

Vertical TMR Mixers | 270-760 Cubic Feet



Vertical Maxx[®]

VS 100 / VSL 200 / VT 100

www.KuhnNorthAmerica.com



Invest in Quality[®]

THE VERTICAL ADVANTAGE

QUALITY MIXING

Vertical mixers have long been known for their ability to achieve a completely uniform mix with no dead spots. Consistent processing lengths optimize rumen function and productivity. Uniform mixing and consistent processing result in a quality mix that minimizes ingredient sorting and helps ensure that the animal is getting the nutrients that it needs to excel in production.

RATION VERSATILITY

KUHN Knight vertical mixers offer the most versatility to process and mix the widest variety of feedstuffs. This includes round bales, square bales, baleage, forages, small grains, concentrates and other hard to handle materials.

TIME TESTED

KUHN Knight mixers have withstood the test of time and will continue to do the same for you and your operation. Combining years of experience with the latest technologies, KUHN offers an exceptional line of TMR mixers.

VERTICAL MAXX® TMR MIXERS in brief

Models	Mixing Capacity (w/ Extensions)	Available Configurations	Available Door Configurations
VS 127	270 (310) cu. ft.	Trailer or Stationary	Left and/or Right Side
VS 135	350 (390) cu. ft.	Trailer or Stationary	Left and/or Right Side
VS 143	430 (480) cu. ft.	Trailer or Stationary	Left and/or Right Side
VSL 242	420 (470) cu. ft.	Trailer Only	Front, Side & Rear
VSL 250	500 (550) cu. ft.	Trailer Only	Front, Side & Rear
VT 132	320 (360) cu. ft.	Trailer Only	Front, Side & Rear
VT 144	440 (495) cu. ft.	Trailer, Truck or Stationary	Front, Side & Rear
VT 156	560 (630) cu. ft.	Trailer or Truck	Front, Side & Rear
VT 168	680 (760) cu. ft.	Trailer or Truck	Front, Side & Rear



CAPABLE OF HANDLING YOUR OPERATION'S WORKLOAD

With capacities ranging from 270 to 760 cubic feet, there's sure to be a KUHN Knight mixer for you. No matter the size, all KUHN Knight mixers come with high-quality design features giving you a strong, durable mixer that is built to last.



RUGGED UNDERCARRIAGE

Smaller trailer models feature a heavy-duty, straight single axle. The heavy steel framework, with rugged spindles and hubs, provides solid support and the ability to handle necessary loads.



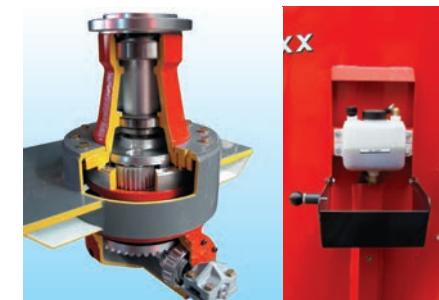
FULLY WELDED TUB DESIGN

The completely welded body provides superior strength and durability for long life without cracking at bolted joints. The heavy-duty, reinforced floor and body help ensure dependable service and long life.



LARGE UNLOADING DOORS

For unmatched feed flow, these mixers feature large discharge doors. The discharge linkage allows for rapid opening and closing of the door.



SIMPLE, DEPENDABLE DRIVE

A planetary drive system provides simplicity for long life and heavy-duty use. The flooded top bearing eliminates the need for extra grease zerks. This proven and rugged drive system, coupled with an external oil reservoir, is virtually maintenance free with the exception of scheduled gear lube changes.



5-YEAR WARRANTY

KUHN offers a 5-year prorated warranty on planetary and 2-speed gearboxes on all vertical mixers. KUHN also offers a 1-year warranty on all other machine components.

Ask your dealer for further details.

FASTER, MORE COMPLETE MIXING

Redesigned augers provide superior feed movement for faster, more complete mixing and processing. The cone-shaped design and angled top cover of the augers promote consistent material flow and improved cleanoff. Enhanced material flow also results in a lower horsepower requirement for more efficient, economical operation.



