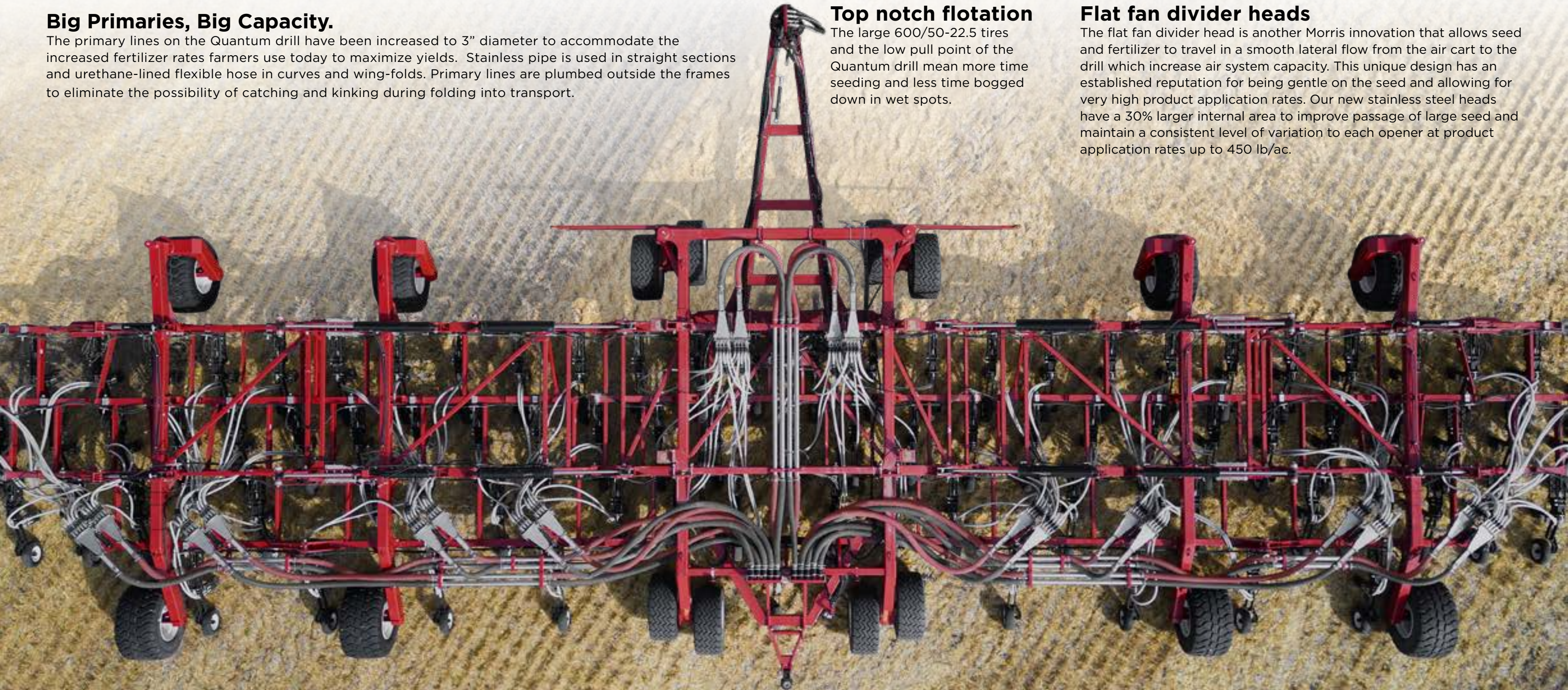
Top notch flotation

The large 600/50-22.5 tires and the low pull point of the Quantum drill mean more time seeding and less time bogged down in wet spots.



Flat fan divider heads

The flat fan divider head is another Morris innovation that allows seed and fertilizer to travel in a smooth lateral flow from the air cart to the drill which increase air system capacity. This unique design has an established reputation for being gentle on the seed and allowing for very high product application rates. Our new stainless steel heads have a 30% larger internal area to improve passage of large seed and maintain a consistent level of variation to each opener at product application rates up to 450 lb/ac.





Productivity Boosting Features

The Topcon controls used on the Quantum drill are second to none.

Pressure Control

From the convenience of your tractor, you can increase or decrease operating pressure to optimize the Quantum drill's performance in different soil conditions. The drill is lifted and lowered on headlands without touching the hydraulic remote.

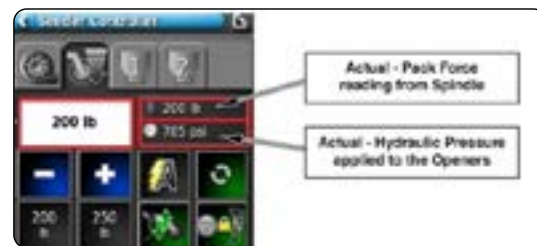


Input Control Technology (ICT)

The ICT sectional control system Morris developed and perfected on our 9 Series air carts is controlled by TopCon resulting in a fully automated system that prevents over-application of seed and fertilizer by shutting off sections that are typically 7-8' widths.

Headland Management

This optional feature automatically lifts and lowers the drill as it enters or exits headlands. This is a great convenience feature that minimizes seed and fertilizer over-application.



Packing Force Control

This optional feature regulates packing force by automatically changing operating pressure required for variable soil conditions. Packing control optimizes seed depth control and field finish while minimizing soil disturbance.

