

# Laidig *Planetaire*™

Models PL433, PL443, PL833, and PL843

Beam-Supported Reclaim Systems  
for extraction of high-density materials



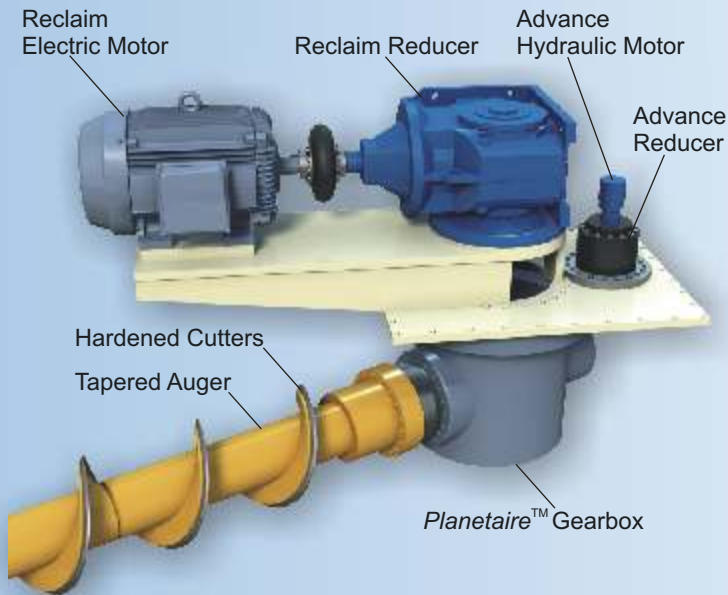
Wouldn't it be nice to:

- Have **TOTAL ACCESS** even with a full silo?
- **REPLACE THE AUGER** without emptying the silo?
- Achieve **FIFO** inventory control?
- **CONTROL FLOW** from the auger?
- Reclaim **DENSE MATERIALS** with confidence?
- Perform maintenance in a **SAFE ENVIRONMENT**?

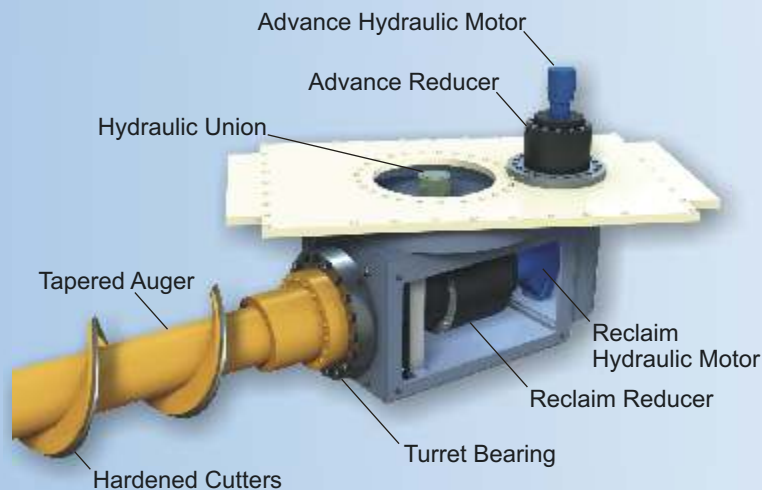


# Laidig's Optimized *Planetaire*<sup>TM</sup>

## Electric Reclaim Drive - Models PL443 and PL843



All models use hydraulic advance drives to provide optimal sensitivity for control of advance rate, greatly reducing wear on the auger drive components.



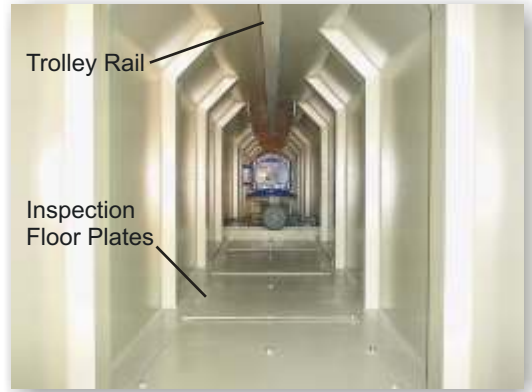
## Hydraulic Reclaim Drive - Models PL433 and PL833

- **Reclaimer Support by Access Beam** – High head-heights of stored material have little effect on advance loads since the beam bears the material load, keeping the reclaim auger and bearings in a low-load environment.
- **Total Access in a Full Silo** – The Access Beam allows for maintenance of all components, even in a full silo. Motors and reducers are inside the Access Beam. Inspection Floor Plates allow access to the gearbox, auger, and cutter blades.
- **Eliminate Need to Empty Silo** – Since the auger can be removed via the Auger Removal Port, and the gearbox and all drive components can be removed via the Access Beam, the entire reclaimer can be maintained and even totally replaced in a silo full of material.
- **Control Flow from the Auger** – The center deflector is designed, based on the material angle of repose, to prevent free-flow and to allow the delivery rate to be controlled primarily by auger rotation. In many cases this eliminates the need for an additional controlled-discharge auger or conveyor.
- **Optimized Low-Torque Auger** – The tapered auger with continuously-variable fighting diameter is designed to require the lowest-possible starting torque and advance pressure.
- **FIFO Inventory Control** – The auger is designed to reclaim material as evenly as possible across the silo floor, providing a close approximation to actual FIFO material reclamation.
- **Parking Position for Initial Fill** – The auger is parked under the beam for the initial silo fill, preventing pinning and ensuring initial startup. Under normal operation, the auger is designed to be started under full material load at any location in the silo.
- **Hazardous-Environment Friendly** – Since the Access Beam is totally open to the outside, and closed off from the inside silo atmosphere, it typically provides a safe, lower-risk environment for the drive components and for maintenance of the reclaim system.
- **Reduce Particle Segregation** – Since the tapered-auger is designed to reclaim material uniformly across the silo floor, the reclaim process tends to re-homogenize the material, providing a higher degree of consistency in the delivered product.
- **Designed for Dense Materials** – Since the Access Beam bears the material load, the *Planetaire*<sup>TM</sup> is the system of choice for high-density materials, where other reclaim systems often fall short. Coal, dense powders, and heavy or coarse granular materials are ideal candidates for the *Planetaire*<sup>TM</sup>.