VSL Auger



VS Auger



VT Auger

1 CONTINUOUS FLIGHTING

Smooth, continuous flighting promotes a rolling action of the feed for more thorough mixing and lower horsepower requirements. The heavier lower flighting provides longer service life.

2 ADJUSTABLE, REPLACEABLE SCRAPER

The adjustable, replaceable lead-flighting scraper is angled to guide feed up the auger flighting for efficient movement. The scraper ensures all ingredients, even added in small amounts, are thoroughly mixed.

3 EFFICIENT DISCHARGE KICKER

The auger kicker is formed rearward to continuously charge the door with feed for even discharge and decreased unloading time.

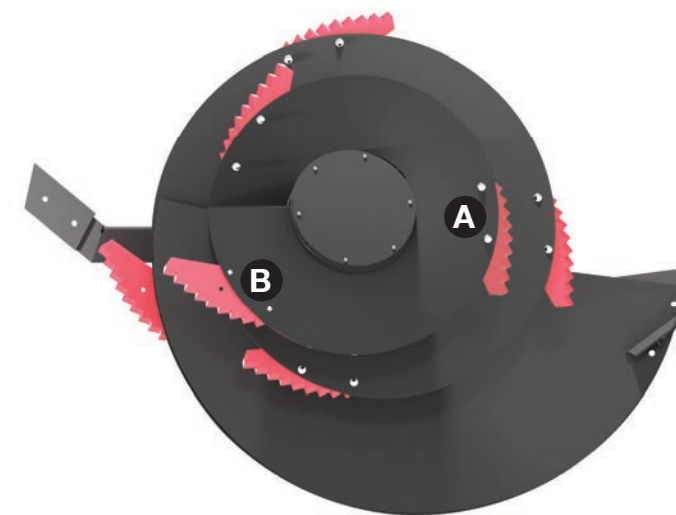
4 HARDENED KNIVES

Large, 15" or 20", replaceable haycutting knives are available to best handle the material to be processed. The knives have two positions to adjust the aggressiveness of the knife angle. Versatility of knife length, angle and position allow for an optimal setting with a wide variety of ration ingredients.

- A Knife set in for slicing and cutting
- B Knife set out for grabbing and tearing

5 ADJUSTABLE HAY STOPS

The adjustable hay stops provide flexibility in processing to provide you with the cut length necessary to reach the optimal nutritional value you're striving for. This adjustability makes hay processing more efficient and helps minimize overprocessing.





VERTICAL MAXX® VS 127 / 135 / 143

SIMPLE & AFFORDABLE

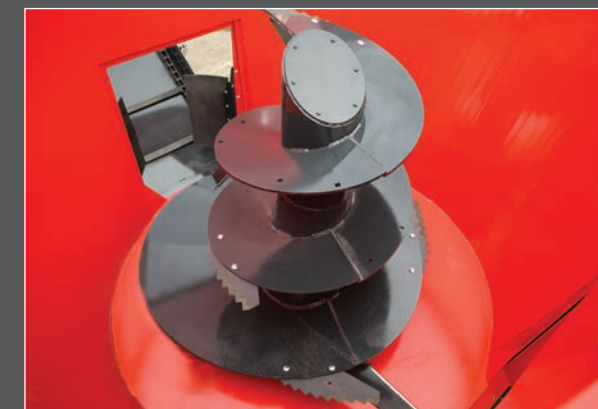
KUHN Knight VS 100 Series Vertical Maxx® single-auger mixers are an affordable, high-quality option designed for small cow/calf, backgrounder and dairy operations that process and mix high percentages of hay. Three models available, the VS 127, VS 135 and VS 143, offer capacities that range from 270 to 480 cubic feet (with extensions). To best meet your mixing needs, choose from trailer or stationary models.

The VS 100 Series mixers can mix a wide variety of feedstuffs, even hard to handle round bales, large square bales and baleage. The redesigned cone-shaped auger and angled top cover promote consistent material flow and improved cleanoff. The smaller diameter auger results in a lower horsepower requirement for more efficient, economical operation. Left, right, or a combination of left and right side discharges, along with a variety of conveyor options are available to meet the needs of your operation and place feed exactly where your animals need it.



