



FEEDING SOLUTIONS

# ***FEEDING SOLUTIONS***



Since Vermeer first started selling the big, round baler more than 50 years ago, we've strived to help our customers find a better way to make hay for their cattle. With a vision of offering a comprehensive suite of hay harvesting, processing and feeding equipment to farmers and ranchers across North America, Vermeer purchased Schuler Manufacturing in 2019. Schuler's long-standing reputation of high-quality products and exceptional customer support fits perfectly into the Vermeer brand promise. We're excited to offer vertical mixers and wagons in our extensive lineup of forage harvesting and processing equipment. We are confident that we can drive a new level of feeding solutions, expertise and support to the cattle industry.



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# FEED WAGON OVERVIEW

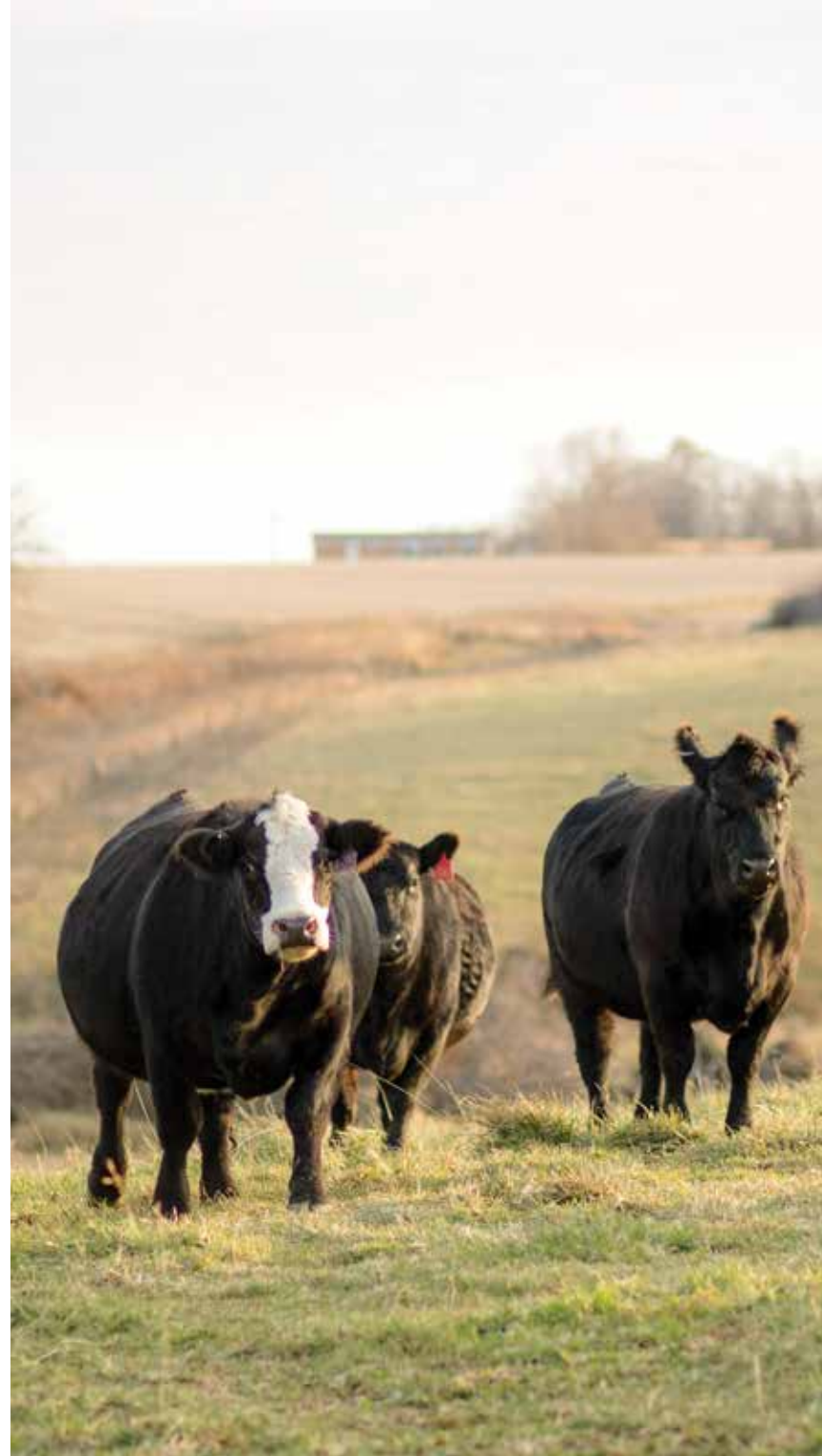
Vermeer feed wagons say simplicity and flexibility. A strategic design makes these feed wagons a good fit for operators looking for a wagon that is efficient to use and maintain. These machines are an economical option. They still allow the flexibility to blend rations with various ingredients and effectively and consistently distribute them.

FEED WAGON	CAPACITY	LOADING HEIGHT	RECOMMENDED PTO HORSEPOWER
BF180 feed wagon	180 ft³ (5.1 m³)	70 in (180 cm)	60 hp (40 kW)
BF230 feed wagon	230 ft³ (5.8 m³)	70 in (180 cm)	60 hp (40 kW)
BF250 feed wagon	250 ft³ (6.5 m³)	70 in (180 cm)	60 hp (40 kW)
HF300 feed wagon	300 ft³ (8.1 m³)	91 in (230 cm)	Hydraulically driven
HF400 feed wagon	400 ft³ (10.5 m³)	96 in (240 cm)	Hydraulically driven
HF480 feed wagon	480 ft³ (13.6 m³)	96 in (240 cm)	Hydraulically driven

## WHAT'S THE DIFFERENCE?

BF- and HF-series feed wagons have a lot in common: Both offer a certain amount of blending of feedstuffs as they progress through the machine (as long as they're layered properly), and both help control the feeding of valuable ingredients and animal feed intake, thereby more efficiently managing input costs. But they also have a few notable differences, especially when it comes to the ability to handle roughage.

BF-SERIES FEED WAGONS	HF-SERIES FEED WAGONS
Ability to handle up to 20% roughages	Ability to handle more than 20% roughages
Simple and reliable mechanical drive	Hydraulic drive for low maintenance
Option of auger or slat-and-chain discharge	Slat-and-chain discharge with folding extension
Lower loading height	Higher loading height
Smaller wagon sizes	Larger wagon sizes



### LOAD IT LIKE A SANDWICH

- When loading these machines, think about making a sandwich and load in layers. This allows for even distribution as feedstuffs move on the elevator chain during discharge and distribution.
- If using all forages and commodities, alternate the loading order as seen on the left-hand side of both wagons below.
- If using a combination of forages and grains, operators should load grain on the bottom, then hay, then silage on top as seen on the right-hand side of both wagons below.



HAY



COMMODITIES /GRAIN



SILAGE



BF-series feed



HF-series feed



## BF180, BF230 AND BF250 FEED WAGONS

With two options for discharge, these machines are versatile for multiple operations. Operators can choose a conveyor if they are feeding up to 20% roughages, or an auger if the operation is feeding mostly silage, grains and supplements, and little to no forage.

