



EVER X EXTRUDER

TM

**We Upgrade
Extruders.**

IT'S THAT SIMPLE.



ON A MISSION TO

Make Pet Food and Aquafeed Processing More Productive

About Ever Extruder	4
Products Overview	6
Cutting System	8
Die Plates	14
Shaft Stabilization System	16
Screws	20
Liners	24
Density Control System.....	28
Rear Seal System	32

SIMPLY PUT

We Optimize Extrusion Lines.

At Ever Extruder, we help pet food and aquafeed manufacturers maximize Overall Equipment Effectiveness (OEE) by upgrading extruders with solutions that outperform those from OEMs and other aftermarket suppliers. By enhancing extruder performance, quality, and availability, our equipment keeps production running with higher throughputs, consistent quality, and minimal downtime throughout the entire lifetime of the parts—ensuring every manufacturing minute is truly productive.

We are passionate about finding and improving production and equipment bottlenecks, which drives us to truly understand our customers' challenges. This commitment extends into long-term partnerships, where we serve as a source of continuous improvement for them by always upgrading extrusion.

We Leverage Experience

- **60+ years** in research, development, and implementation
- **210+ dedicated team members** engineering, manufacturing, and technical support
- **80+ customers** across the Americas, Asia, and Europe

To Deliver Solutions

- Retrofit extrusion equipment
- Optimized extrusion systems
- Advanced processing equipment
- Carbide-protected wear components

AND HERE IS

How We Do It...

- **Making Better Equipment** that lasts longer, delivers more consistent output, and is safer to operate.
- **Reducing Total Cost of Ownership** by delivering longer part life, which contributes to longer machine life and greater productivity.
- **Saving Time** by promising more uptime, fewer service calls, and simpler product installations.
- **Long-Term Partnerships** that foster collaboration and innovation.
- **Consistency and Reliability** in both your equipment and your operations.
- **Prioritizing Safety and Sanitation** with the highest standards from design to installation.



WE UNDERSTAND OVERALL EQUIPMENT EFFECTIVENESS MATTERS MOST



Performance

The extruder is running at its highest capacity throughout the lifespan of the equipment. Unnecessary stops and changeovers are eliminated.

Our optimized wear parts and enhanced stability system keep the extruder running at top performance throughout its lifecycle - ensuring consistently high throughputs.



Quality

Final product quality meets specification without compromising capacity day after day, month after month, year after year.

Our optimized wear parts and enhanced stability keep product quality controlled and consistent. Our wear parts maintain the critical geometry to ensure consistent processing parameters and uniform final product.



Availability

Unplanned and planned maintenance stops are minimized.

Our durable parts ensure the machine is running without maintenance intervention for longer. Our enhanced stability reduces longterm fatigue failures.

OUR EXTRUSION

Innovations



CUTTING SYSTEM

One-bolt, self-tensioned, fixed-blade cutting system installs in seconds and last for up to 16,000 tons.



CARBIDE DIE PLATES

Carbide protection on die cavities ensures consistent product quality by maintaining cavity size and shape for up to 15,000 tons.



SHAFT STABILIZATION SYSTEM

Includes precision shaft support, carriage support, and laser alignment for smooth, steady operation at peak speeds.



CARBIDE SCREWS

Carbide protection on screw fluting maintains optimum part performance for up to 30,000 hours.



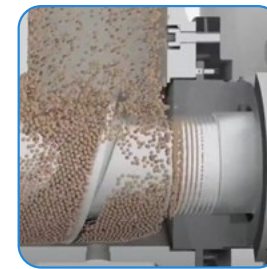
CARBIDE LINERS

Carbide protection on liner ribbing maintains optimum part performance for up to 30,000 hours.