VERSATILE PROCESSING

Process and mix rations ranging from high percentages of hay, to low-cost alternate feedstuffs without worry. The cone auger and specially designed unit shell allow processing of a variety of materials, even large round bales up to 5x6 in the VS 143.



LOW HORSEPOWER REQUIREMENT

The narrow auger design requires less horsepower, resulting in less fuel usage which helps you keep more of your hard earned dollars in your pocket.



PRECISE FEED PLACEMENT

Left, right, or left and right combination discharge options, standard with a fixed slide tray, are now available for greater versatility. The side door has been repositioned to enhance your ability to accurately place feed where you want it.



QUICK FEED DELIVERY

For unmatched feed flow, these mixers feature a large discharge door. The large openings also help ensure less binding in high hay rations, especially when discharging high-roughage rations. Upgrades to the door pivot linkage allow for smooth operation of the door.



HEAVY-DUTY, SINGLE-AXLE TRAILER

The single axle, dual-wheel design allows for ease of maneuverability, reduced ground pressure and overall stability. Both implement and truck tires are available.

VERTICAL MAXX® VSL 242 / 250

REDESIGNED WITH YOU IN MIND

The VSL 200 Series single-auger vertical mixers are designed for small- to mid-sized dairy and beef producers. Two models, ranging from 420 to 550 cubic foot capacities (with extensions), offer the versatility of front, side or rear door unloading. The low-profile VSL 200 Series is easy to load. The proven cone auger design reduces horsepower requirements, results in more efficient movement of feed and enhances final cleanoff of the auger when unloading.



LOW-PROFILE DESIGN

Easily loaded with a skidsteer, the low-profile design of the VSL remains a hallmark feature. Choose a VSL where low loading height or low clearance in entrances to buildings is desired.

TWO-SPEED GEARBOX

A shiftable, 2-speed gearbox option allows for reduced input horsepower and auger speed for easier starting and mixing, even with smaller tractors. The gearbox can be shifted manually on the machine, or with an in-cab electric shift option for operator convenience.

Electric control shown.

SHEAR BOLT OVERLOAD PROTECTION

The planetary gearbox is protected by a shear bolt from overload and torque spikes caused by obstructions.

OUTSTANDING VERSATILITY



HEAVY-DUTY FRONT, SIDE AND REAR DOORS

VSL 200 Series mixers feature heavily reinforced doors for tight closure and long service life. The hydraulically activated door linkage reduces the overall height of the mixer to allow clearance in barns with rafter/door limitations. It also allows for faster unloading as a result of a higher door opening height than would be possible with straight pulled doors.

MAXIMUM MIXING EFFICIENCY

KUHN Knight VT 100 Series, vertical twin-auger mixers feature the latest advancements in mixing technology. This series includes mid-sized models with innovative features, sleek styling and a refined finish. The optimum design of the mixing chamber and augers provide fast mixing and processing with complete cleanout. Rugged, dependable drive systems help ensure reliable service and long life. Multiple discharge options, along with the choice of truck, trailer and stationary models, provide the flexibility to match your specific needs.



PATENTED SPLIT DRIVE

This patented drive system on the VT 156 and VT 168 models consists of a 2-speed split-drive gearbox, two planetary gearboxes and two torque-disconnect PTOs. The system provides reliable performance and long service life with a simple and quiet design.