- 1 These models feature a low 70-in (178-cm) loading height to fit many operations' tractor or skid steer sizes.
- 2 Two options for discharge — a conveyor for rations of up to 20% roughages or an auger for silage, grains and supplements — give customers options to fit their needs for different feedstuffs.



- 3 An efficient design and low tractor horsepower requirements make this machine a good fit for operators looking for a wagon that is convenient to use and maintain. This lightweight compact wagon also eases travel through adverse ground conditions.



- 4 High discharge on these models helps to get feed over bunks and allows for optimized feed placement in various applications.



## HF300, HF400 AND HF480 FEED WAGONS

These models allow operators to feed pre-cut forages, byproducts, silage and grains. When layered evenly into the box, feed ingredients are agitated as they progress through the beaters and tumble down into the high-output discharge conveyor — achieving a certain amount of blending of feedstuffs.

**1** An efficient design and hydraulic drive make this machine a good fit for operators looking for a wagon that is convenient to use and maintain.

**2** A folding conveyor extension and large-capacity discharge at 26 in (66 cm) on the HF300 and 36 in (91.4 cm) on the HF400 and HF480 offer versatility while feeding.



**3** Hay beaters are strategically placed at the front of the box to agitate feed ingredients as they move through the beaters, helping to achieve a certain amount of blending.



**4** Durable components like steel walls, a poly floor and heavy-duty floor chains contribute to reliability and long-lasting performance.

# WHY MIX?

Profit margins are usually tight for cattle producers. They're even tighter if you're not maximizing your herd's time at the bunk with maximum nutrition and minimal feed waste. A combination of attention to cattle feed ingredients and how distributing them to the herd can make a major difference in overall feed costs when compared to free-choice feeding, which is typically the greatest expense for most cattle producers. A vertical feed mixer may be part of the feed-cost equation. Here are three reasons why it might be something to consider.

### 1. Help prevent costly feed waste.

Feeding data shows up to 9 lb (4.1 kg) of feed is wasted per animal each day when free-choice feeding.<sup>1</sup> That cost can add up quickly, even when feeding part of the year and grazing during the spring and summer. Controlling consumption can help reduce feed costs.

### 2. Help improve ration quality with various feedstuffs.

Transitioning from free-choice hay feeding to a complete ration can allow producers to feed with lower-cost feedstuffs and optimize rations based on feed availability and nutritional needs.

### 3. Deliver a consistent ration each day.

One component of delivering an optimal total mixed ration — a process that today often involves a nutritionist on many operations — is using equipment that processes, prepares and delivers the right mixture of roughage, protein and energy without increasing labor requirements.



### IT JUST MAKES *CENTS*.

“With what we overfeed by free-feeding and what’s wasted in a traditional scenario, we’re talking about an additional cost just shy of \$130 per cow for the 150-day feeding period,” Tyler Long, Purina nutritionist, said. “If we apply that to harvested forage acres, we’re wasting about 1/5 of an acre if free-choice feeding versus meter feeding over 150 days. Add up other waste from free feeding — like when cows pull hay out of a ring, drop it and step on it — and it equates to just under half an acre per cow from waste and overfeeding. Sure, it’s only half an acre, but if operators have 100 cows standing around, there are 50 acres worth of production standing around idle, doing nothing.”



# MEET THE LINEUP.

With multiple sizes available, the Vermeer lineup of feed wagons and vertical feed mixers gives operators the option to blend or mix all ration ingredients like dry hay, silage, grain and ethanol coproducts at once. The result is a consistent ration when the operator feeds cattle.

FREE-CHOICE FEEDING	FEED WAGONS	VERTICAL MIXERS
Little to no mixing	Moderate blending	Exceptional mixing
High feed waste	Minimal feed waste	Minimal feed waste
Minimal nutritional balance	Moderate nutritional balance	Maximum nutritional balance
Manual labor	Machine labor	Machine labor
Low upfront cost	Moderate upfront cost	Moderate to high upfront cost

Vermeer vertical mixers come standard with AR200 steel tub walls<sup>2</sup> and screw flighting for long-lasting performance and durability.



MIXER	CAPACITY	LOADING HEIGHT <sup>4</sup>	RECOMMENDED PTO HORSEPOWER
VS350 single-screw vertical mixer	350 ft <sup>3</sup> (9.9 m <sup>3</sup> )	106 in (269 cm)	100 hp (75 kW)
VS420 single-screw vertical mixer	420 ft <sup>3</sup> (11.9 m <sup>3</sup> )	110 in (280 cm)	120 hp (89 kW)
VS510 single-screw vertical mixer	510 ft <sup>3</sup> (14.2 m <sup>3</sup> )	120 in (300 cm)	130 hp (97 kW)
VS570 single-screw vertical mixer	570 ft <sup>3</sup> (17 m <sup>3</sup> )	125 in (318 cm)	150 hp (110 kW)
VT600 twin-screw vertical mixer	600 ft <sup>3</sup> (17 m <sup>3</sup> )	109 in (277 cm)	150 hp (110 kW)
VT660 twin-screw vertical mixer	660 ft <sup>3</sup> (18.1 m <sup>3</sup> )	105 in (267 cm)	170 hp (130 kW)
VT750 twin-screw vertical mixer	750 ft <sup>3</sup> (21.2 m <sup>3</sup> )	123 in (312 cm)	180 hp (130 kW)
VT750 Premium twin-screw vertical mixer	750 ft <sup>3</sup> (21.2 m <sup>3</sup> )	123 in (312 cm)	180 hp (130 kW)
VT830 twin-screw vertical mixer	830 ft <sup>3</sup> (23.4 m <sup>3</sup> )	116 in (295 cm)	180 hp (130 kW)
VT970 twin-screw vertical mixer	970 ft <sup>3</sup> (27.5 m <sup>3</sup> )	127 in (323 cm)	200 hp (150 kW)
VT970 Premium twin-screw vertical mixer	970 ft <sup>3</sup> (27.5 m <sup>3</sup> )	127 in (323 cm)	200 hp (150 kW)
VT1150 Premium twin-screw vertical mixer	1,150 ft <sup>3</sup> (32.6 m <sup>3</sup> )	139 in (353 cm)	220 hp (160 kW)
VT1310 Premium twin-screw vertical mixer	1,310 ft <sup>3</sup> (37.1 m <sup>3</sup> )	155 in (394 cm)	230 hp (170 kW)
VX1690 Premium triple-screw vertical mixer	1,690 ft <sup>3</sup> (47.9 m <sup>3</sup> )	143 in (363 cm)	250 hp (190 kW)

<sup>1</sup>According to Tyler Long, cow-calf owner and Purina nutritionist.

<sup>2</sup>Excluding the VS350 single-screw and VT660 twin-screw vertical mixers.

<sup>3</sup>Vermeer Corporation, ASTM G65 test procedure; March, 2021.

<sup>4</sup>With standard tires.



