

TRUE VARIABLE WIDTH SPREADERS





THE FUTURE OF SPREADING

Trailed spreaders with a twin chain conveyor to ensure you're spreading fertiliser where you need it.

True Variable Width Spreaders from Horwood Bagshaw use patented Twin Chain Technology to guarantee full control over the spread width on both sides of the machine. Automatic adjustments of the Twin Chain and hydraulic driven spinners are powered by ISOBUS, giving you ultimate compatibility with your current equipment.

Twin Chain Technology is essential to deliver true variable width control. The ability to stop both the chain and spinner on one side of the machine, automatically when using GPS, means that your new Horwood Bagshaw spreader can do things other machines could never dream of.

TWIN CHAIN SYSTEM

- Spread only where you need it, saving 30% of the fertiliser
- Spread in hard-to-access areas
- Meet the latest best practice standards
- Improve operator safety with automatic adjustments
- Increase spreading speed
- Save money and protect the environment

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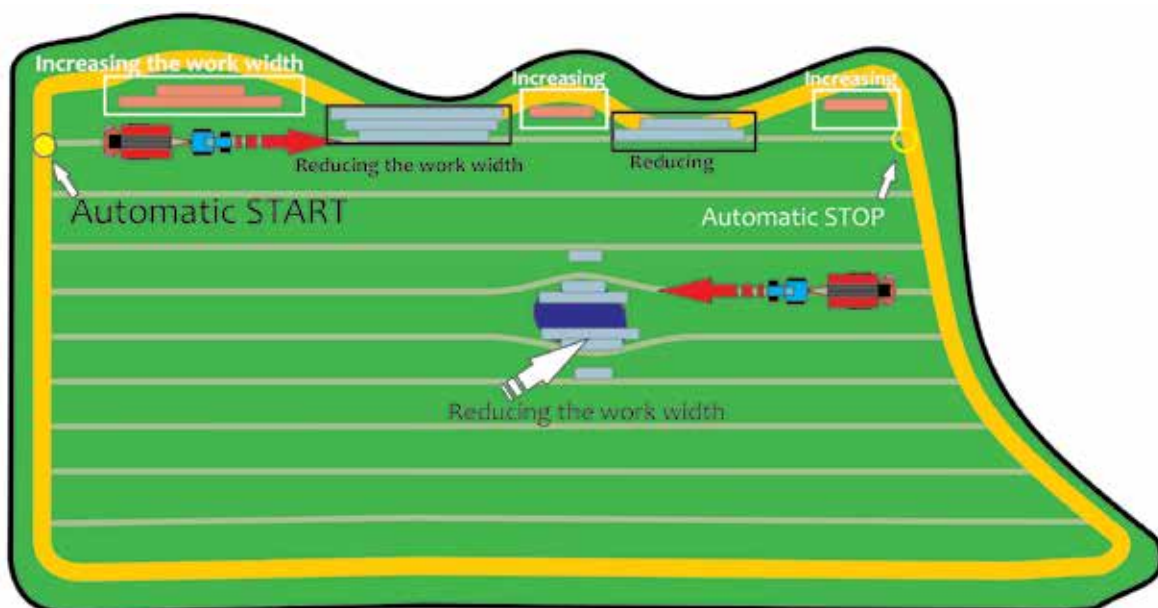
TWIN CHAIN TECHNOLOGY
Precision Fertiliser Application

WHAT DOES THIS MEAN IN PRACTICE?

As your spreader detects a necessary change of the spreading width the speed of the spinners and the speed of the Twin Chain automatically changes to control the spreading width on both sides, or individually on left or right side.

- Two hydraulic motors driving with two individual controlled sides of the chain
- Chain conveyor speed is automatically adjusted to match the working width and drive speed
- Allows change of the spreading width without changing the rate per hectare
- Stops overlap
- Chain speed can be adjusted manually or automatically with GPS
- Stepless infinitely variable chain speed control
- Enables an increase in the spreading width for most materials overall or to either side
- The Twin Chain system can stop completely on one side of the machine for neclines, creeks etc.
- Allows you to full control of spreading in all material types.

The graphic below illustrates how the Twin Chain System automatically controls the rate of material on either side of the machine to give you total control. Narrower spread as you go along creeks fences etc, Wider spread to reach spots you normally couldn't reach with a standard machine.