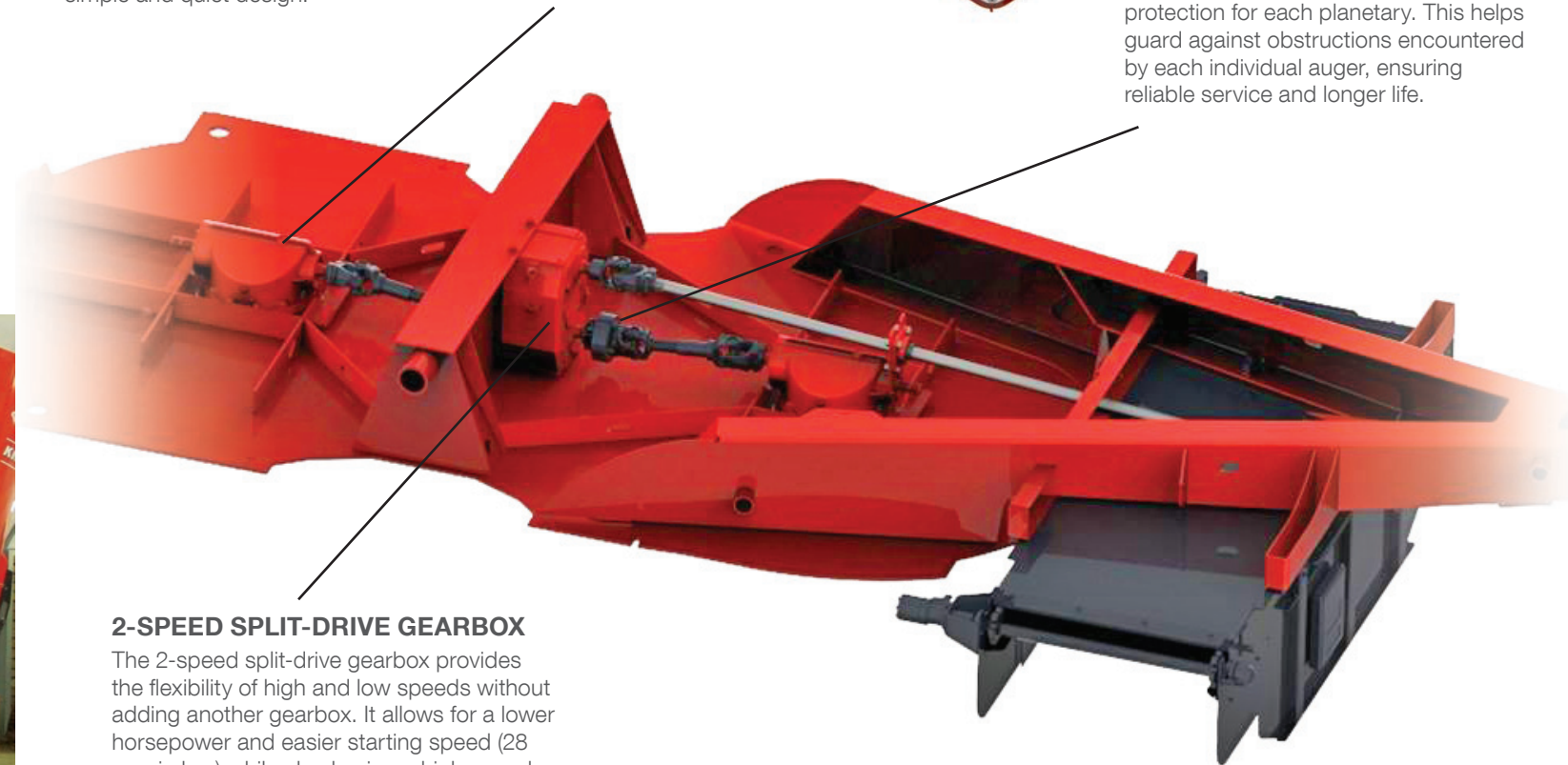
HEAVY-DUTY GEARBOXES

The twin planetaries are designed to provide dependable performance and long life. The drive systems allow the use of single-stage planetaries, which produce far less heat for easier cooling.



TORQUE-DISCONNECT PTOs

Two automatically resetting torque-disconnect PTOs provide independent protection for each planetary. This helps guard against obstructions encountered by each individual auger, ensuring reliable service and longer life.



2-SPEED SPLIT-DRIVE GEARBOX

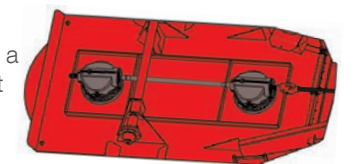
The 2-speed split-drive gearbox provides the flexibility of high and low speeds without adding another gearbox. It allows for a lower horsepower and easier starting speed (28 rpm in low) while also having a high speed for fast mixing and more complete clean out (41 rpm in high). The gearbox can be shifted manually on the machine or with an in-cab electric shift option for operator convenience.



Electric control shown

STRAIGHT DRIVE

VT 132 and VT 144 models feature a straight-drive planetary system that provides simplicity for lower torque applications.