## VS350 SINGLE-SCREW VERTICAL MIXER

Small but mighty, the Vermeer VS350 single-screw vertical mixer has a high screw rpm to minimize mixing time and optimize cleanout. Very little material is left in the tub — a benefit of two bi-pulse kickers plus the leading edge of the screw. This mixer also features a 4-point scale that offers optimal accuracy over a typical 3-point scale found on this size of mixer. This compact machine is ideal for small- to mid-sized operations.

- 1 The VS350 features high screw rpm (when selecting 1,000-rpm PTO), which optimizes mixing speed and allows for thorough cleanout. This feature works alongside the two bi-pulse legs and leading edge of the screw to move the feedstuffs efficiently onto the discharge. Vermeer mixers feature a 4-point scale that helps improve accuracy, compared to a 3-point scale. The scale helps operators optimize rations and achieve more defined targets when feeding in multiple pens. Plus, scales are equipped with Bluetooth connectivity, so operators can view weight from their smart device.
- 2 Built with abrasion-resistant, heat-treated AR200 steel, the screw is designed for strength, versatility and longevity.
- 3 An optional 2-speed gearbox helps relieve horsepower demand while mixing heavy rations.



- 4 The 106-in (269-cm) loading height provides versatility for operations of varying sizes. The low loading height on this machine allows for clearance in different barns and buildings, as well as loading with a tractor and most skid steers.
- 5 Equipped with 1/4-in (6.4-mm) tub material and 1/2-in (12.7-m) floor thickness, this mixer is small but mighty. These durable components contribute to long-lasting performance and help with machine reliability.
- 6 A standard folding ladder and viewing platform on the VS350 single-screw vertical mixer provide optimal visibility to the tub, compared to mixers without a platform.

MIXER	CAPACITY	LOADING HEIGHT	RECOMMENDED PTO HORSEPOWER
VS350 single-screw vertical mixer	350 ft <sup>3</sup> (9.9 m <sup>3</sup> )	106 in (269 cm)	100 hp (75 kW)

# VS420, VS510 AND VS570 SINGLE-SCREW VERTICAL MIXERS

The Vermeer VS420, VS510 and VS570 single-screw vertical mixers have durable components for reliability and long-lasting performance. Two bi-pulse legs and the leading edge of the screw work together to create three points of contact with the tub floor for efficient cleanout. Optimize operators feeding routine and mix a wide variety of feedstuffs with these machines.

**1** Heavy-duty, abrasion-resistant AR200 steel makes these single-screw vertical mixers ready for years of use, various feedstuffs and numerous loads.

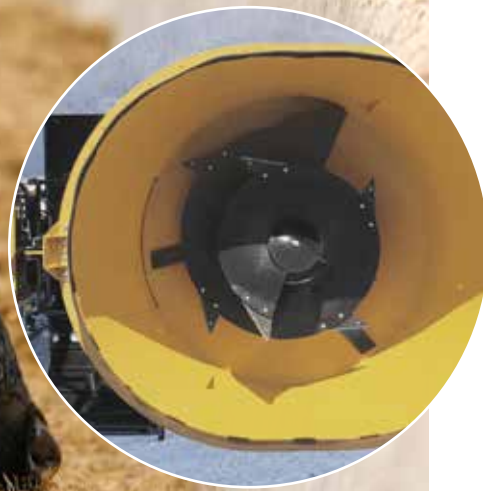
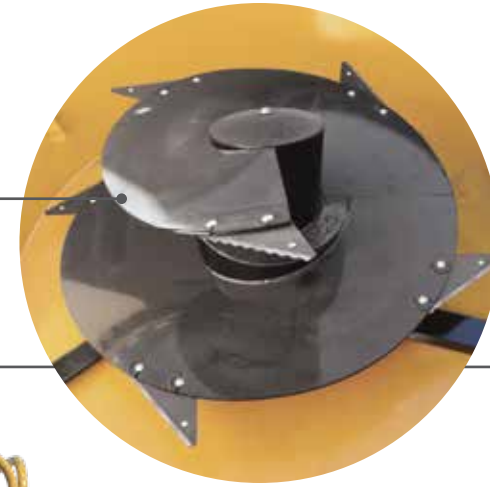
**2** Vermeer mixers are designed with three points of contact with the tub floor, including two bi-pulse legs and the leading edge of the screw. These points of contact help optimize cleanout of material from the tub during discharge.

**3** The 22-in (55.8-cm) pitch of the screw flighting can aggressively move feed upward over the center of the screw. This can help with efficiencies in the full circulation of feed in the mixer tub.

**4** The screw is one of the most important parts of the mixer. That's why Vermeer screws are built to last. The VS420 single-screw vertical mixer comes with standard 5/8-in (15.9-mm) abrasion-resistant AR200 screw flighting and a full set of hard-surfaced knives.

**5** Operators can conveniently view the mixer's load weight on their smart device with Bluetooth connectivity. Hitting defined weight targets is more attainable with a 4-point scale versus a 3-point scale when feeding in multiple locations.