Alternative Pressure Control



JEM Pressure Control

The JEM controller is used for pressure control with Morris mechanical drive carts and non-Morris air carts. The controller will increase and decrease pressure in 25 psi increments as well as lift and lower the drill while the tractor hydraulic remote is engaged.

| Base Size | Models | | | | | | |
|---|---|--|----------------------------------|----------------------------------|----------------------------------|---|------------------------|
| | 40' or 12 m | 50' or 15 m | 60' or 18 m | 70' or 21 m | 80' or 24 m | | |
| Weight Cast Row Units (Includes Double Shoot Distribution) | - 10" Spacing | 28,289 lb | 32,750 lb | 41,721 lb | 45,182 lb | 66,100 lb | 65,700 lb |
| | 250 mm Spacing | 12,832 kg | 14,855 kg | 18,924 kg | 20,494 kg | 29,982 kg | 29,801 kg |
| | - 12" Spacing 300 mm Spacing | 26,605 lb 12,068 kg | 30,680 lb 13,916 kg | 39,115 lb 17,742 kg | 42,120 lb 19,105 kg | 63,400 lb 28,758 kg | 63,000 lb 28,576 kg |
| | - 15" Spacing 380 mm Spacing | 24,971 lb 11,327 kg | 28,570 lb 12,959 kg | 36,649 lb 16,624 kg | 39,258 lb 17,807 kg | N/A | N/A |
| Working Width | - 10" (250 mm) | 40' (12 m) | 50' (15 m) | 60' (18 m) | 70' (21 m) | 80.83' | 24 m |
| | - 12" (300 mm) | 40' (12 m) | 50' (15 m) | 60' (18 m) | 70' (21 m) | 80.70' | 24 m |
| | - 15" (380 mm) | 40' (12.16 m) | 50' (15.2 m) | 60' (18.24 m) | 70' (21.28 m) | N/A | N/A |
| Number of Shanks | - 10" (250 mm) | 48 | 60 | 72 | 84 | 97 | 95 |
| | - 12" (300 mm) | 40 | 50 | 60 | 70 | 82 | 80 |
| | - 15" (380 mm) | 32 | 40 | 48 | 56 | N/A | N/A |
| Frame Width | - Main | 14.35' (4.37m) | 14.35' (4.37m) | 14.35' (4.37m) | 14.35' (4.37m) | 19.25' (5.87m) | |
| | - Wing Inner | 13.60' (4.15m) | 13.60' (4.15m) | 13.65' (4.16m) | 15.65' (4.77m) | 13.65' (4.16m) | |
| | - Wing Outer | - | - | 10.15' (3.09m) | 13.16' (4.01m) | 10.77' (3.28m) | |
| | - Flip Wing | - | 5.03' (1.53m) | - | - | 5.98' (1.82m) | |
| Transport Position | - Width | 17' 10" (5.44m) | 17' 10" (5.44m) | 17' 10" (5.44m) | 17' 10" (5.44m) | 25.10' (7.65m) | |
| | - Height | 16' 10" (5.13m) | 16' 10" (5.13m) | 16' 10" (5.13m) | 19' 1" (5.82m) | 18.35' (5.59m) | |
| | - Length | 33.83' (10.31m) | 33.83' (10.31m) | 33.83' (10.31m) | 33.83' (10.31m) | 33.83' (10.31m) | |
| Tires | - Main Frame Front Castor Wheels | Single Castor (2) 600/50R22.5 | Single Castor (2) 600/50R22.5 | Single Castor (2) 600/50R22.5 | Single Castor (2) 600/50R22.5 | Dual Castor (4) 445/50R22.5 | |
| | - Main Frame Rear Wheels | Single Axle (2) 600/50R22.5 | Single Axle (2) 600/50R22.5 | Single Axle (2) 600/50R22.5 | Single Axle (2) 600/50R22.5 | Dual Walking Beam (4) 445/50R22.5 or Single Axle (2) 650/55R26.5 | |
| | - Wing Frame Front Castor Wheels | Single Castor (2) 600/50R22.5 | Single Castor (2) 600/50R22.5 | Single Castor (4) 600/50R22.5 | Single Castor (4) 600/50R22.5 | Single Castor (4) 600/50-22.5 | |
| | - Wing Frame Rear Wheels | (1 per wing) (2) 600/50R22.5 | (1 per wing) (2) 600/50R22.5 | (1 per wing) (4) 600/50R22.5 | (1 per wing) (4) 600/50R22.5 | (1 per wing) (4) 600/50-22.5 | |
| Opener | - Trip Out Force | Maximum 800 lbs (363 kg) at 1200 psi (8274 kPa) | | | | | |
| | - Packing Force | 100 lbs to 230 lbs (45 kg - 104 kg) | | | | | |
| | - Packer Wheel | 4.50" x 16" Semi Pneumatic 5.50" x 16" Semi Pneumatic Orico tire 5.50" x 16" Semi-Pneumatic 4.00" x 16" "V" Crown | | | | | |
| Opener to Ground Clearance | 12" (30.5 cm) | | | | | | |
| Frame to Ground Clearance | 36" (91.4 cm) | | | | | | |
| Frame Depth | 84" (213.4 cm) center to center | | | | | | |
| Rank to Rank Spacing | 42" (106.7 cm) center to center | | | | | | |
| Number of Ranks | 3 Rows 4th Row Optional on 40 ft to 70 ft and is standard on 80 ft. | | | | | | |
| Shank to Shank Spacing | 30" (750 mm) on 10" (250 mm) Spacing 36" (900 mm) on 12" (300 mm) Spacing 45" (1140 mm) on 15" (380 mm) Spacing | | | | | | |
| Weight Kit | Optional | | | | | | |
| Safety Lights | Standard | | | | | | |
| Hitch Clevis | Standard - Category 4 Optional - Category 5 | | | | | | |
| Safety Chain | Standard | | | | | | |

Specifications are estimates and subject to change.

MORRIS

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The policy of MORRIS EQUIPMENT LTD. is one of continuing improvement; therefore, the company reserves the right to change any specification without notice.