# TOTAL ACCESS THROUGH THE BEAM



Beam Entrance  
Silo Frame for Beam  
Auger Removal Port  
Beam Foundation



Trolley Rail  
Inspection Floor Plates

The beam provides full access to the entire reclaim system. The beam entrance is outside the silo, with open access from both sides. The beam is open to outside atmosphere and closed off from the atmosphere inside the silo. If necessary, the auger may be extracted for maintenance via the auger removal port, even in a full silo.

The beam access allows full maintenance of all reclaim components. The trolley enables easy removal of motors, reducers, and gearboxes should it ever become necessary. Access plates in the beam floor allow for inspection of the reclaim auger and replacement of the hardened cutters.



The tapered reclaim auger is fit with hardened, replaceable cutters, bolted to the abrasion-resistant auger flighting. A variety of hardened knives and blades are available, depending upon material-flow characteristics and application-specific requirements.



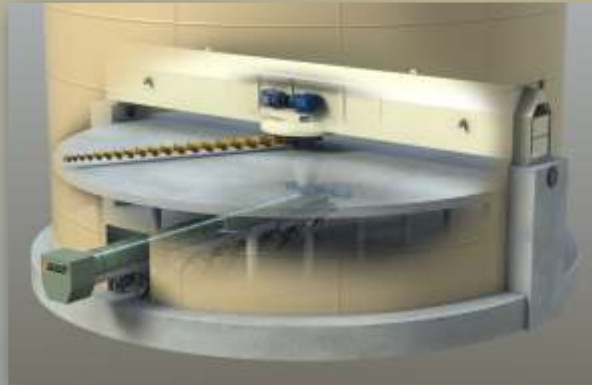
The Laidig *Planetaire*<sup>™</sup> reclaim auger is the ultimate in optimal design, with a continuously tapered shaft combined with flighting that has continuously-variable outside and inside diameters. The auger is designed to provide near-FIFO delivery with the lowest-possible starting torque and advance pressures. Abrasion-resistant flighting is standard.



Laidig's *Planetaire*<sup>™</sup> gearboxes are heavy-duty proprietary boxes designed specifically for *Planetaire*<sup>™</sup> reclaim systems. Shown are the larger M22 boxes used for the PL833 and PL843 systems.

# Laidig Planetaire™

For TOTAL ACCESS – even in a full silo!



Laidig Planetaire™ storage and reclaim systems are typically provided with bolted-steel silos or monolithic concrete silos. With bolted-steel silos, a variety of baked epoxy coatings are available for both interior and exterior silo walls. Retrofits into existing silos are often possible.

## Electric Drive Systems

## Hydraulic Drive Systems

Specifications*	PL443	PL843	PL433	PL833
Silo Diameter	14'-46' (4-14 m)	32'-70' (10-21 m)	14'-46' (4-14 m)	32'-70' (10-21 m)
Reclaim Auger Cutting Dia. (tapered)	17" (43 cm)	20" (50 cm)	17" (43 cm)	20" (50 cm)
Reclaim Auger Shaft Dia. (tapered)	8" (20 cm)	10" (25 cm)	8" (20 cm)	10" (25 cm)
Hydraulic Power Unit Motor	NA	NA	100 HP (max)	200 HP (max)
Reclaim Motor (max)	100 HP-1200 rpm	150 HP-1200 rpm	NA	NA
Reclaim Advance Speed	32-96 min/rev	32-96 min/rev	32-96 min/rev	32-96 min/rev
Reclaim Auger Advance Torque	20,000 ft-lbs (27 kN·m)	20,000 ft-lbs (27 kN·m)	20,000 ft-lbs (27 kN·m)	20,000 ft-lbs (27 kN·m)
Reclaim Auger Rotation (RPM)	10-90 rpm, adjustable	10-90 rpm, adjustable	up to 90 rpm	up to 90 rpm
Auger Delivery Rate	185 CFM (5.3 m <sup>3</sup> /min)	250 CFM (7.1 m <sup>3</sup> /min)	185 CFM (5.3 m <sup>3</sup> /min)	250 CFM (7.1 m <sup>3</sup> /min)

\* All specifications are approximate. Systems are customized according to application-specific requirements and the flow characteristics of the stored material. Consult a Laidig applications engineer for design parameters appropriate to your application.

## WITH LAIDIG YOU GET MORE THAN STEEL

### The Storage Structure

Designed specifically for the dynamic-load requirements of bottom-reclaim systems.

### The Reclaim System

Custom engineered for high delivery rates with a wide range of material applications.

### The Laidig Guarantee

If we design and install your storage and reclaim system, we guarantee it will work.

**WE DON'T JUST SELL EQUIPMENT, WE PROVIDE SOLUTIONS.**

### Additional Options:

- Automatic Variable-Speed Drives
- Discharge Conveyor Systems
- PLC Control Systems
- Ultra-Wear AR Design
- Stainless-Steel Fabrication
- Hazardous-Environment Design

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