**6** An optional 2-speed gearbox helps relieve horsepower demands while mixing heavy rations.

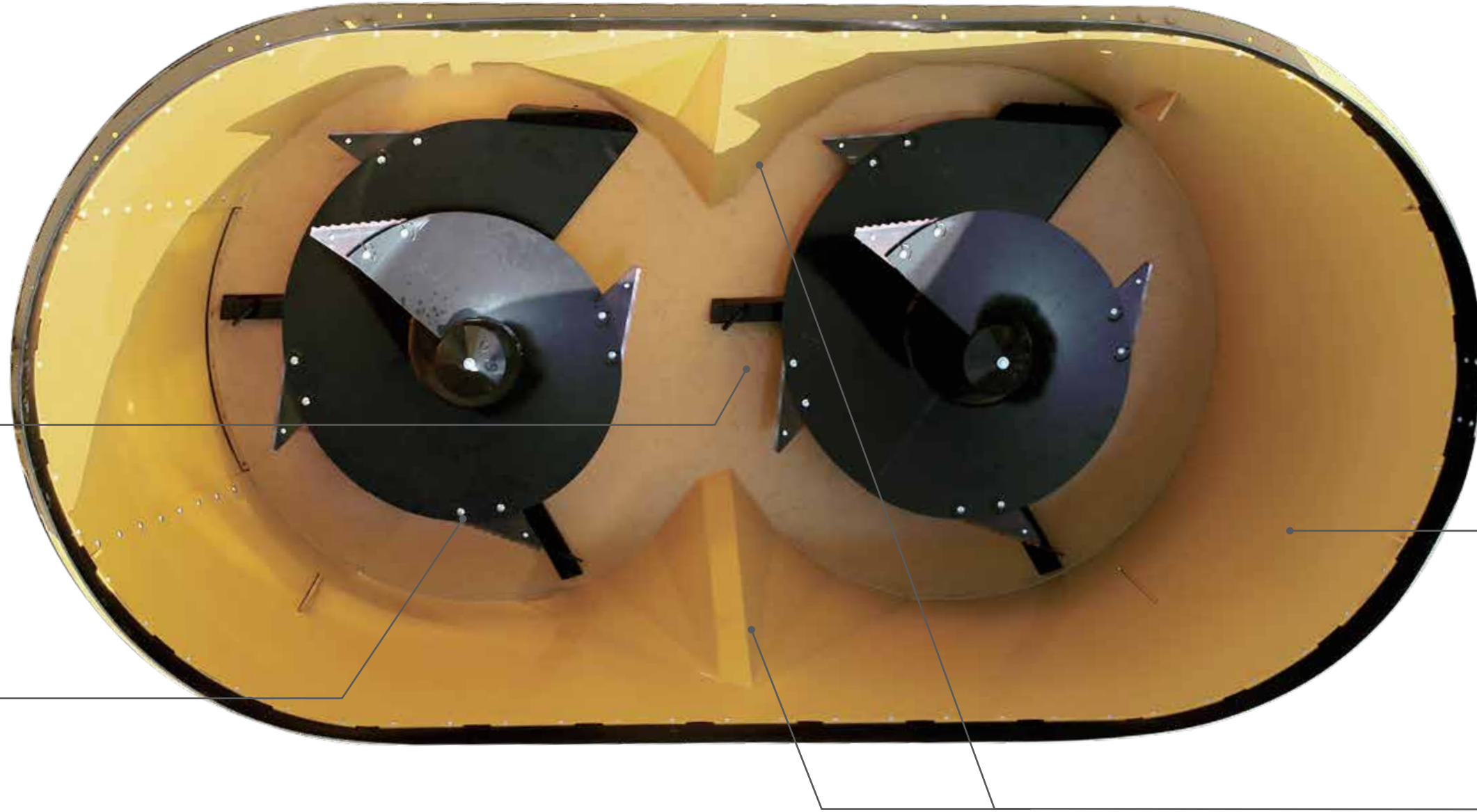


MIXER	CAPACITY	LOADING HEIGHT	RECOMMENDED PTO HORSEPOWER	MAXIMUM RECOMMENDED BALE SIZE
VS420 single-screw vertical mixer	420 ft <sup>3</sup> (11.9 m <sup>3</sup> )	110 in (280 cm)	120 hp (89 kW)	4 ft x 5 ft (1.2 m x 1.5 m)
VS510 single-screw vertical mixer	510 ft <sup>3</sup> (14.2 m <sup>3</sup> )	120 in (300 cm)	130 hp (97 kW)	5 ft x 6 ft (1.5 m x 1.8 m)
VS570 single-screw vertical mixer	570 ft <sup>3</sup> (17 m <sup>3</sup> )	125 in (318 cm)	150 hp (110 kW)	5 ft x 6 ft (1.5 m x 1.8 m)



# OVERLAPPING SCREW DESIGN

All Vermeer twin-screw vertical mixers are a testament to logical, practical engineering. Two overlapping screws and offset baffles on the tub wall help to achieve a consistent, thorough mix. Instead of feedstuffs remaining in either the front or the back of the tub, the construction of the tub and screws encourages the material to travel between the screws in a clockwise motion.



**1 Overlapping screw design** — The leading edge of each screw and two bi-pulse legs take turns sweeping the middle floor of the tub for better mixing. The screws pull feed from opposite screw chambers, creating a positive feed exchange from front to rear, speeding up mix time and optimizing feed discharge.

**2 Screw flighting** — Built with AR200 steel, the heavy-duty flighting on the screws helps move feedstuffs up. The result? A thorough mix of ingredients from top to bottom and bottom to top.

# PREMIUM MODELS

Built with reliability and durability in mind, Vermeer Premium models feature thicker tub walls, thicker tub floors, thicker screw flighting and a standard remote display for the scale system. This trim level is optional on the VT750 and VT970, and standard on the VT1150 and VT1310 twin-screw vertical mixers and the VX1690 triple-screw vertical mixer.

SPECIFICATION	STANDARD	PREMIUM
Tub wall thickness	1/4 in (6.4 mm)	3/8 in (9 mm)
Tub floor thickness	3/4 in (19.1 mm)	1 in (25.4 mm)
Screw flighting thickness	5/8 in (15.9 mm)	3/4 in (19.1 mm)
Scale system remote display	Optional on select models	Standard

**3 Bi-pulse legs** — Along with the leading edge of the screw, bi-pulse legs on each screw create three points of contact to sweep the floor of the mixer, enhancing mixing and cleanout.

**4 Offset baffles** — These uniquely designed baffles move feedstuffs from the front to the back of the tub in a clockwise motion between the screws for a thorough mix. The overlapping screw design allows for smaller baffles, which means less unused space and more room for feed to move and mix.



# VT660 TWIN-SCREW VERTICAL MIXER

A high screw rpm and low loading height make the Vermeer VT660 twin-screw vertical mixer popular with mid-sized feedlots. Quick, efficient cleanout can help save time and frustration for operators, too.

**1** A 4-point scale helps operators be confident in load weights. Optimize rations and achieve defined targets when feeding in multiple pens. Plus, Bluetooth connectivity makes load weights accessible from a smart device.



**2** The standard 2-speed gearbox is designed to relieve horsepower demand while mixing heavy rations. Use the low speed (32 rpm) at the start of the mix and use the high speed (48 rpm) for cleanout.

**3** At just 105 in (267 cm), the VT660 twin-screw vertical mixer has the lowest loading height of all Vermeer vertical mixers. The low loading height provides versatility among different operations during loading, feeding and storage in situations where clearance restrictions may be present.



**4** All Vermeer twin-screw vertical mixers are a testament to logical, practical engineering. Two overlapping screws and offset baffles on the tub wall help to achieve a consistent, thorough mix. Instead of feedstuffs remaining in either the front or the back of the tub, the construction of the tub and screws encourages the material to travel between the screws in a clockwise motion.

**5** Three points of contact with the tub floor, made up of two bi-pulse legs and the leading edge of the screw, help move material from the tub to the discharge conveyor for consistent distribution along a bunk line.



**6** The VT660 features a high screw rpm, which optimizes mixing speed and allows for thorough cleanout.



MIXER	CAPACITY	LOADING HEIGHT	RECOMMENDED PTO HORSEPOWER
VT660 twin-screw vertical mixer	660 ft <sup>3</sup> (18.1 m <sup>3</sup> )	105 in (267 cm)	170 hp (127 kW)

# VT600, VT750 AND VT750 PREMIUM TWIN-SCREW VERTICAL MIXERS

Built on the same base platform, the VT600, VT750 and VT750 Premium twin-screw vertical mixers work well for a variety of operations. With a standard full set of knives on the overlapping screws, they help produce consistent particle sizes for rations containing higher amounts of roughage.

**1** Every pound of feed counts. That's why the Vermeer vertical mixers are equipped with a 4-point scale. With optimal accuracy, operators can focus on feeding accurate rations to multiple pens. Bluetooth connectivity comes standard with the Digi-Star scale, and standard remote display gives operators the ability to view load weight from their smart devices.

**2** For operations that do the majority of their feeding in an alleyway, optional bi-directional discharge makes feeding convenient. Feed on either the right or left side of the alley when traveling between pens or multiple buildings.

**3** The screw is powered through two extra heavy-duty planetaries specifically designed to help extend machine life. This helps make this machine ready for long-lasting performance.

