Amity TECHNOLOGY

Amity Seeding Equipment

Amity knows agriculture

Amity Technology™ is a fourth-generation manufacturing company. Founders Howard Dahl and Brian Dahl are grandsons of E. G. Melroe, who founded Melroe Manufacturing Company, and sons of Eugene Dahl. Eugene was a partner at Melroe and provided leadership to Steiger Tractor as it grew from $2 million in annual sales to more than $100 million in six years. In 1977, Howard and Brian Dahl incorporated Concord, Inc., which became the leading U.S. air drill manufacturer. Concord had a particularly strong role in bringing air seeding technology to the CIS (former Soviet Union). The Dahls sold most of Concord to Case Corporation in 1996. Howard and Brian used assets not purchased by Case to launch Amity Technology.

The Amity edge

Today, Amity Technology provides products on the leading edge of agricultural technology – all to help producers cut costs and increase yields. Besides its long history in developing proven air seeding equipment like the Concord® Air Drill, Amity also manufactures a superior line of sugar beet equipment. The company also manufactures and distributes soil sampling equipment, plus provides crop management tools to boost farmers' fertility, soil management, seeding and other practices. Amity products are distributed throughout the world, with the company's research, development, manufacturing and headquarters in Fargo, N.D.

ISO:9001 quality certification **Amity Technology is now ISO:9001 registered for quality standard certification. Amity achieved the certification in August 2007, recognizing the company's quality management systems and programs. The ISO premise is that consistency creates reliability, which leads to excellence in product design, manufacturing and end use. The Amity Single Disc Drill is just one of the products produced through ISO-certified quality systems and processes.**

Consider the history of seeding: For decades, double disc box drills dominated the market. In the 1980s, air delivery with shank openers changed the market.

Ten years later, it was single disc drills with air delivery. **In 2008, Amity Technology introduced the Single Disc Drill. Now tested for two seasons, farmers are finding significant advantages with the new Amity Single Disc Drill.**

The first new drill technology in 20 years

Amity Single Disc Drills are uniquely simple, easy to operate and maintain.

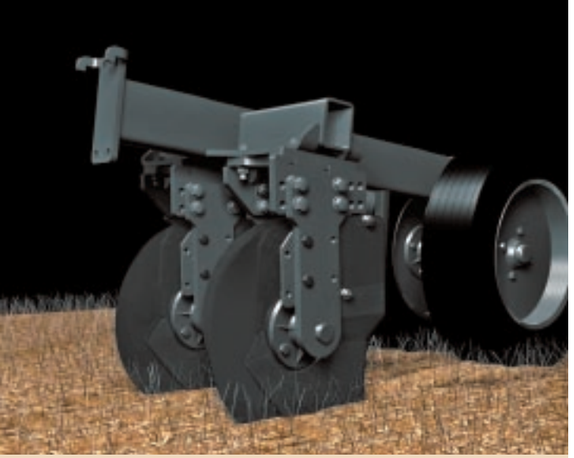
The Single Disc Drill story **First invented and patented in Australia, the team at Amity (the same people who created and marketed the revolutionary Concord Air Till Drill) saw the potential of the Single Disc Drill. Amity bought it and brought the implement manufacturing to Fargo, North Dakota.**

Amity tested an initial run of 25 Single Disc Drills in the northern plains in 2008. Amity saw needed design modifications to seed effectively into heavy clay soils, and spent the fall and winter 2008 – 2009 making changes necessary to seed in soils common throughout North America.

No-till, minimum till or conventional till: The Amity Single Disc Drill works equally well in all three conditions. Down pressure adjustment on the openers from the tractor cab eliminates the need for opener adjustments. The primary disadvantages of no-till with other single disc designs—hair pinning and side wall compaction—simply do not occur with the Amity Single Disc Drill.

Field proven for no-till and conventional tillage

The Amity Single Disc Drill has been customer-proven in a variety of soil, residue and moisture conditions in North America, Australia, Ukraine and other locations, where growers report this is the drill of choice for consistent seeding.