EFFICIENT MIXING CHAMBER

Improvements to the mixing chamber work in combination with the redesigned augers to increase feed movement. Straighter sides, smoother curves and steeper baffles help promote a fast, complete mix for a fluffy, palatable ration. No preprocessing or special loading is required for round or square bales making it easy to load and use. Faster auger speeds also provide quicker, more complete cleanout.



TAILORED TO YOUR OPERATION

Multiple discharge configurations give you the flexibility to choose the setup that best matches your needs.



FRONT DISCHARGE

The redesigned front cross conveyor uses rugged components for unmatched dependability. A heavy-duty steel floor along with the heaviest conveyor chain in the industry, helps ensure long life and less downtime. New options provide the ultimate versatility to match most feeding situations.



FLAT CONVEYOR

The flat front conveyor option is simple to operate and offers convenient feeding from either side of the machine on trailer models. Hydraulic side shift is standard and gives you the ability to shift the conveyor a total of 16" from side to side for accurate feed placement.



INCLINE EXTENSION

The incline conveyor option is available with the choice of either right or left side unloading on trailer models. This option allows the flexibility for both floor feeding and feeding into bunks of various heights where a longer or higher reach is needed for precise feed placement.

REAR DISCHARGE

A rear commodity door is available on VSL and VT models. The large opening provides fast discharge, even with high-roughage premixes. A discharge tray is included on truck models to direct material flow for clean, accurate feed placement.

SIDE DISCHARGE

Side-discharge options are available for both truck and trailer models. Truck models offer a left-side door, while trailer models offer doors on either or both sides. The large door openings, unmatched by competition, allow fast unloading.



SIMPLE SLIDE TRAY

The side-discharge slide tray on the VSL & VT models has simple hydraulic controls and helps guide the feed further away from the tire path. Discharge magnets help catch metal fragments to prevent hardware. The VS 100 Series includes a fixed slide tray incorporated into the door-frame design as standard, that includes magnets.



Deflector is optional.



RUGGED CHAIN & SLAT CONVEYORS

The optional chain and slat conveyors provide the ultimate in durability and long life. Heavy-duty components ensure reliable service, even in extreme use conditions. Multiple conveyor length options offer unmatched flexibility to tailor the discharge to your needs.

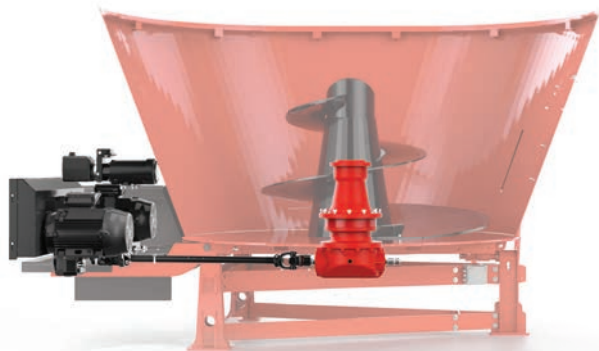
DURABLE BELT CONVEYORS

A belt conveyor can be added for easy and consistent placement of feed at varying heights including the filling of mobile feed carts. The belt offers quiet operation and consistent feed flow. Belt conveyors are able to run steeper versus a chain and slat because you can run the conveyor faster, depending on the materials. The low profile sides allow the conveyor to fold up tighter to the machine for a more narrow transport width.

MAKE THE MOST OF YOUR MIX

For operations looking to maximize feeding efficiency and mixer throughput, the VS 100 Series single-auger mixer and VT 144 twin-auger mixer are also available in a stationary configuration. Stationary mixers are ideal for producers with a centralized feeding location that utilizes a mobile feed delivery system such as conveyors or feed carts.

These stationary mixers share the same cone-shaped augers, large unloading doors, fully welded tub design and ladder, as standard, similar to their trailer counterparts.



MULTIPLE POWER PACKAGE OPTIONS

The VS 100 and VT 144 stationary models include a manual shift, 2-speed gearbox for high and low settings, along with the pulley and motor mount. The high setting is recommended for mixing, while the low setting is recommended to reduce horsepower for startups under load. An electric hydro pack for door control is standard equipment, available in either single-phase or three-phase options.