THE BUSINESS END OF MAXIMISING FERTILISER ACCURACY



THE VALUE OF CHAINS

The chain gives a positive flow of material for these benefits:

- A constant flow of material for spreading uphill or downhill
- Does not require calibration
- Set and forget gives 100% accuracy
- Will not slip, giving a constant flow rate
- Strong construction allows the chain to ride over obstructions
- A plastic plate under the chain ensures that no material is left in the tank
- Nylon brushes allow self-cleaning of wet material
- The maintenance-free chain requires no ongoing service
- Only one adjustment once every six months is needed on the chain
- Being demountable enables the easy exchange of a single link
- A 5 year replacement warranty is offered under normal operating conditions
- A wide range of materials can be handled: fertiliser, lime, chicken manure, compost, etc.
- Ideal for fertilisers of poor quality and lumpy lime
- Breaks up the lumps of lime and solid fertilisers ensuring no gaps in the flow rate

THE SPINNERS

2 hydraulically driven spinners ensure even and accurate spreading.

- Spinners are driven by two individually controlled hydraulic motors
- Individual spinner speed allows a variable spreading width.
- Individual adjustment of the working width allows control of both sides and headlands spreading
- Speed range of spinners from 0 to 1000 rpm.
- Stepless speed of spinners enables work width from 2 up to 40 meters
- The spreading width can be controlled depending on the requirements and properties of the material.
- The ability to increase spinner speed allows greater reach and the ability to spread in inaccessible places
- 4 fins on spinner mean no spinner changes - Ideal for throwing everything from manure, compost, fertiliser and lime
- The rounded spinner plate provides a ballistic spreading pattern. The fertiliser enters the crop from the top, protecting the crop stalks.
- The design of the spinner allows even material flow and essentially “sucks” the material from the chain to ensure even spreading
- The spinner creates airflow giving the material lift. Better spreading, more even results.
- The trapezoidal shape of the spinners spreads with a small “overlap”, which makes for a perfect spreading pattern at headlands.
- The Twin Chain System operates via a proportional 4-section electrohydraulic valve to regulate oil flow for individual motors, i.e. 2 motor driving chain conveyors and 2 motors driving the spreader spinners.
- The valve is safely and securely mounted on the spreader.
- Easy access to the valve for maintenance and service.
- Valves and electronics are safely encased in a weatherproof box.
- Only 2 hydraulic lines - pressure and return
- Simple full hydraulic drive - No exposed PTO shafts.
- Single hydraulic system reduces the number of spare parts
- Recommended tractor oil pump flow 140 l / min.
- Valve can work with tractors with either constant flow pump or load sensing pump
- Where possible the hydraulic lines are stainless steel for durability and long life plus have cooling fins along the length of them to reduce temperature build up
- The electro-hydraulic valve coils can be operated at 12V or 24V
- On board oil filter to provide additional protection all components against accidental contamination of the hydraulic system.
- Valves have in-built temperature and pressure sensor displayed in the tractor cab on terminal.
- All valves have a manual override to ensure functionality of spreader in case of electronic issue

HYDRAULICS

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10 POINTS TO CONSIDER BEFORE YOU BUY A SPREADER

1. STAINLESS STEEL

Modern fertilisers attract moisture, especially Urea. While paint and coatings are great, nothing has the durability of stainless steel for the bin and parts contacting the fertiliser. Spreaders are built to last from the highest quality 304 grade stainless steel.

2. BUILD QUALITY

Horwood Bagshaw partnered with Transpread who have developed spreaders for 60 years. We've developed the best design, and most robust proven technology to ensure you get the best quality spreader available. The current models have been rigorously field tested for three years. The people behind our spreaders are experienced agricultural manufacturers and suppliers. We know what works and what it takes to design, engineer and manufacture a spreader that's going to last.

3. LINEAGE

Does the design of the spreader look familiar? It should because it's the latest generation of the Transpread design used by most major spreader manufacturers. Originally designed by NZ spreading contractor and later designer and manufacturer David Hoyle. The spreader you're looking at is the result of 60 years of spreader evolution.

4. SIMPLICITY

Looking for the moving parts? We took them all away and only kept what was absolutely necessary. The bearings, hydraulic motors and gearbox are more than likely on the shelf at any supplier near you. To deliver best in class uptime, we keep a full range of parts in stock, but you can get our parts anywhere.

5. WARRANTY

2 year front to back warranty against faulty parts and workmanship. We offer a 5 year replacement warranty on the chain under normal operating and hygiene conditions.

6. THE CHAIN

Originally designed for the salt spreaders in North America and Canada they're tough and durable and built to last in the toughest of environments. Plus they're a positive system, so gravity or slope doesn't affect the flow of fertiliser. Knowing that your spinners are getting active fertiliser flow in all conditions is the first step in ultimate fertiliser accuracy.