The Amity Single Disc Drill does not have a gauge wheel running next to the disc. This allows the soil to lift and flow back against the packer to be re-leveled over the seed furrow.

Competitive drills' gauge wheels run next to their discs, firmly holding residue and soil in place. If the residue is not cut, it is tucked into the seed furrow. Even when seeding into very wet, humid residue, Amity Single Disc Drill operators have not reported tucking as a problem. They also haven't had to wait for residue to dry.

On other drills, the gauge wheel position also causes sidewall compaction, or smearing. By trying to hold the soil in place, certain conditions actually compress soil against the blade, causing a compacted seed furrow. Smeared or compacted sidewalls also inhibit root development and, ultimately, yield.

The Amity patented "opposing single discs" lift and displace the soil between the two narrow 6-inch rows. The loosened soil coming off of the twin discs, flows back against the trailing packer which re-levels and firms the soil over the seed rows. This soil displacement eliminates sidewall compaction, hair pinning, and open seed furrows while leaving a 6-inch blackened strip to encourage soil warming.

Amity Single Disc Drills eliminate hair pinning, sidewall compaction

The discs lift and displace soil from the seed furrow and create enough loose dirt for the packer wheels to adequately pack.

Right away, you'll notice details that make the Single Disc Drill easier to operate and maintain, including:

- One rank seed openers
- Single point down pressure control
- On-the-go down pressure adjustment
- No springs on seed openers
- Low hp requirements
- Superior seed placement, even at high speeds
- Option to band NH_3 in mid-row band
- Easy depth control adjustments
- Simple daily maintenance (two 25 hour grease zerks per transport tandem)
- Annual greasing of bearings on all discs and packer hubs

Depth control adjustment

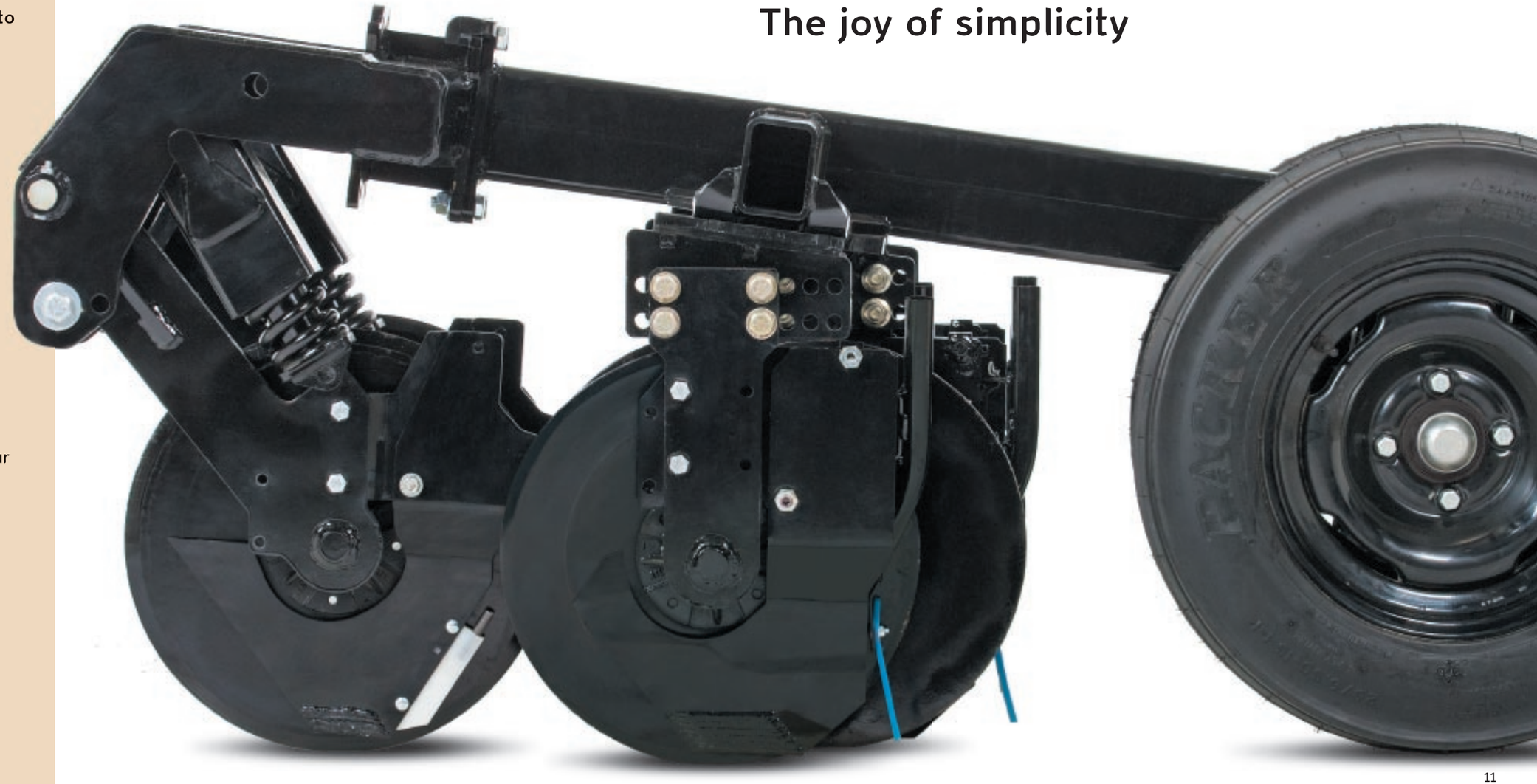
Height of the drill frame sets the depth of the row units. As the drill rises, the discs seed shallower. As the drill frame lowers, the discs seed deeper. Packer tires hold the discs precisely at seeding depth.