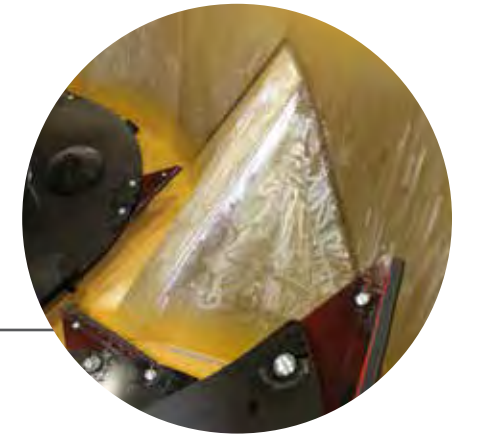
**4** With the option to add a stainless steel liner to the tub, operators can be confident their mixer will withstand various types of feedstuffs for minimized rust and maximized durability.

**5** Two bi-pulse legs and the leading edge of the screw make up three points of contact with the tub floor to help improve cleanout over only one or two points of contact. This helps feedstuffs be evenly distributed onto the discharge conveyor for feeding.

**6** The screw design works with the offset baffles to move feedstuffs from the front to the back of the tub, in a clockwise motion between the screws for an appropriately blended mix.

**7** The VT750 Premium twin-screw vertical mixer has all the features of the VT750 twin-screw vertical mixer, but with thicker sidewalls, a thicker tub floor and thicker screw flighting for maximized strength, durability and longevity.

- Sidewalls: 3/8-in (9.5-mm) AR200
- Tub floor: 1-in (25.4-mm) AR200
- Screw flighting: 3/4-in (19.1-mm) AR200



MIXER	CAPACITY	LOADING HEIGHT	RECOMMENDED PTO HORSEPOWER
VT600 twin-screw vertical mixer	600 ft <sup>3</sup> (17 m <sup>3</sup> )	109 in (277 cm)	150 hp (110 kW)
VT750 twin-screw vertical mixer	750 ft <sup>3</sup> (21.2 m <sup>3</sup> )	123 in (312 cm)	180 hp (130 kW)
VT750 Premium twin-screw vertical mixer	750 ft <sup>3</sup> (21.2 m <sup>3</sup> )	123 in (312 cm)	180 hp (130 kW)

# VT830, VT970 AND VT970 PREMIUM TWIN-SCREW VERTICAL MIXERS

The Vermeer VT830, VT970 and VT970 Premium twin-screw vertical mixers are built for high-volume operations. With features unique to each of them, like the large capacity and low loading height of the VT830 twin-screw vertical mixer, or the ability to choose a single axle with dual tires or a tandem-spring axle with four large super-single tires on the VT970 and VT970 Premium, producers will find the mixer that will become essential to their operations.

**1** The 4-point scale is designed to help producers target and achieve precise rations. With Bluetooth connectivity, operators can view weight readouts directly from their smart device while loading the machine.

**2** For maximized durability, and to help prevent corrosion, operators can get the optional stainless steel liner.

**3** Equipped with versatile options, the VT830 twin-screw vertical mixer gives operators the ability to choose a mixer with single tires or dual tires for use in different ground conditions and the ability to configure with the tandem spring axle. The VT970 twin-screw vertical mixer gives operators the option to configure a single axle with dual tires or a tandem-spring axle with four large super-single tires.

**4** Feed is more valuable in the bunk than left in the tub. That is why Vermeer mixers feature two bi-pulse legs and the leading edge of the screw to form three points of contact with the tub floor to optimize cleanout and minimize feed waste.

**5** Not only do producers want a consistent mix, their cows do, too. Twin-screw vertical mixers from Vermeer come equipped with an overlapping screw design and offset baffles along the tub wall. Together, the screws, baffles and tub geometry work to move material from the front chamber to the back chamber for a thorough mix.

**6** (VT830 ONLY) At 830 ft<sup>3</sup> (23.4 m<sup>3</sup>), the VT830 twin-screw vertical mixer has an attractive loading height at just 116 in (295 cm). This low loading height provides versatility to accommodate height restrictions during loading, feeding and storage, while also allowing them to have a mixer of this capacity.

**7** VT970 Premium mixers from Vermeer are for high-volume operators who need maximum durability. The VT970 Premium offers the same features of a VT970 but with thicker tub walls, floor and screw flighting and commercial duty planetaries. They also allow operators to view weight readouts from three different places: standard display, smart device via Bluetooth connectivity or from the additional remote display.



MIXER	CAPACITY	LOADING HEIGHT	RECOMMENDED PTO HORSEPOWER
VT830 twin-screw vertical mixer	830 ft <sup>3</sup> (23.4 m <sup>3</sup> )	116 in (295 cm)	180 hp (130 kW)
VT970 twin-screw vertical mixer	970 ft <sup>3</sup> (27.5 m <sup>3</sup> )	127 in (323 cm)	200 hp (150 kW)
VT970 Premium twin-screw vertical mixer	970 ft <sup>3</sup> (27.5 m <sup>3</sup> )	127 in (323 cm)	200 hp (150 kW)

# VT1150 PREMIUM TWIN-SCREW VERTICAL MIXER

With a commercial-duty planetary and larger size for maximum load capacity, the VT1150 Premium twin-screw vertical mixer is ideal for large operations. A standard planetary cooling system and optional 2-speed gearbox cooling allow for hours of constant use — translating into maximized component life. With two overlapping screws and offset baffles, a consistent blend of feedstuffs can be achieved with every mix.

**1** Feedstuffs mix optimally when going between both chambers of the tub. This is accomplished with an overlapping screw design and offset baffles placed on the tub wall, helping achieve a consistent, thorough mix.

**2** The 2-speed gearbox allows operators to mix at different speeds at different phases in the feeding cycle.

**3** The VT1150 Premium features two commercial-duty planetary gearboxes. An optional cooling system allows for long life of the planetary.



**4** Optional stainless steel liners help prevent rust in the tub of the mixer, especially when using feedstuffs with a higher acidity.

**5** Premium mixers from Vermeer have increased steel thickness on the tubs, floor and screw flighting. The tub wall and screw flighting are constructed with abrasion-resistant AR200 steel.

**6** Operators can be satisfied knowing these machines work to minimize feed left in the tub. Two bi-pulse legs and the leading edge of the screw team up to create three points of contact with the tub floor to minimize cleanout time compared to mixers with only one or two points of contact with the floor.

**7** Knowing the load weight is critical for mixing accurate rations. Premium vertical mixers offer an additional remote scale display for visibility to real-time weight readouts. Producers can also view weights from the standard scale head or on their smart device via Bluetooth connectivity.



MIXER	CAPACITY	LOADING HEIGHT	RECOMMENDED PTO HORSEPOWER
VT1150 Premium twin-screw vertical mixer	1,150 ft <sup>3</sup> (32.6 m <sup>3</sup> )	139 in (353 cm)	220 hp (160 kW)

# VT1310 PREMIUM TWIN-SCREW VERTICAL MIXER

With a large 1,310-ft<sup>3</sup> (37.1-m<sup>3</sup>) capacity, producers using the VT1310 Premium twin-screw vertical mixer are feeding a lot of cattle in a day and need to count on their mixer for a consistent blend.