7. ACCURACY

Every manufacturer tells you their spreader will throw to 24 or 36 metres. But it's how evenly it spreads within this range that makes a spreader truly great. Our spreaders while throwing the required distance are also independently tested to ensure our Coefficient of Variation (COV) - is as low as possible. (*Learn more about CoV and spreading width page 8).

8. A TEST KIT

To ensure ultimate accuracy in all materials Horwood Bagshaw supply you a test kit to calibrate and ensure the accuracy of your spreader in all conditions. Plus we supply full instructions on how to use the kit and accurately interpret the results.

9. CONTROL

We have chosen Raven as the controller for the spreaders. Raven are proven in all forms of sprayer and spreader control and have been the gold standard for over 40 years in supplying the best control equipment to agriculture.

10. SIMPLICITY

Our spreaders are fully ISOBUS compatible. Simply plug and play into your ISOBUS tractor and away you go. No need for another monitor in an already cluttered cabin, simply plug in and away you go. Full control at your finger tips.

TWIN CHAIN TECHNOLOGY - THE ADVANTAGES FOR AUSTRALIAN FARMERS.

The patented Twin Chains carrying the fertiliser to the spinners and the Twin Chain Technology software are the keys to saving up to 30% of fertiliser.



TWIN CHAIN TECHNOLOGY

The Twin Chain Technology gives you full control of the spread width to either side automatically in conjunction with the GPS position. Competitors GPS systems are only able to map, or change the overall rate based on the GPS position. Think about your spreading? Where do you waste fertiliser? Headlands, dodging trees dams etc, unevenly shaped paddocks? Horwood Bagshaw Spreaders automatically vary the width to either side independently or stop and start in the headlands with no input from the operator.

Plus the Twin Chain Technology will spread anything a single chain or belt spreader will, but control the product more accurately.

DO I SAVE FERTILISER?

Independent tests showed savings of 10-30% depending on conditions.

The Twin Chain Technology removes the waste areas for fertiliser automatically. Plus our patented system has been independently tested to a CoV of less than 13%. Proven even spreading and full control of the spread rate to both sides of the machine automatically.

Australian Farmers operate in paddocks with trees, dams and that are often asymmetrical. This is where the Twin Chain technology excels.

WHAT'S ON OFFER?

- Designed, engineered and built for Australian conditions.
- Independent hydraulic control spinners and multiple drop point adjustment ensuring accurate spreading.
- Hydraulic drive machines are VRT ready (Variable Rate Technology) and compatible with most ISOBUS compliant displays.
- True Variable Width spreading control is also included on most models. This is often referred to section control.
- Headland controlled for environmental protection of waterways.
- Simple and easy to operate ground drive or hydraulic drive machines.
- Load cells ensure accurate spreading on Twin Chain machines
- Stainless spreading deck and stainless wearing parts where required. All nuts/bolts where required are stainless steel.

THE COEFFICIENT OF VARIATION?

Ensuring your spreader is TRULY accurate.

The best way to measure spreader accuracy is using the co-efficient of variance (CoV). Its fine to say the spreader will throw to 24 or 36m but it's the evenness of spread that makes all the difference.

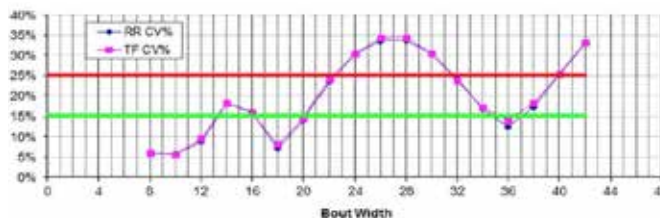
The CV is a measurement of the evenness of the spreading application, with a lower CV indicating a greater spreading accuracy.

The industry standard used in Australia is a maximum CV of 15% for granular products and a maximum of 25% for lime and gypsum. The CV value is a ratio of the standard deviation to the average value across the width of the pattern, or the distance between passes.

To understand CV: we need to start with standard deviation, which is a measure of how widely a set of values differs from the average of these values. A sample with a high standard deviation would have a wide spread of results, -and one with a low SD would have a very narrow spread of results.

SD would be fine for comparing spreader performance from one machine to the other if they all had the same average result, but this isn't the case. For that reason, we use the CV, which is the ratio of the SD to the average for a particular set of results.

*This excellent description of CoV courtesy of Kondinin magazine



THE RESULTS SPEAK FOR THEMSELVES

Our spreader, in recent independent testing, achieved an unbelievable CoV of just under 13%. This CoV means not only are we spreading to 36m, we are doing it more accurately and evenly than most other spreaders on the market.