Depth control collars, in the frame cylinders, hold frame exactly at desired height.

Precise down pressure

The down pressure is precisely maintained by a hydraulic cylinder on each tool bar. The pressure is constant throughout the entire range of cylinder travel. Pressure on the cylinders is controlled by the operator on-the-go. A pressure gauge, mounted for easy visibility, allows the operator to monitor down force on toolbars.

The joy of simplicity



A drill for your farm

Drill size	Sug. tractor hp*
30 feet	210–260 hp
40 feet	250–320 hp
50 feet	300–360 hp
60 feet	360–425 hp

*Consider air cart size, hills and soil type to determine tractor horsepower ahead of the Amity Single Disc Drill

30 feet

40 feet

50 feet

60 feet

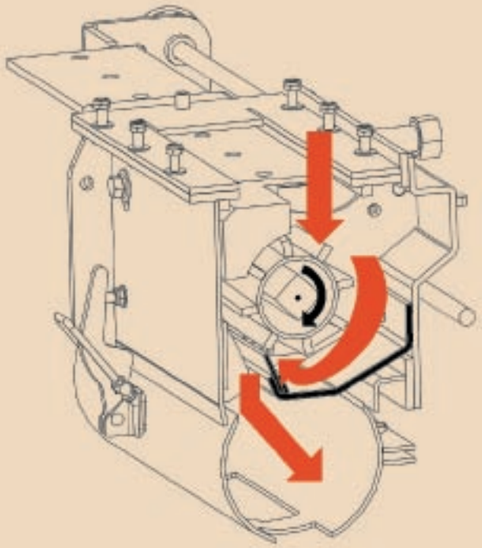
Single Disc Drill Specifications:

Width	30	40	50	60
Sections	3	3	3	5
Total weight	21,200 lbs. (9,616 kg)	26,500 lbs. (12,020 kg)	38,500 lbs. (17,463 kg)	42,500 lbs. (19,278 kg)
Weight with banders	24,500 lbs. (11,113 kg)	31,000 lbs. (14,061 kg)	44,000 lbs. (19,958 kg)	49,000 lbs. (22,226 kg)
Weight of ballast kit	1,280 lbs. (581 kg)	1,620 lbs. (735 kg)	2,220 lbs. (1,007 kg)	2,900 lbs. (1,315 kg)
Working width	30 ft. (9.1 m)	40 ft. (12.2 m)	50 ft. (15.2 m)	60 ft. (18.3 m)
Transport width	14 ft. 3 in. (4.3 m)	18 ft. 11 in. (5.8 m)	21 ft. 6 in. (6.6 m)	21 ft. 6 in. (6.6 m)
Transport clearance	0–20 in. (50.8 cm)	0–20 in. (50.8 cm)	0–20 in. (50.8 cm)	0–20 in. (50.8 cm)
Height	14–15 ft. 6 in. (4.42–4.72 m)	16–17 ft. 10 in. (5.13–5.44 m)	16 ft. 4 in. – 18 ft. 4 in. (4.98–5.59 m)	16–17 ft. 10 in. (5.13–5.43 m)
Tires/Main frame	36 x 17.5 (14 ply)	36 x 17.5 (14 ply)	36 x 17.5 (14 ply)	36 x 17.5 (14 ply)
Tires/Wings	36 x 17.5 (8 ply)	36 x 17.5 (8 ply)	36 x 17.5 (8 ply)	36 x 17.5 (8 ply)
Weight transfer	N/A	Req'd with banders	Standard	Standard
Tractor requirements	210–260 hp	250–320 hp	300–360 hp	360–425 hp
# of seed openers	48	64	80	96
# of fertilizer openers	24	32	40	48
Disc size	18 in. (45.6 cm)	18 in. (45.6 cm)	18 in. (45.6 cm)	18 in. (45.6 cm)
Packing pressure	Operator adjusted	Operator adjusted	Operator adjusted	Operator adjusted
Seeding depth	0–3 in. (0–7.6 cm)	0–3 in. (0–7.6 cm)	0–3 in. (0–7.6 cm)	0–3 in. (0–7.6 cm)
Opener length	N/A	N/A	N/A	N/A
Row spacing	6/9 in. (15–23 cm) paired row	6/9 in. (15–23 cm) paired row	6/9 in. (15–23 cm) paired row	6/9 in. (15–23 cm) paired row

Stainless steel lasts a lifetime

Amity Air Carts allow you to precisely, yet gently, deliver seed and fertilizer to all Amity Air Drills. An Amity Air Cart is the ideal complement to our Single Disc Drill and Amity Air Carts feed virtually any seeding tool or fertilizer applicator already on your farm. Choose from ground-driven meters or hydraulic-driven variable rate meters, variable NH_3 controls, optional tire sizes and axle spacing.

Our new ISO compliant monitors offer state-of-the-art technology and are compatible with most other in-cab terminals and many mapping application technologies. The bottom line is Amity provides advanced stainless steel air carts and meters for a lifetime of durable, attractive and low maintenance operation.



Maintenance-free meters

Amity re-engineered the metering system so it is virtually maintenance free. Our meter will gently handle all types of seed (including small seeds), yet accurately deliver any type of granular fertilizer without corrosion or excessive maintenance.

Amity Air Carts

5250 Air Cart
(tow-between
or tow-behind)

ST250 Air Cart

2800/3350 Air Cart

Models	Capacity	Bins
ST250	200 bu.	1
2800	280 bu.	2
3350	335 bu.	2
5250	525 bu.	3

