

HARVESTORE™ XL UNLOADER

Expect Extra Large Performance



The new Harvestore XL™ Unloader series is the latest innovation from Engineered Storage Products Company – designed to meet the demands of today’s modern feeding systems. Harvestore owners asked for a faster unloading system that compared to or beat the unloading speed of bags and bunkers. The answer is a technologically advanced unloader that is simply more powerful, faster and efficient than any Harvestore unloader before it.



HARVESTORE®

The Harvestore XL Unloader 400 is capable of moving up to or over 400 pounds per minute of 55 percent moisture haylage*. At that speed, farmers have a viable option to unload haylage as fast or faster than they can from a plastic silo bag or a concrete bunker.

With results like that, farmers can expect “extra large” performance with the Harvestore XL Unloader.

The Harvestore XL™ series is unlike any previous unloader. Engineered Storage Products Company started the design process over and developed a completely new unloader from the ground up. It was designed with low maintenance as a key objective. The result is a state-of-the-art system that employs technological innovations to make it the most unique and efficient unloader on the market.

Six main operational factors make the Harvestore XL Unloader series technologically improved and provide the foundation for lower maintenance and bigger, better and faster performance. They include:

- Direct variable speed drive system
- Power capacity more than double of previous Goliath® and Alliance® unloaders
- Series 400 – 30 HP and Series 200 – 25 HP use three phase motors. Both can connect with 1-ph or 3-ph power sources using a new advanced phase inverter control system
- Six unloader speeds that can be switched during operation
- Direct arm drive system with load sensor
- The new XL Unloader 400 and 200 chain design has almost double the previous chain strength

1

Direct Variable Speed Drive System

The Harvestore XL Unloaders feature significantly more chain and arm force capacity than any model before it. The direct variable speed drive system is fully enclosed and requires no V-belts or pulleys. Consider these improvements:

- Motor and gearbox are 2.5 times more powerful than previous unloader models
- Designed for low maintenance
- Operation is smooth and quiet
- Designed for a slow accelerated soft start and stop with no sudden impact loads on critical unloader components

Combine these pulling capacity improvements and you get haylage that is quickly unloaded from inside the Harvestore.

2



2

Power Capacity and Control System

The new technology built into the control box of the Harvestore XL Unloader 400 control powers a 30 horsepower 3-phase motor. The Harvestore XL Unloader 200 control box powers a 25 horsepower 3-phase motor. Both can connect to either a **1-phase or 3-phase power source**. This makes the Harvestore XL Unloader series more than twice as powerful than previously possible.

- The Harvestore XL Unloader series industrial gear boxes are built for 20,000 hours of 24/7 operation with a 4 year lube interval
- It puts out more pounds per minute, thus does not need to run as long, reducing electricity costs to less than \$2.50 an hour

The Harvestore XL Unloaders are available in the following models:

- 240 VAC 1-Phase or 3-Phase
- 480 VAC 3-Phase
- 575 VAC 3-Phase

3

Six Unloader Speeds

The Harvestore XL Unloader series has low, high and four intermediate speeds to choose from for optimum haylage delivery.

- Speeds can be changed while the unloader is running to match stored haylage conditions or delivery needs
- The XL Unloader's main drive and arm systems use separate motors and controls in a patent pending system
- Speeds can be changed while the motors are running with no stopping to shift gears

The Harvestore XL Unloaders use a variable frequency drive with programmed chain acceleration and deceleration. Again, with no quick start, there is no shock or sudden impact on unloader components.

4

Direct Arm Drive System with Load Sensor

The new direct arm drive system on the Harvestore XL Unloader series is a major improvement over other unloaders providing fast and uniform delivery. A new Load Sensing System monitors and reacts to cutter arm loads.

- The XL Unloader control system reads the information and signals the control to advance the arm under light loads or hold the arm under heavy feed loads
- The Arm Drive System allows for precise load control and full automation on the cutter arm during its operation

The Harvestore XL Unloaders have an integral gear motor design with a fully enclosed assembly. This design requires very little maintenance as there are no ratchet wheels, pawls, sleeve bearings and thrust washers like you might find on other unloaders.



5a

5b



Load Sensor



Load Sensing System



Arm Controls

- Timing adjustments are not required nor are there flyback or wear items
- Operation is simple, the arm advance control automatically turns the cutter arm drive motor ON and OFF
- The cutter arm direction direction can be electronically reversed



New Chain Design and Improved Strength

The Harvestore XL Unloader series features a new design for both cutter and conveyor chains. The top attachment links are UP for the cutter chain and DOWN for the conveyor chain. This means that one chain design is used for both the cutter and conveyor chain. In addition, the XL Unloader chain has other features for additional strength and longevity:

- Pin heads are on the BOTTOM side of the cutter and conveyor chain
- A wider flange area is present on cutter arm and backbone below pins for improved support
- A polymer sleeve, similar to what is used in the mining industry, is inserted between the pin and bushing for improved wear life on the cutter chain.

Perhaps the most significant advancement is the improved chain strength. Chain strength is a particularly important improvement for Harvestore owners. The conveyor and cutter chains on the Harvestore XL 400 are tested for up to 82,000 pounds of load bearing weight, and the Harvestore XL 200 tests up to 49,500 pounds.

Technical Data XL Series Unloaders

	XL200	XL400
Structure Size	20 and 25 ft	25 ft
Trough Size	24 in or 30 in x7.5 in	32 in x 10 in
Motor HP	25	30
Power Supply	230v 1 ph or 3 ph 460v 3 ph 575 3 ph	230v 1 ph or 3 ph 460v 3 ph 575 3 ph
Speed Settings	6	6
Cutter chain Strength	49,500 lbs	82,000 lbs
Programmed Cutter arm force	400 lbs	720 lbs



Cutter Chain



Conveyor Chain

Time Trials Support XL Delivery Rates

In individual time trials at 7 North American locations, the Harvestore XL Unloader 400 lived up to its speed and performance billing, consistently delivering 400 pounds or more of 50 percent moisture haylage per minute (i.e. 200 pounds of dry matter per minute)*.

In comparison, a Wisconsin trial comparing unloading times from plastic bags averaged 198 pounds dry matter per minute with an industrial front end loader*. The Harvestore XL Unloader was equal to or better than unloading performance with most plastic bags and bunker operations.

Two Harvestore XL Unloaders Models to Meet Your Needs

The Harvestore XL Unloader series is available in two different models.

The Harvestore XL 400: Designed for 25 foot Harvestore Structures with 32 inch wide by 10 inch deep trough.

The Harvestore XL 200: Designed for 20 foot and 25 foot Harvestore Structures with 24 inch and 30 inch troughs by 7½ inches deep.

The Harvestore XL series is the new frontier in silo unloaders. This new unloader is not only designed for higher performance, but also lower maintenance and operating costs.

The Harvestore XL Unloader series delivers quality haylage with speed, power and efficiency. To learn more about the new Harvestore XL Unloader contact your local Harvestore systems dealer or call 815-756-1551.



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*Source: In-house trials with Harvestore XL 400. The unloader delivery rates referenced in this document are representative of observed field tests on typical dairy farms in North America. Your results may vary. Results achieved on any particular farm are contingent upon weather conditions, moisture content of the stored haylage, length of chop and the employment of good management practices.



**ENGINEERED STORAGE
PRODUCTS COMPANY**

www.harvestore.com

Engineered Storage Products Company
345 Harvestore Drive, DeKalb, IL 60115
815 756-1551