These Vertical Maxx® stationary mixers offer the flexibility to choose between a single or double motor mount. For single motor options, required horsepower depends on the mixer capacity and load size. For reduced amperage draw at startup or for customers on single phase power, a double mounting option is also available.

Customized to Fit Your Operation

OPTIONAL EQUIPMENT



HAY-RETENTION RING

The steel hay-retention ring helps contain large round bales during processing and reduces hay spillage more effectively compared to similar options on competitive models.



CAPACITY BELT EXTENSION

A belt extension added to the top of the mixing tub increases capacity by about 10%. It also improves hay containment, and the rubber construction is durable and pliable for long life.



VIEWING PLATFORM OR LADDER

All models feature a standard observation ladder to easily view the inside of the mixing chamber. Front door trailer models also offer an optional viewing platform for a convenient, comfortable place to check mixing progress.

Platform available on VT Models Only



TIP-OFF WITH MAGNETS

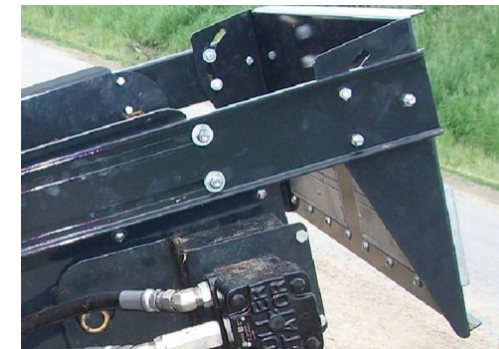
A fixed tip-off with magnets can be added to both the flat and inclined front conveyors, as well as the chain and slat side conveyor options. The magnets work to catch small metal fragments present in the feed and help prevent hardware disease.



HANGING BELT WITH MAGNETS

Either or both ends of the flat conveyor can be fitted with a hanging belt with magnets to catch small metal fragments. The hanging belt also helps to even feed flow off the end of the conveyor.

VSL and VT Front Conveyor Models Only



BELT CONVEYOR DEFLECTOR

The deflector helps with placement of the feed and provides an option for magnets.



HIGH-WEAR AUGER

The DuraMix™ hardened auger flighting provides enhanced wear resistance and longer auger life in the toughest conditions. The flighting is made of high-carbon steel throughout with hardened outer edges for unmatched durability.

VT 156/168 Models Only



STAINLESS STEEL LINER

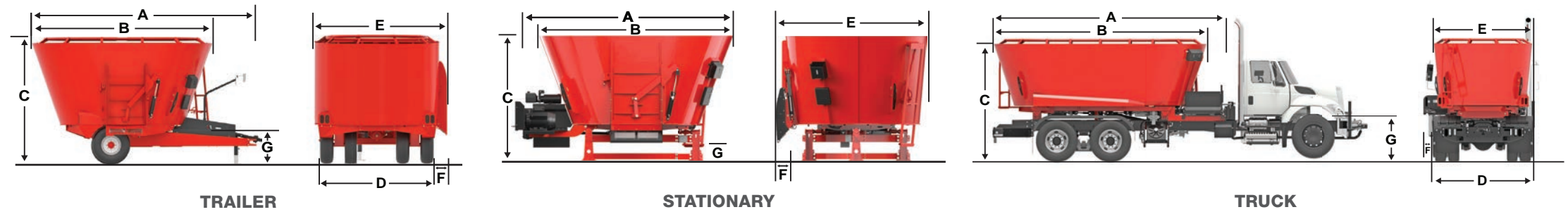
A stainless steel liner provides extra protection in the lower part of the chamber where most wear occurs. Stainless steel baffle liners are also available.

VS/VT Models Only



SCALE SYSTEMS

Different scale brands, models and options are available for all types of operations, ranging from basic to high-end feed-tracking programs. Optional remote indicators are available for placement that will allow easier viewing.