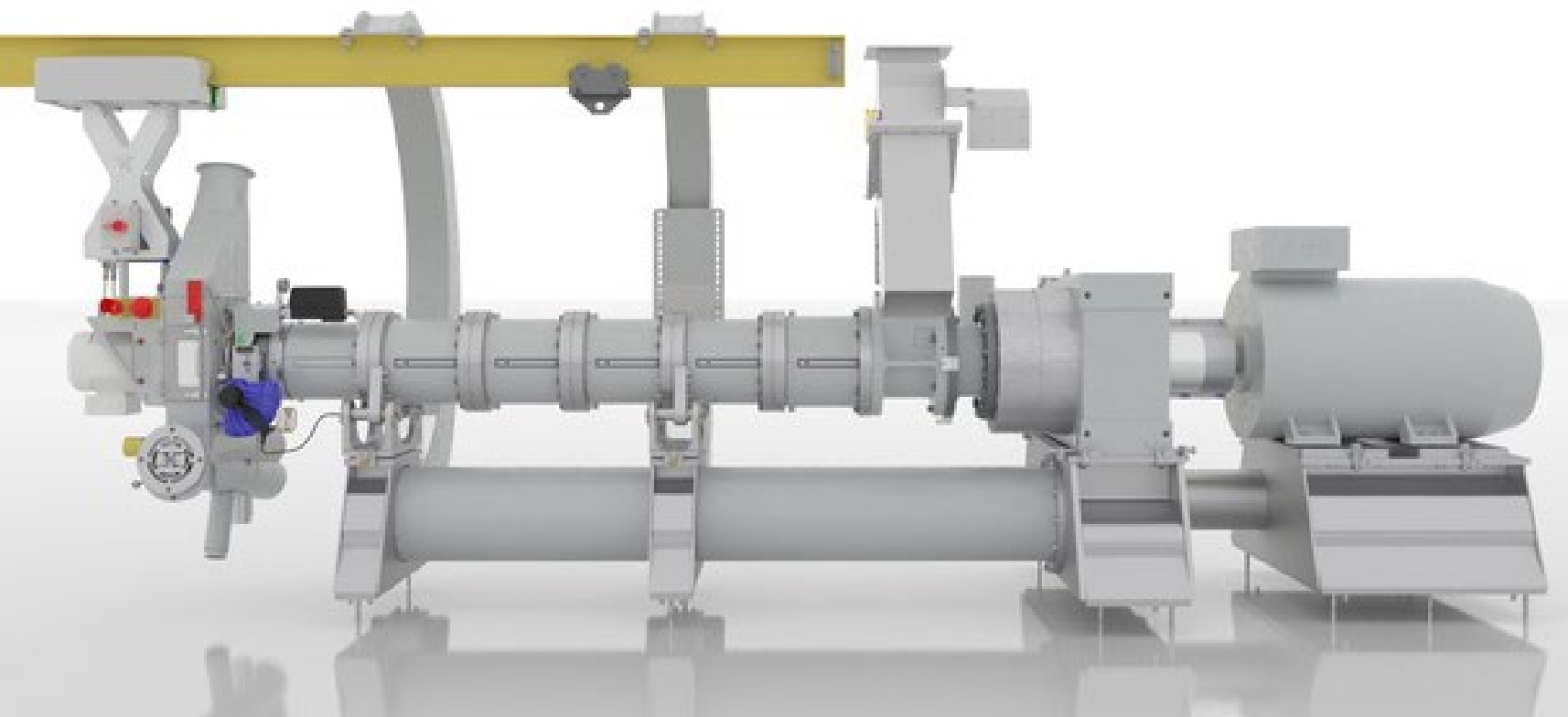
DENSITY CONTROL SYSTEM

An end of extruder process technology that allows adjustment in the extruder pressure, mechanical energy, and residence time. Integrated with die relief to provide operator safety and extrusion sanitation.



REAR SEAL SYSTEM

Prevents extrudate from leaking out the rear of the extruder causing sanitation challenges and premature failure of drive equipment.



Why Carbide?



Carbide is the unrivaled choice when it comes to wear protection. It can last longer against extreme abrasion and corrosion than typical steel by a factor of 25 to 1 (or more).

Cutting System

CLEANER CUTS. LONGER WEAR LIFE. LESS WASTE.

Upgrade every part of the cutting process, from set-up to cut quality.

Cutters may seem like a small piece of the extrusion puzzle. But the right cutting system improves your process, your product, and your profits in a big way.

Ever Extruder's one-bolt, fixed-blade, self-tensioning Cutting System is designed for simple, uniform installation in any extruder—it delivers the best cut quality, less waste in fines and tails, and longer production runs with its wear proofing technology.

A CUT ABOVE THE REST

THE PROBLEM

OEM CUTTERS

Poor Cut Quality: Inconsistent cuts lead to pellet variation and increased fines and tails, reducing the quality of the end product and increasing production waste.

Short Wear Life: With a maximum production time of 300 tons before cut quality is lost - the OEM system requires more frequent production stops and changeovers resulting in shorter production runs.

Increased Production Costs: Frequent blade replacements lead to unplanned shutdowns, wasted product, and costly downtime. An average shutdown can result in 200–500 lbs of production waste.

Complicated Set-Up: Frequent set-ups, many individual blade adjustments, excessive hardware, and time-consuming change outs lead to variability and inefficiency.

THE SOLUTION

EVER EXTRUDER CUTTING SYSTEM

Precise Cuts: By slicing instead of chopping, our cutter delivers cleaner cuts, directly reducing fines, tails, and dust buildup. This not only reduces production waste, but also reduces damage to downstream equipment and operations.