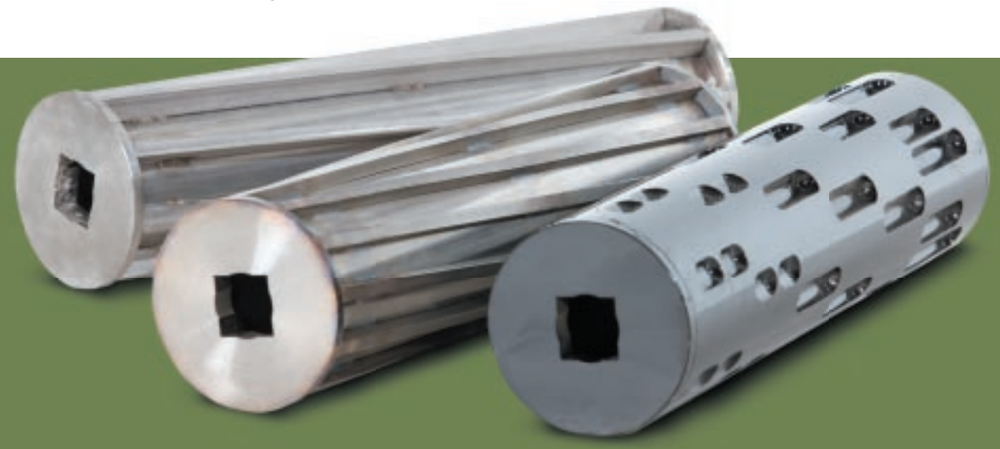
Air Cart Specifications

Model	5250	3350	2800	ST250
Product capacity	525 bu. (19 ton) (18 500 L)	335 bu. (12 ton) (11 805 L)	280 bu. (10 ton) (9866 L)	200 bu. (7 ton) (7047 L)
Compartments	3	2	2	1
Splits	175/225/125 bu. (6166/7928/4404 L)	200/135 bu. (7047/4757 L)	168/112 bu. (5920/3946 L)	200 bu. (7047 L)
Single shoot/Double shoot	Single or Double	Single (Double optional)	Single (Double optional)	Single
Dimensions				
Working height	17 ft. (5.18 m)	13 ft. 4 in. (4.06 m)	12 ft. 8 in. (3.86 m)	12 ft. 2 in. (3.71 m)
Working width	16 ft. 6 in. (4.95 m)	11 ft. 5 in. (3.48 m)	11 ft. 5 in. (3.48 m)	11 ft. 5 in. (3.48 m)
Working length	30 ft. 2 in. (9.54 m)	27 ft. (8.23 m)	27 ft. (8.23 m)	25 ft. 6 in. (7.77 m)
Weight (empty)*	15,750 lb. (7144 kg)	8,700 lb. (3946 kg)	8,500 lb. (3856 kg)	5,200 lb. (2359 kg)
Fill height	11 ft. 9 in. (3.58 m)	11 ft. 8 in. (3.56 m)	11 ft. 2 in. (3.40 m)	10 ft. 6 in. (3.20 m)
Shipping height	10 ft. 5 in. (3.18 m)	10 ft. 3 in. (3.12 m)	9 ft. 6 in. (2.89 m)	8 ft. 7 in. (2.62 m)
Width	7 ft. 6 in. (2.28 m)	8 ft. 4 in. (2.54 m)	8 ft. 4 in. (2.54 m)	7 ft. 3 in. (2.21 m)
Length	28 ft. 3 in. (8.61 m)	19 ft. 2 in. (5.84 m)	19 ft. 2 in. (5.84 m)	18 ft. 6 in. (5.64 m)
Tire size and spacing				
Configuration	Single axle (duals)	Two axles (singles)	Two axles (singles)	Single axle (single) front castor option
Standard size	24.5 x 42 R1	23.1 x 26 R1	23.1 x 26 R1	18.4 x 26 R1
Optional size	None	18.4 x 26 R1	18.4 x 26 R1	None

20 in. (50.8 cm) and 30 in. (76.2 cm) row crop compatible spacing on all models

Other features				
Fan drive	Single or Dual	Single (Dual optional)	Single (Dual optional)	Single
Meter drives	Hydraulic	Ground and Hydraulic	Ground and Hydraulic	Ground and Hydraulic
Fill auger (poly flighting)	10 in. (25.4 cm) x 25 ft. (7.6 m)	8 in. (20.3 cm) x 18 ft. (5.5 m)	8 in. (20.3 cm) x 18 ft. (5.5 m)	8 in. (20.3 cm) x 18 ft. (5.5 m)
Work switch (auto start/stop)	Optional	Optional	Optional	Optional

*Estimated weights



Advanced Monitor System (ISO 11783 compatible) · Variable rate capable

D3030

State-of-the-art electronic system to monitor and control all Air Cart functions

INTELLiAG

With the new ISOBUS Control System you choose your in-cab virtual terminal. It may be the black and white display (D3030) above, the full color touch screen (INTELLiAG) to the right, or even one of the virtual terminals you may already be using from John Deere®, Case IH®, New Holland®, AGCO®, or others.