Ask us for a copy of the independent test results*.

There are many variables that affect the spreading performance. It is important the wind speed and direction, ground contour, plant height and fertiliser consistency are considered prior to determining the spreader settings and width of pass.

CALIBRATION

Calibration is the key to accuracy for your spreader.

DYNAMIC CALIBRATION

Horwood Bagshaw offer dynamic calibration on all Twin-Chain model spreaders. At the push of a button the Raven controller will automatically calibrate your spreader using the inbuilt load cells to ensure you have the most accurate flow of material onto the spinners.

TEST TRAY CALIBRATION

Every Horwood Bagshaw spreader comes with a full set of test trays. This is the only way to truly calibrate your spreader accurately and is the industry benchmark for spreader testing. We also supply software to interpret the results to ensure you're spreading as accurately as possible in all material types.

WHAT MAKES US BETTER?

Quality 304 stainless steel hopper and fertiliser engaging components on TVW13, TVW16 and TVW20. This increases durability and lifespan.

Fully OH&S compliant including no PTO shaft, internal and external ladders, full light kit and hydraulic brakes.

Quality full flotation tyres.

Twin Chain technology combined with the patented software program gives you real variable width and variable rate to either side of the machine.

Five-year warranty on feed chain. Any failure sustained under normal operating conditions will qualify for replacement within the first five years.

Full front to back two-years warranty on manufacturing, parts and build quality.

Rear door opens to 320mm for consistent and even feed of fertiliser to spinners. Also able to open wide enough for lime, gypsum, mulch or all types of manure.

All bearings and hydraulic components are proprietary - available from quality machinery parts suppliers.

*Specifications are subject to change without warning.
* Coded steel option only available with small models

RANGE OF SPREADERS 8-20T



ISOBUS Rate Control



Flotation Tyres



Twin Chain Technology



Roll Top Tarp Standard



Hi-Torque Motors



Fertiliser Spinners up to 36m

MODEL	TVW8	TVW10	TVW13	TVW16	TVW20
CU. Capacity (m3)	6.5	8.2	10.8	13.2	16.7
Fertiliser (T)+	7.8	9.84	12.96	15.84	20.04
Urea (T)++	5.2	6.56	8.64	10.56	13.36
Lime (T)+++	9.1	11.48	15.12	18.48	23.38
Conveyor Drive	Ground	Hydraulic			
Tachometer	Standard	N/A			
ISOBUS Controlled	N/A	Standard			
Dynamic Calibration	N/A		Standard		
Load Cells	N/A		Standard		
Display	N/A	Opt			
Chain	Single		Twin		
Variable Spread Width	N/A	Standard^	Standard		
Floor Feed Width (mm)	730				
Tyres	16.9x28	23.1x26	650/75Rx32	600x22.5	
Axle Configuration	Single			Tandem Steerable	
Wheel centre (track)	2200	2200x3000		3000	
Removable Drawbar	N/A	Standard			
Sprung Drawbar	N/A	Standard			
Bin Material	Mild Steel		Stainless Steel		
Tractor HP Requirement	100-180	150-250	150-250	200-350	250-400
Unladen Weight (kg)	2110	2630	3690	4720	5210
Max Drawbar Weight (kg)	1700	1900	3400	3750	4000
Hydraulic Flow Required (lpm)	80	110	140	140	140
Bin Length (mm)	3000	3000	4000	5000	6000
Bin Width (mm)	2290	2290	2290	2290	2290
Bin Height (mm)	1315	1654	1654	1654	1654
Transport Length (mm)	5775	5955	7090	8085	9085
Transport Height (mm)	2530	2780	2915	3015	3045
Transport Width (Wheels in*) (mm)	2435	2875	2940	2860	2860
Transport Width (Wheels out) (mm)	2635	3575	3640	3560	3560



Adjustable door



Sprung Drawbar



Ground Drive Option

All Units ship standard with 10 stub hubs, hydraulic brakes, adjustable drawbar height, roll top cover and transport lights.

Rated capacities are based on the following densities -

+Fertiliser Capacity (1.2t / m3)

++Urea Capacity (0.8t / m3)

+++Lime Capacity (1.4t / m3)

^ TVW10 uses a single belt so the variable spread width performance will be slightly different to the other models.

* Wheels in measurement should only be used as an indication for shipping width on TVW16 and TVW20. With the wheels in, the movement of the steerable axle is severely limited.