Built to Last: Never stop your machine to change a blade again—our cutters last up to 2,000 tons per side, per sharpening—ensuring your extruder will never have an unplanned stop to change a cutter.

Cost Effective: Our cutters will outlast any production run, eliminating mid-run change outs and unplanned shutdowns due to knife changes. With extended blade life, reduced production waste, and minimal downtime, you lower overall operating costs and improve overall production efficiency.

Effortless Set-Up: Installation takes less than a minute, and the one-bolt, self-tensioned design ensures a consistent set-up for any operator on any shift.

PERFORMANCE COMPARISON

The Results Speak for Themselves

OEM Razor Blade Assembly	Up to 100 tons per set-up
OEM "L" Blade Assembly	Up to 300 tons per sharpening
EE Cutting System	Up to 4,000 tons per sharpening



Specifications

Extruder Compatibility

Fits most single and twin extruders:

- Andritz
- ExtruTech
- Buhler
- Wenger
- Clextral
- Others

Machine Fitment

Designed to be mounted in the same position as the current cutting system.

Die Plate Compatibility

- Designed for Ever Extruder Carbide Die Plates and one-piece tool steel die plates.
- Not intended to be used with die inserts.

Recommendation: For a seamless fit, pair with Ever Extruder Carbide Die Plates (see page 14).

Blade Count Options

- Available in 2-30 blade configurations
- Optimized for different product types and cutting speeds

Material & Durability

- Double-sided cutters—Each side can be resharpened up to 3x, resulting in 8 total cutting surfaces
- Up to 16,000 tons total blade lifespan
- Wear-proofing technology ensures peak performance over extended life

Installation & Fit

- One-bolt, fixed-blade design for quick, uniform installation
- Self-tensioning hub eliminates operator error and inconsistent set-ups
- Designed to fit within existing die assembly & drive shaft envelope

Engineered for You

No two challenges are the same, and neither are our solutions. Our team ensures a custom fit for your needs.



Standard Systems

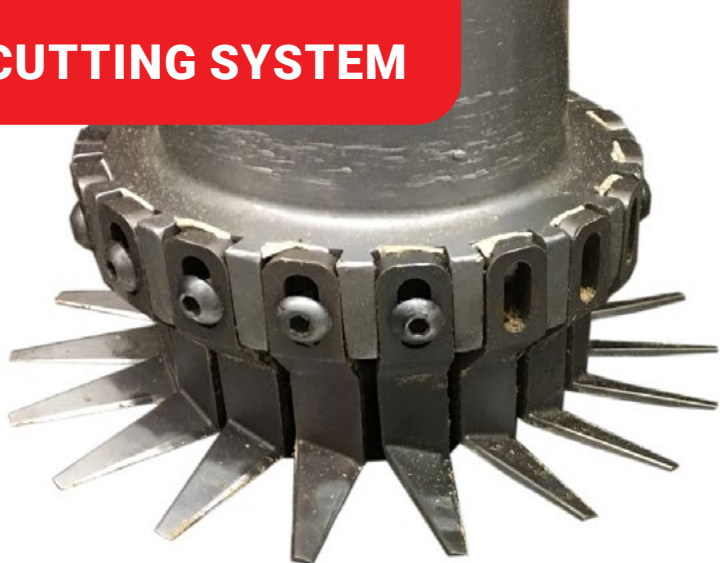
Ever Extruder System

SLICED VS. CHOPPED

Ever Extruder's Cutting System slices rather than chops, significantly reducing pellet breakage and improving final product shape definition, allowing you to:

- **Eliminate Tails** which can make up to 0.5% of production
- **Improve Product Qualities** by producing uniform, high quality cuts on all blades at all times

CUTTING SYSTEM



OEM "L" BLADE SET

One-sided, replaced after 12 hours



EVER EXTRUDER CUTTING SYSTEM

Double-sided, resharpened (3x) after 125 hours

CASE STUDY

Our Cutting System in Action

Customers at a high-production dry pet food plant used a "bolt-on knife" system on an X185 extruder. Operators replaced knives every 12 hours (or at 100 tons).

After installing Ever Extruder's Cutting System, production ran for 125 hours straight, producing over 1000 tons of product before operators flipped the cutters to use the second side.

OEM 300 TONS TOTAL
EE 8000 TONS TOTAL

UPGRADE RESULT:

27X
THE WEAR LIFE

CASE STUDY

Clean-Cut Choice for Aquafeed

A high-production aquafeed plant installed the Ever Extruder Cutting System on an X185 extruder, replacing its "spring knife" system, which required cutter replacements every 12-15 hours and frequent unplanned production stops.