Model Specifications

DIMENSIONS (Inches)	VS 127		VS 135		VS 143		VSL 242	VSL 250	VT 132	VT 144		VT 156		VT 168		
	Trailer	Stationary	Trailer	Stationary	Trailer	Stationary	Trailer	Trailer	Trailer	Truck	Stationary	Trailer	Truck	Trailer	Truck	
A – Overall Length (Front/Side)	170"	148"	174"	152"	179"	157"	214"/194"	218"/198"	235"/210"	238"/212"	–/169"	188"/181"	283"/254"	243"/215"	285"/256"	247"/219"
B – Mixing Chamber Length	132"	132"	140"	140"	149"	149"	151"	159"	164"		169"		215"			219"
C – Overall Height ¹																
– Tire Option Used ²	380 / 55R16.5	–	380 / 55R16.5	–	380 / 55R16.5	–	12.5X16		33X15.5X16.5	385 / 65R22.5	–		385 / 65R22.5	–	385 / 65R22.5	–
– No Extensions (Front/Side)	94"	85"	104"	95"	116"	107"	98"/95"	108"/105"	90"	101"	124"	102"	102"	119"	110"	127"
– Extensions (Front/Side)	101"	92"	111"	102"	123"	114"	104"/101"	114"/111"	96"	107"	130"	108"	108"	125"	116"	133"
– With Hay Retention Ring (Front/Side)	99"	90"	109"	100"	121"	112"	103"/100"	113"/110"	95"	106"	129"	107"	108"	124"	116"	132"
D – Tread Width ²	81"	–	81"	–	81"	–	100"		88"	96"	–		104"	–	104"	–
E – Overall Width ² (Front/Side)	99"		100"		101"		113"/117"		88"		92"				104"	
F – Max Discharge Reach – Front Cross Conveyor – Flat			–				10"		8"		–				8"	
F – Max Discharge Reach – Front Cross Conveyor – Incline – 36°/48°			–				29°/39°		20°/31°		–		20°/31°	22°/33°	20°/31°	22°/33°
F – Max Discharge Reach – C & S Side Conveyor – 24°/36°/48°/60°/72°	27°/37°/47°/57°/67°	–	27°/37°/47°/57°/67°	–	27°/37°/47°/57°/67°	–	40°/50°/60°/69°/79°		20°/31°/41°/50°/62°		17°/28°/38°/48°/58°	–		22°/33°/43°/52°/64°		
F – Max Discharge Reach – Side Slide Tray			14"				24"				8"		8"	14"	8"	14"
F – Max Discharge Reach – Side Belt Conveyor – 36°/48°/72°/96°	38°/48°/67°/–	–	38°/48°/67°/–	–	38°/48°/67°/–	–	49°/59°/79°/96°		32°/42°/61°/79°		–		35°/45°/65°/83°	–	35°/45°/65°/83°	–
G – Max Discharge Height – Front Cross Conveyor – Flat			–				28"		26"		–		26"	45"	26"	45"
G – Max Discharge Height – Front Cross Conveyor – Incline – 36°/48°			–				48°/55°		39°/45°		–		42°/48°	60°/66°	42°/48°	60°/66°
G – Max Discharge Height – C & S Side Conveyor – 24°/36°/48°/60°/72°	31°/38°/45°/52°/59°	–	31°/38°/45°/52°/59°	–	31°/38°/45°/52°/59°	–	33°/40°/46°/53°/60°		27°/33°/39°/45°/52°		50°/56°/62°/68°/74°	–	29°/35°/41°/47°/54°	48°/54°/60°/66°/72°	29°/35°/41°/47°/54°	48°/54°/60°/66°/72°
G – Max Discharge Height – Side Slide Tray			21"				14"		13"		33"	13"	16"	31"	16"	31"
G – Max Discharge Height – Side Belt Conveyor – 36°/48°/72°/96°	37°/44°/58°/–	–	37°/44°/58°/–	–	37°/44°/58°/–	–	41°/48°/62°/74°		35°/42°/56°/68°		–		43°/49°/63°/75°	–	43°/49°/63°/75°	–
SPECIFICATIONS																
Unit Weight ³																
Front Discharge			–				9,700 lbs	10,200 lbs	9,900 lbs	10,500 lbs	–	–	13,300 lbs	12,200 lbs	13,900 lbs	12,800 lbs
Side Discharge	5,820 lbs	6,300 lbs	6,120 lbs	6,600 lbs	6,470 lbs	6,950 lbs	8,400 lbs	8,900 lbs	9,100 lbs	9,700 lbs	10,000 lbs	10,000 lbs	12,200 lbs	11,300 lbs	12,900 lbs	11,900 lbs