**1** The VT1310 Premium is equipped with an overlapping screw design that works directly with offset baffles to move the feedstuff from one chamber to the other in a clockwise motion.

**2** The automatic 2-speed transmission gives operators peace of mind knowing that the transmission is placing itself in high or low based upon real-time torque measurements.

**3** Two commercial-duty planetaries are utilized on the VT1310 Premium. A standard cooling system allows for use day in, day out.



**4** When buying a premium-series mixer from the Vermeer lineup, producers can expect maximized durability. The VT1310 Premium is equipped with a 3/8-in (9.5-mm) thick tub wall, 3/4-in (19.1-mm) screw flighting and 1-in (25.4-mm) floor thickness. The tub wall and screw flighting are made from abrasion-resistant AR200 steel.

MIXER	CAPACITY	LOADING HEIGHT	RECOMMENDED PTO HORSEPOWER
VT1310 Premium twin-screw vertical mixer	1,310 ft <sup>3</sup> (37.1 m <sup>3</sup> )	155 in (394 cm)	230 hp (170 kW)

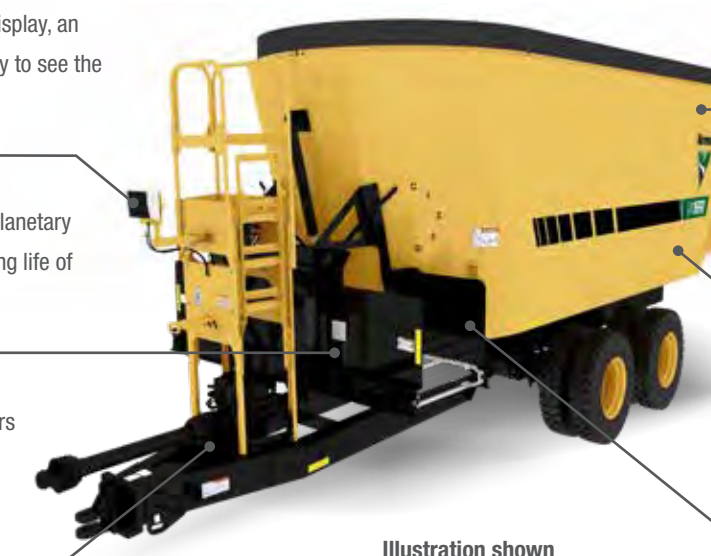
# VX1690 PREMIUM TRIPLE-SCREW VERTICAL MIXER

A big operation needs a big mixer to get the job done. With heavy-duty components like a commercial-grade 2-speed automatic transmission and planetary, three overlapping screws with directional offset baffles and three points of contact with the tub floor per screw for optimal cleanout, this mixer is built for optimal durability.

**1** When handling large amounts of feedstuffs, knowing the weight at any moment is important. The VX1690 Premium is equipped with a standard 8-point scale and standard scale display, an additional remote display and Bluetooth connectivity to see the weight on any smart device.

**2** The VX1690 Premium has three commercial-duty planetary gearboxes. A standard cooling system allows for long life of the planetary.

**3** The automatic 2-speed transmission gives operators peace of mind knowing that the transmission is placing itself in high or low based upon real-time torque measurements.



**4** Three heavy-duty overlapping screws work in conjunction with directional offset baffles to allow a consistent mix throughout the load. As different feedstuffs move through the tub, these components work together to allow a complete transfer of materials from the front to the back of the tub in a clockwise motion, resulting in a thoroughly mixed ration.

**5** A big mixer needs the right components to allow thorough cleanout. That's why the VX1690 Premium is equipped with three points of contact on each screw, formed by two bi-pulse legs and the leading edge of the screw, to encourage cleanout and minimized feed waste.

**6** With a mixer this large, operators need the ability to feed in multiple different ways. That's why the VX1690 Premium offers front discharge or quad-door side discharge.

MIXER	CAPACITY	LOADING HEIGHT	RECOMMENDED PTO HORSEPOWER
VX1690 Premium triple-screw vertical mixer	1,690 ft <sup>3</sup> (47.9 m <sup>3</sup> )	143 in (363 cm)	250 hp (190 kW)

SPECIFICATION	BF180	BF230	BF250	HF300	HF400	HF480
<b>DIMENSIONS AND WEIGHTS</b>						
Machine weight	2,760 lb (1,250 kg)	3,104 lb (1,408 kg)	3,400 lb (1,540 kg)	4,400 lb (2000 kg)	5,560 lb (2,520 kg)	6,300 lb (2,900 kg)
Transport width	98 in (250 cm)	98 in (250 cm)	110 in (280 cm)	95 in (240 cm)	95 in (240 cm)	115 in (292 cm)
Working width	108 in (274 cm)	108 in (274 cm)	120 in (305 cm)	135 in (343 cm)	135 in (343 cm)	149 in (378 cm)
Total height	84 in (210 cm)	84 in (210 cm)	84 in (210 cm)	101 in (257 cm)	102 in (259 cm)	102 in (259 cm)
Loading height	70 in (180 cm)	70 in (180 cm)	70 in (180 cm)	91 in (230 cm)	96 in (240 cm)	96 in (240 cm)
Tires	295/75R-22.5	295/75R-22.5	295/75R-22.5	295/75R-22.5	425/65R-22.5	425/65R-22.5
<b>BOX</b>						
Capacity	180 ft³ (5.1 m³)	230 ft³ (5.8 m³)	250 ft³ (6.5 m³)	300 ft³ (8.1 m³)	400 ft³ (10.5 m³)	480 ft³ (13.6 m³)
Inside box length	132 in (335 cm)	162 in (411 cm)	162 in (411 cm)	147 in (373 cm)	177 in (450 cm)	177 in (450 cm)
Inside box width — below flare	54 in (140 cm)	54 in (140 cm)	60 in (150 cm)	60 in (150 cm)	60 in (150 cm)	72 in (180 cm)
Inside box width — above flare	60 in (150 cm)	60 in (150 cm)	66 in (170 cm)	NA	NA	NA
Floor material	Steel	Steel	Steel	Poly	Poly	Poly
<b>DISCHARGE SYSTEM</b>						
Discharge style	Conveyor or auger	Conveyor or auger	Conveyor or auger	Conveyor	Conveyor	Conveyor
Discharge direction	Left	Left	Left	Left	Left	Left
Conveyer length	82 in (210 cm)	82 in (210 cm)	94 in (240 cm)	NA	NA	NA
Fold-up conveyer extension length	NA	NA	NA	44 in (110 cm)	44 in (110 cm)	44 in (110 cm)
Auger length	80.5 in (204 cm)	80.5 in (204 cm)	94 in (240 cm)	NA	NA	NA
<b>TRACTOR REQUIREMENTS</b>						
Recommended PTO horsepower	60 hp (40 kW)	60 hp (40 kW)	60 hp (40 kW)	NA	NA	NA
Hydraulic type	Optional, 1 double-acting	Optional, 1 double-acting	Optional, 1 double-acting	2 double-acting	2 double-acting	2 double-acting
Hydraulic pressure	Optional, 1800 psi (124 bar)	Optional, 1800 psi (124 bar)	Optional, 1800 psi (124 bar)	1,800 psi (124 bar)	1,800 psi (124 bar)	1,800 psi (124 bar)
Hydraulic flow	Optional, 10 gpm (38 L/min)	Optional, 10 gpm (38 L/min)	Optional, 10 gpm (38 L/min)	14 gpm (53 L/min)	14 gpm (53 L/min)	14 gpm (53 L/min)
<b>DRIVE SYSTEM</b>						
Mechanical drive	Standard	Standard	Standard	NA	NA	NA
PTO speed	540 rpm	540 rpm	540 rpm	NA	NA	NA
Hydraulic drive	Optional hydraulic orbit motor	Optional hydraulic orbit motor	Optional hydraulic orbit motor	Standard	Standard	Standard
<b>SCALE SYSTEM</b>						
Scale	Optional	Optional	Optional	Optional	Optional	Standard
Scale display	Digi-Star EZ2500V	Digi-Star EZ2500V	Digi-Star EZ2500V	Digi-Star EZ2500V	Digi-Star EZ2500V	Digi-Star EZ2500V
Number of weigh bars	3	3	3	3	3	3
Jack stand weigh bar	Optional	Optional	Optional	Optional	Optional	Optional