The impact was immediate. Instead of shutting down every shift, the plant ran 175 hours before stopping for unrelated reasons—the Ever Extruder cutter was still performing and could have kept running.

Since the upgrade, single installation cutter life has extended up to 250 hours, drastically reducing downtime, maintenance costs, and production interruptions. This wasn't just a blade improvement—it transformed their operation.

CONTINUOUS PRODUCTION RUN TIME

175 hours

15 hours

SPRING KNIFE SYSTEM

EVER EXTRUDER

OEM



The OEM cutter had individual bolted on blades that relied on a "spring knife" system, which typically lasted 12-15 hours.

EVER EXTRUDER



The Ever Extruder Cutter was removed after about 175 hours, and was still in good enough shape to run a few more days, before it was re-sharpened and put back into service.

CUTTING SYSTEM COMPONENT

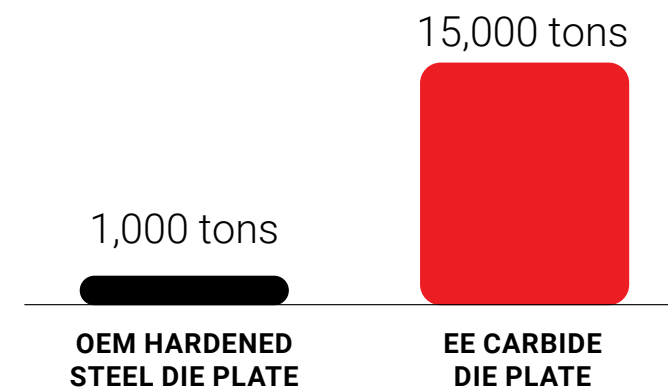
Die Plates

IDEAL FOR INTRICATE OR HIGH-VOLUME PRODUCTS

Ever Extruder's carbide-protected die plates maintain die cavity shape and size 10-15x longer than standard OEM dies—ensuring consistent, well-defined pellet shape and overall better pellet quality.

Precise Product for 10-15x Longer

When die cavity details don't wear out, product specifications stay consistent.



THE KEY TO MORE PRODUCTIVE PET FOOD PROCESSING

Ever Extruder Carbide Dies are designed to operate with the Ever Extruder Cutting System. It is a winning pair!

Benefits of the system:

- Consistent setup for any operator
- Improved product quality
- Reduced clumping and product deformation
- Reduced fines and tails in finished product
- Reduced production downtime
- Easy cleaning
- Less inventory needed

DIE PLATES ANY SHAPE MARKETING CAN IMAGINE

With full design, engineering, and fabrication capabilities at our Missouri manufacturing space, Ever Extruder can produce die plate shapes to suit every pet food manufacturing operation's needs.

Patents 7316557, 7637732

Shaft Stabilization System

ACCESSIBLE, ADJUSTABLE SHAFT SUPPORT FOR SINGLE SCREW EXTRUDERS

Without proper alignment and support, extruders vibrate causing screw-to-liner contact damage, accelerated shaft and drive system wear, and an overall reduction in production capacity and product quality. OEM shaft supports offer short term support—but they are not adjustable or maintainable; they require full replacements every 1-2 months, along with hours of downtime.

Made up of Shaft Support, Carriage Support, and Laser Alignment, Ever Extruder's adjustable Shaft Stabilizer System reduces vibration, protects against equipment damage, and increases Overall Equipment Effectiveness while requiring far fewer replacements than OEM systems.

In as little as a day, Ever Extruder's Stabilization System can be installed bringing your extrusion line to peak performance.

A SYSTEM THAT IS STOPPING THE KNOCKING AND GIVING EXTRUDERS THE SUPPORT THEY NEED

THE PROBLEM

OEM EXTRUDER
SHAFT SUPPORT

Misalignment: Extruder shaft misaligned over the extended length of barrels causes significant strain and wear on the shaft, shaft support bearings, and drive system.

Inconsistent Support: An unsupported shaft will experience vibration and deflection when under load causing screw-to-liner contact. Metal-to-metal contact causes adhesive wear to the screws and liners reducing the performance and lifetime of the parts.

High Maintenance: The OEM shaft support is installed between barrels, making maintenance operations and replacement difficult and inhibiting full cleaning and flushing out of the extruder.

Short Wear Life: OEM parts only last 500-1,000 hours before wearing out.

Non-Adjustable: Must be fully replaced once worn.