Maximum Net Load	7,750 lbs		9,750 lbs		12,000 lbs		14,100 lbs	16,500 lbs	10,800 lbs	14,850 lbs			18,900 lbs		22,800 lbs	
Cubic Foot Mixing Capacity																
– Without Extensions	270 cu.ft.		350 cu.ft.		430 cu.ft.		420 cu.ft.	500 cu.ft.	320 cu.ft.		440 cu.ft.		560 cu.ft.		680 cu.ft.	
– With Extensions	310 cu.ft.		390 cu.ft.		480 cu.ft.		470 cu.ft.	550 cu.ft.	360 cu.ft.		495 cu.ft.		630 cu.ft.		760 cu.ft.	
Augers																
– Number			1				1				2				2	
– Diameter			86"				108"				69"				86"	
– Speed (rpm)			37				41 (1 Speed)/41/27 (2 Speed)			41		25/35			41/27	
– Upper Flighting Thickness			1/2"				5/8"				1/2"				1/2"	
– Lower Flighting Thickness			5/8"				5/8"				5/8"				5/8"	
– Knives per auger – Adjustable (Standard/Maximum)	5/6		6/7		7/8		5/6	6/7	3/5		4/6				5/7	
Door Opening Size (Width x Height)																
– Front			–				42" X 37"		36" X 40"		–				42" X 40"	
– Side			32" X 40"				35" X 36"			36" X 40"					42" X 40"	
– Rear			–				42" X 37"		–	36" X 40"					42" X 40"	
Door Location	Left, Right, Both	Left or Right	Left, Right, Both	Left or Right	Left, Right, Both	Left or Right	Front, Left or Right, Rear	Front, Side	Front, Side, Rear	Left, Rear	Left or Rear	Front, Side, Rear	Front, Left, Rear	Front, Side, Rear	Front, Left, Rear	
Drive																
– Planetary			Yes				Yes		Planetary/Straight		Planetary/Split-Drive				Planetary/Split-Drive	
– PTO Drive	540 rpm	1,800 rpm	540 rpm	1,800 rpm	540 rpm	1,800 rpm	540/1,000 rpm	1,000 rpm	540 rpm		Mechanical	1,750 rpm	1,000 rpm	Mech or Hydro	1,000 rpm	Mech or Hydro
– Protection			Shear-Bolt				Shear-Bolt				Shear-Bolt				Torque-Disconnect	
Tub and Trailer Construction																
– Floor Thickness			1/2"				5/8"				1/2"				5/8"	
– Sidewall Thickness			3/16"				1/4"				1/4"				1/4"	
– Trailer	Single Axle	–	Single Axle	–	Single Axle	–	Inline Tandem		Single Axle		–		Single Axle	–	Single Axle	–
– Scale System			3-Point				4-Point		3-Point		4-Point		3-Point	4-Point	3-Point	4-Point
Tractor Requirement – PTO ⁴	50 hp	Consult Factory	75 hp	Consult Factory	90 hp	Consult Factory	90 hp	100 hp	75 hp	90 hp	–	Consult Factory	110 hp	–	120 hp	–

¹ These mixers are designed for agricultural use only with materials estimated up to 30 lbs. per cubic foot. Contact factory for non-agricultural use or heavier materials.

² Truck dimensions based on 41" truck frame height. ³ Heights and widths based on tire size listed. ⁴ Unit is equipped with most common options. ⁵ Horsepower requirement may vary with different materials. Consult operator's manual for proper tractor sizing.

COMPLEMENTARY PRODUCTS

MORE PRODUCTS TO MEET YOUR NEEDS

With over 700 models of equipment, we have the most complete implement line in the industry. Whether you have a small or large operation, we have a broad range of models and options to help fit your diverse needs.



1. Mowers
2. Tedders
3. Round Balers
4. Bale Processors
5. Manure Spreaders
6. Primary Tillage Systems

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Your KUHN Knight dealer

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