SPECIFICATION	VS350	VS420	VS510	VS570
<b>DIMENSIONS AND WEIGHTS</b>				
Loading height — standard	106 in (269 cm)	110 in (280 cm)	120 in (300 cm)	125 in (318 cm)
Machine weight — standard	7,990 lb (3,624 kg)	10,020 lb (4,545 kg)	10,275 lb (4,660 kg)	11,870 lb (5,380 kg)
Maximum net load (lb)	12,000 lb (5,400 kg)	14,000 lb (6,350 kg)	15,000 lb (6,800 kg)	17,000 lb (7,700 kg)
Total length (in)	202 in (513 cm)	211 in (536 cm)	214 in (544 cm)	218 in (554 cm)
Transport width — 50-in folding conveyer extension	111 in (282 cm)	117 in (297 cm)	118 in (300 cm)	121 in (307 cm)
Transport width — 119-in bi-directional conveyer	NA	NA	NA	NA
Working width — 50-in folding conveyer extension	130 in (330 cm)	135 in (343 cm)	137 in (348 cm)	140 in (356 cm)
Working width — 119-in bi-directional conveyer	NA	NA	NA	NA
Tires (retread)	Standard: 255/70R-22.5 Optional: 14-17.5 skid steer	Standard: 445/50R-22.5 Optional: 445/50R-22.5 lug; Optional 255/70R-22.5 dual	Standard: 445/50R-22.5 Optional: 445/50R-22.5 lug; Optional 255/70R-22.5 dual	Standard: 445/50R-22.5 Optional: 445/50R-22.5 lug
<b>TUB AND SCREWS</b>				
Capacity	350 ft³ (9.9 m³)	420 ft³ (11.9 m³)	510 ft³ (14.2 m³)	570 ft³ (17 m³)
Number of screws	1	1	1	1
Number of knives per screw	5	6	7	7
Tub wall thickness	1/4 in (6.4 mm)	1/4 in (6.4 mm)	1/4 in (6.4 mm)	1/4 in (6.4 mm)
Tub wall material	Regular structural steel	AR200	AR200	AR200
Floor thickness	1/2 in (12.7 mm)	3/4 in (19.1 mm)	3/4 in (19.1 mm)	3/4 in (19.1 mm)
Screw flighting thickness	1/2 in (12.7 mm)	5/8 in (15.9 mm)	5/8 in (15.9 mm)	5/8 in (15.9 mm)
Screw flighting material	AR200	AR200	AR200	AR200
<b>DISCHARGE SYSTEM</b>				
Discharge style	Front conveyer	Front conveyer	Front conveyer	Front conveyer
Discharge direction	Left or right	Left or right	Left or right	Left or right
Folding conveyer extension length	25 in/40 in/50 in/65 in (64 cm/100 cm/130cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130cm/165 cm)
Bi-directional conveyer length	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift
Rear discharge door	NA	NA	NA	NA
<b>TRACTOR REQUIREMENTS</b>				
Minimum PTO horsepower	90 hp (70 kW)	100 hp (75 kW)	120 hp (89 kW)	130 hp (97 kW)
Recommended PTO horsepower	100 hp (75 kW)	120 hp (89 kW)	130 hp (97 kW)	150 hp (110 kW)
<b>DRIVE SYSTEM</b>				
Driveline	Standard: 1,000 rpm, CV: Optional: 540 rpm, CV	Standard: 1,000 rpm, CV: Optional: 540 rpm, CV	Standard: 1,000 rpm, CV: Optional: 540 rpm, CV	1,000 rpm, CV
Two-speed gearbox	Optional	Optional	Optional	Optional
Torque protection	Shear bolt	Shear bolt	Shear bolt	Shear bolt
Screw rpm	1,000 rpm configuration - 48 (1 speed); 48/32 (2 speed); 540 rpm configuration - 40 (1 speed); 40/27 (2 speed)	Standard: 39 (1 speed); 39/26 (2 speed) Optional: 48/32 (2 speed, 100rpm)	39 (1 speed); 39/26 (2 speed)	39 (1 speed); 39/26 (2 speed)
<b>SCALE SYSTEM</b>				
Scale display	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT
Number of weigh bars	4	4	4	4
Bluetooth connectivity	Standard	Standard	Standard	Standard
Remote display	NA	NA	NA	NA