ISOBUS Control System

For both ground drive and variable rate systems

Standard monitor features

- ISOBUS design
- Bin level sensors
- Meter status sensors
- Meter shaft status
- Ground speed
- Fan speed
- Acre count
- Product use information

Optional Features

- Individual row blockage
- Variable NH_3 control

Air Till Drill

The Amity Air Till Drill offers one pass seeding and exceptional small grain yield potential.

Ribbon-seeded bands and multiple fertilizer placement options offer small grain yields that other seeding systems just can't match.

With a 5.5 inch wide ribbon of seed and only 4.5 inches between rows, seed bed utilization is the highest available with a packed row. Plant response is a much stronger stem, superior roots and maximum yields. Through years of seeding trials, the Concord (predecessor to the Amity Air Till Drill) proved over and over again this key to maximum production.

Depending on your choice of seed openers, fertilizer can be placed with the seed in a 5.5-inch seed and fertilizer ribbon, or you can place a portion of the fertilizer in the seed ribbons and place the remaining safely below the seed or off to the side. This seeding system offers the most flexibility in fertilizer placement. The system best for your farm can be tailored to match your tillage practices, soil, rainfall and tractor capacity.

The key to uniform emergence in cereal grains is proper packing. The Amity Air Till Drill weighs thousands of pounds more than most competitive drills. Combined with its wide packing wheels, this gives the Amity Air Till Drill the best chance of superior seed-to-soil contact. Packing wheels are mounted on the walk beams with every walk beam separately spring mounted to the drill frame. Running over stones or on ridges will not hinder uniform, even packing.

Air Till Drill

Shanks are optimally placed on the Air Till Drill for maximum residue clearance. There are no clog points where shank placement is compromised to fit the drill frame. Optional coulters are available to allow operation in extreme residue conditions such as corn or sunflower stalks.

Optional disc levelers on the shanks will eliminate stepping (rear ranks covering front ranks to make a stepped field finish). The result is a smooth field finish regardless of field speed, allowing more acres seeded with no compromise to field finish.

The Amity Air Till Drill is proven for superior equipment longevity. Operating costs on the Amity Till Drill consist of wear items: ground openers and air hoses.

Revolutionary seals ensure that bearings will last many years with minimum maintenance. Daily maintenance is confined to a few grease points on the transport linkage.

For minimum-till and no-till applications, with superior fertilizer placement options, the Amity Air Till Drill will be an efficient, high yielding choice for your farm.

Air Till Drill Specifications:

Model	4010	5010	6010	5015	6015
Sections	3	5	5	5	5
Weight*	29,500 lbs. (13,381 kg)	38,500 lbs. (17,463 kg)	41,500 lbs. (18,824 kg)	33,800 lbs. (15,331 kg)	36,500 lbs. (16,556 kg)
Working width	40 ft. (12.2 m)	50 ft. (15.2 m)	60 ft. (18.3 m)	50 ft. (15.2 m)	60 ft. (18.3 m)
Transport width	21 ft. (6.4 m)	21 ft. (6.4 m)	21 ft. (6.4 m)	21 ft. (6.4 m)	21 ft. (6.4 m)
Transport clearance*	18 in. (45.7 cm)	18 in. (45.7 cm)	18 in. (45.7 cm)	18 in. (45.7 cm)	18 in. (45.7 cm)
Transport height	17 ft. (5.2 m)	15.5 ft. (4.7 m)	17 ft. (5.2 m)	15.5 ft. (4.7 m)	17 ft. (5.2 m)
Tires/Main frame/Front	13.5 x 31 (12 ply)	H40 x 14.5-19 (20 ply)	H40 x 14.5-19 (20 ply)	H40 x 14.5-19 (20 ply)	H40 x 14.5-19 (20 ply)
Tires/Main frame/Rear	13.5 x 31 (12 ply)	13.5 x 31 (12 ply)	13.5 x 31 (12 ply)	13.5 x 31 (12 ply)	13.5 x 31 (12 ply)
Tires/Wings	13.5 x 31 (12 ply)	13.5 x 31 (12 ply)	13.5 x 31 (12 ply)	13.5 x 31 (12 ply)	13.5 x 31 (12 ply)
Packer tires	26/6.50-15	26/6.50-15	26/6.50-15	26/6.50-15	26/6.50-15
Tractor requirements **	360 hp	450 hp	540 hp	350 hp	400 hp
# of seed openers	48	60	72	40	48
Seeding depth	0-4 in. (0-10.2 cm)	0-4 in. (0-10.2 cm)	0-4 in. (0-10.2 cm)	0-4 in. (0-10.2 cm)	0-4 in. (0-10.2 cm)
Shank degree	50 C-shank 85-edge on	50 C-shank 85-edge on	50 C-shank 85-edge on	50 C-shank 85-edge on	50 C-shank 85-edge on
Row spacing	10 in. (25.4 cm)	10 in. (25.4 cm)	10 in. (25.4 cm)	15 in. (38.1 cm)	15 in. (38.1 cm)

*without ground openers and disc levelers
** depends on openers and soil type with mid-row placement

The Amity Double Disc Drill has superior depth control with an individual row depth setting on each seeding unit. A simple and easily accessible adjustment makes depth changes in .25–inch increments. Down pressure can be set individually at each seed opener or across the whole drill by changing the down pressure cylinder stroke. This allows the operator to tune the drill for changing field conditions, such as tire compaction and variable soil conditions. No other drill offers this level and ease of depth control.

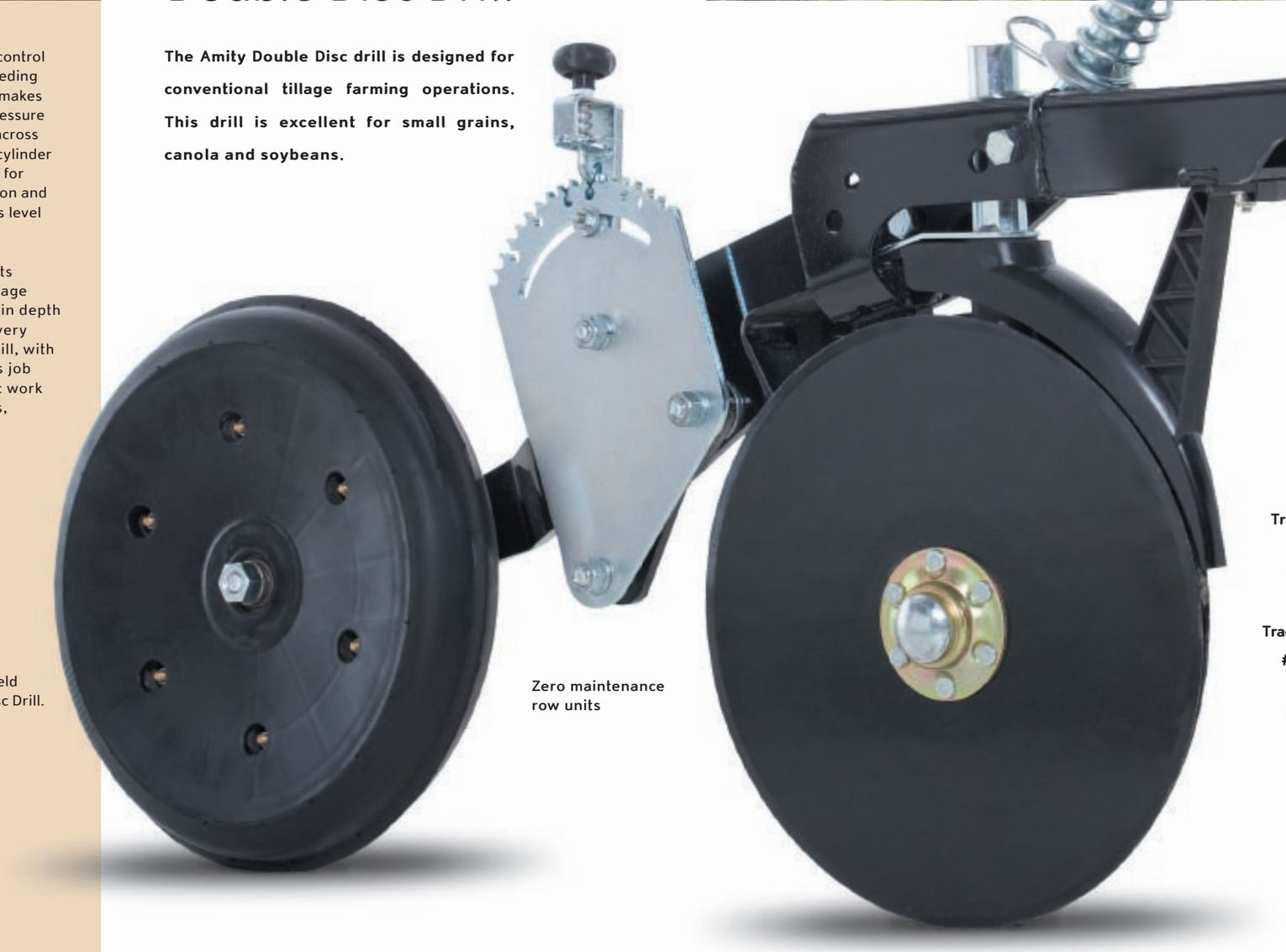
This air drill will consistently give great results in virtually all lower residue/conventional tillage environments. Some drills are very sensitive in depth setting and leveling, and operators must be very vigilant to avoid mistakes. The double disc drill, with its ease of adjustments, makes the operator's job much easier and error free. Plus, an automatic work switch stops and starts the drill on headlands, freeing the operator for other tasks.