SPECIFICATION	VT600	VT660	VT750	VT750 PREMIUM	VT830	VT970	VT970 PREMIUM	VT1150 PREMIUM	VT1310 PREMIUM	VX1690 PREMIUM
<b>DIMENSIONS AND WEIGHTS</b>										
Loading height — standard	109 in (277 cm)	105 in (267 cm)	123 in (312 cm)	123 in (312 cm)	116 in (295 cm)	127 in (323 cm)	127 in (323 cm)	139 in (353 cm)	155 in (394 cm)	143 in (363 cm)
Machine weight — standard	13,780 lb (6,250 kg)	13,625 lb (6,180 kg)	15,580 lb (7,067 kg)	17,535 lb (7,950 kg)	16,240 lb (7,370 kg)	20,165 lb (9,150 kg)	22,880 lb (10,380 kg)	24,800 lb (11,200 kg)	27,000 lb (12,200 kg)	38,750 lb (17,600 kg)
Maximum net load (lb)	19,000 lb (8,600 kg)	18,000 lb (8,160 kg)	21,000 lb (9,530 kg)	21,000 lb (9,530 kg)	21,000 lb (9,530 kg)	25,000 lb (11,300 kg)	25,000 lb (11,300 kg)	30,000 lb (13,600 kg)	37,000 lb (16,780 kg)	45,000 lb (20,400 kg)
Total length (in)	273 in (693 cm)	285 in (724 cm)	277 in (704 cm)	277 in (704 cm)	298 in (757 cm)	300 in (762 cm)	300 in (762 cm)	303 in (770 cm)	311 in (790 cm)	394 in (1,000 cm)
Transport width — 50-in folding conveyor extension	113 in (287 cm)	113 in (287 cm)	113 in (287 cm)	113 in (287 cm)	117 in (297 cm)	119 in (302 cm)	119 in (302 cm)	120 in (305 cm)	NA	NA
Transport width — 119-in bi-directional conveyor	NA	NA	NA	NA	NA	119 in (302 cm)	119 in (302 cm)	119 in (302 cm)	119 in (302 cm)	119 in (302 cm)
Working width — 50-in folding conveyor extension	130 in (330 cm)	130 in (330 cm)	130 in (330 cm)	130 in (330 cm)	135 in (343 cm)	136 in (345 cm)	136 in (345 cm)	138 in (351 cm)	NA	NA
Working width — 119-in bi-directional conveyor	NA	NA	NA	NA	NA	119 in (302 cm)	119 in (302 cm)	119 in (302 cm)	119 in (302 cm)	119 in (302 cm)
Tires (retread)	Standard 425/65R-22.5; Optional 255/70R-22.5 dual	Standard 445/50R-22.5; Optional 445/50R-22.5 lug	Standard 425/65R-22.5; Optional 255/70R-22.5 dual	Standard 255/70R-22.5 dual; Optional 425/65R-22.5	Standard 425/65R-22.5; Optional 255/70R-22.5 dual	Standard 315/80R-22.5 dual; Optional 445/50R-22.5 tandem	Standard 315/80R-22.5 dual; Optional 445/50R-22.5 tandem	Standard 315/80R-22.5 dual; Optional 255/70R-22.5 dual, tandem; 445/50R-22.5 tandem	315/80R-22.5 dual, tandem steerable	315/80R-22.5 dual, tandem steerable
<b>TUB AND SCREWS</b>										
Capacity	600 ft³ (17 m³)	660 ft³ (18.1 m³)	750 ft³ (21.2 m³)	750 ft³ (21.2 m³)	830 ft³ (23.4 m³)	970 ft³ (27.5 m³)	970 ft³ (27.5 m³)	1,150 ft³ (32.6 m³)	1,310 ft³ (37.1 m³)	1,690 ft³ (47.9 m³)
Number of screws	2	2	2	2	2	2	2	2	2	3
Number of knives per screw	5	5	7	7	6	7	7	11	11	11
Tub wall thickness	1/4 in (6.4 mm)	1/4 in (6.4 mm)	1/4 in (6.4 mm)	3/8 in (9.5 mm)	1/4 in (6.4 mm)	1/4 in (6.4 mm)	3/8 in (9.5 mm)	3/8 in (9.5 mm)	3/8 in (9.5 mm)	3/8 in (9.5 mm)
Tub wall material	AR200	Regular structural steel	AR200	AR200	AR200	AR200	AR200	AR200	AR200	AR200
Floor thickness	3/4 in (19.1 mm)	5/8 in (15.9 mm)	3/4 in (19.1 mm)	1 in (25.4 mm)	3/4 in (19.1 mm)	3/4 in (19.1 mm)	1 in (25.4 mm)	1 in (25.4 mm)	1 in (25.4 mm)	1 in (25.4 mm)
Screw fighting thickness	5/8 in (15.9 mm)	1/2 in (12.7 mm)	5/8 in (15.9 mm)	3/4 in (19.1 mm)	5/8 in (15.9 mm)	5/8 in (15.9 mm)	3/4 in (19.1 mm)	3/4 in (19.1 mm)	3/4 in (19.1 mm)	3/4 in (19.1 mm)
Screw fighting material	AR200	AR200	AR200	AR200	AR200	AR200	AR200	AR200	AR200	AR200
<b>DISCHARGE SYSTEM</b>										
Discharge style	Front conveyor	Front conveyor	Front conveyor	Front conveyor	Front conveyor	Front conveyor	Front conveyor	Front conveyor	Front conveyor	Front conveyor
Discharge direction	Left or right	Left or right	Left or right	Left or right	Left or right	Left or right	Left or right	Left or right	Left or right	Left or right
Folding conveyor extension length	25 in/40 in/50 in/65 in (64 cm/100 cm/130 cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130 cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130 cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130 cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130 cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130 cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130 cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130 cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130 cm/165 cm)	25 in/40 in/50 in/65 in (64 cm/100 cm/130 cm/165 cm)
Bi-directional conveyor length	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift	101 in/110 in/119 in (257 cm/280 cm/302 cm) OR 101 in (257 cm) hydraulic shift
Rear discharge door	Optional	NA	Optional	Optional	Optional	Optional	Optional	Optional	Standard	Standard (front discharge), Optional (side discharge)
<b>TRACTOR REQUIREMENTS</b>										
Minimum PTO horsepower	140 hp (100 kW)	150 hp (110 kW)	150 hp (110 kW) (2-speed)	150 hp (110 kW) (2-speed)	150 hp (110 kW) (2-speed)	180 hp (130 kW) (2-speed)	180 hp (130 kW) (2-speed)	190 hp (140 kW) 2-speed	200 hp (150 kW) (2-speed)	230 hp (170 kW) (2-speed)
Recommended PTO horsepower	150 hp (110 kW)	170 hp (130 kW)	180 hp (130 kW)	180 hp (130 kW)	180 hp (130 kW)	200 hp (150 kW)	200 hp (150 kW)	220 hp (160 kW)	230 hp (170 kW)	250 hp (190 kW)
<b>DRIVE SYSTEM</b>										
Driveline	1,000 rpm, CV	1,000 rpm, CV	1,000 rpm, CV	1,000 rpm, CV	1,000 rpm, CV	1,000 rpm, CV	1,000 rpm, CV	1,000 rpm, CV	1,000 rpm, non-CV	1,000 rpm; non-CV
Two-speed gearbox	Optional	Standard	Optional	Optional	Optional	Optional	Optional	Optional	Standard	Standard
Torque protection	Shear bolt	Shear bolt	Shear bolt	Shear bolt	Shear bolt	Shear bolt	Shear bolt	Shear bolt	Auto-reset torque-limiting clutch	Auto-reset torque-limiting clutch
Screw rpm	39 (1-speed); 39/26 (2-speed)	48/32 (2-speed)	39 (1-speed); 39/26 (2-speed)	39 (1-speed); 39/26 (2-speed)	39 (1-speed); 39/26 (2-speed)	39 (1-speed); 39/26 (2-speed)	39 (1-speed); 39/26 (2-speed)	34 (1-speed); 34/23 (2-speed)	34/19 (2-speed)	34/19 (2-speed)
<b>SCALE SYSTEM</b>										
Scale display	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT	Digi-Star EZ2810-BT
Number of weigh bars	4	4	4	4	4	4	4	4	4	8
Bluetooth connectivity	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Remote display	NA	NA	Optional	Standard	NA	Optional	Standard	Standard	Standard	Standard



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