Take advantage of higher yield potential from narrower rows, as demonstrated in multiple research studies. The principle is simple. Give each seed more room to grow. Yield potential is sacrificed with competitive drills (especially with spring cereals) using narrow rows up to 14–inches apart. The Amity Double Disc Drill offers 6– or 6.75–inch row spacing.

If your farm utilizes conventional tillage, you'll want to consider the superior depth control, ability to seed small seeds at shallow depths, yield potential and efficiency of the Amity Double Disc Drill.

Double Disc Drill

The Amity Double Disc drill is designed for conventional tillage farming operations. This drill is excellent for small grains, canola and soybeans.



Zero maintenance row units

Double Disc Drill Specifications:

Model	40	45
Sections	3	3
Weight	18,000 lbs. (8,165 kg)	19,200 lbs. (8,709 kg)
Working width	40 ft. (12.2 m)	45 ft. (13.7 m)
Transport width	16 ft. 2 in. (4.9 m)	21 ft. 2 in. (6.5 m)
Transport clearance	14 in. (35.6 cm)	14 in. (35.6 cm)
Transport height	13 ft. 10 in. (4.2 m)	13 ft. 10 in. (4.2 m)
Tires/Main frame	21.5L X 16.1 (14 ply)	21.5L X 16.1 (14 ply)
Tires/Wings	12.5L X 15 (8 ply)	12.5L X 15 (8 ply)
Tractor requirements	200 pto hp	225 pto hp
# of seed openers	80	80 or 90
Disc size	14 in. (35.6 cm)	14 in. (35.6 cm)
Packing pressure	Operator adjusted	Operator adjusted
Seeding depth	0–3 in. (0–7.6 cm)	0–3 in. (0–7.6 cm)
Opener length	N/A	N/A
Row spacing	6 in. (15.2 cm)	6 in. (15.2 cm) or 6 3/4 in. (17.1 cm)

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