THE SOLUTION

EVER EXTRUDER SHAFT
STABILIZER SYSTEM

Expert Alignment: Ever Extruder Technical Experts align the drive, shaft, and barrels on the theoretical centerline to ensure concentric rotation—optimizing the performance of parts and reducing strain and wear.

Dependable Support: A supported shaft reduces vibration and resists deflection when under load. Preventing screw-to-liner contact eliminates adhesive wear of the screws and liners. This improves the performance of the extruder and extends the wear life of the parts.

Effortless Maintenance: Easy to access, inspect, adjust, and clean at the end of the machine - reducing maintenance downtime.

Built to Last: Solid carbide bearing and bearing pins maximize wear life—significantly outperforming the OEM steel components.

Adjustable: Fully adjustable system, allowing for realignment without needing a full replacement.

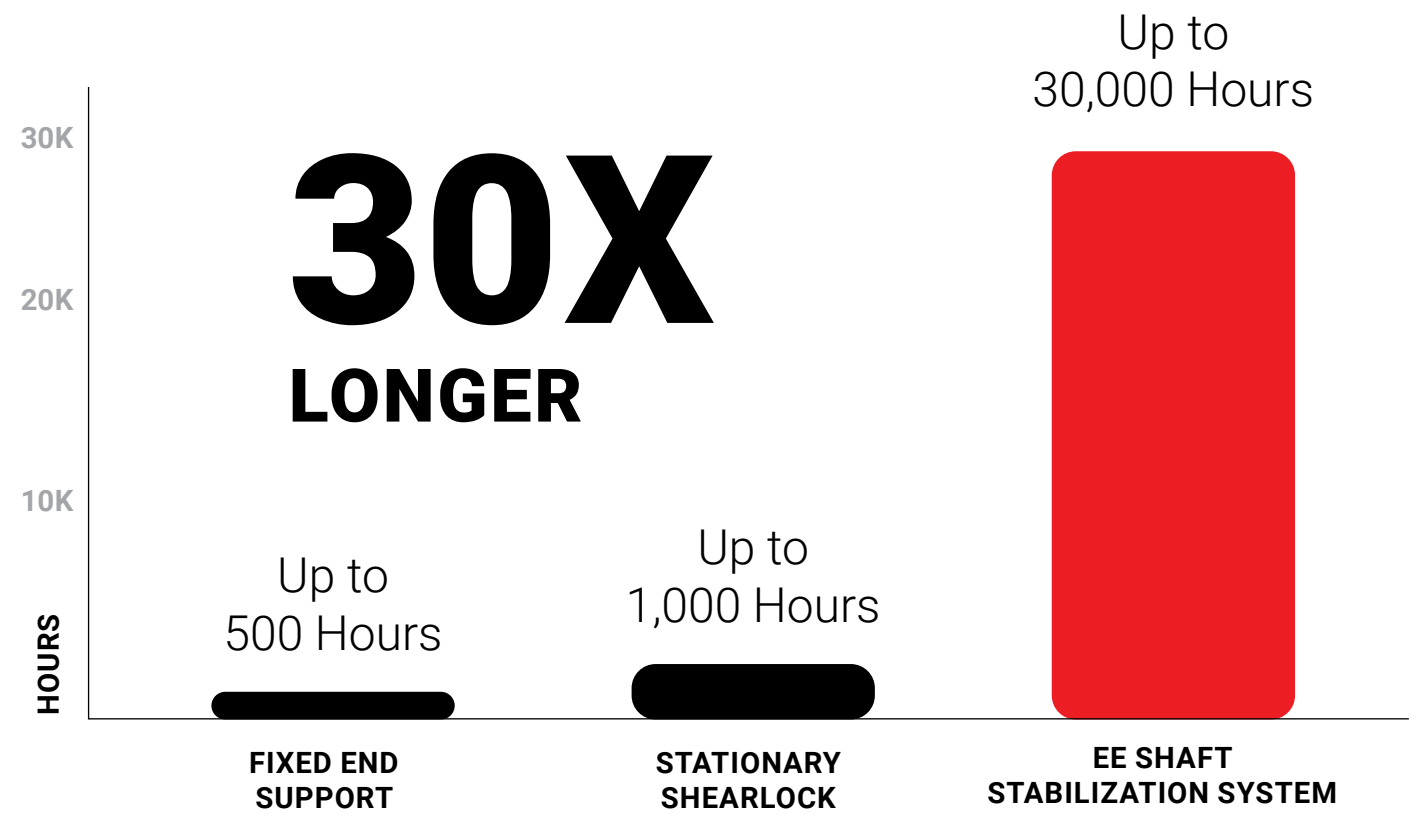
Patents 8137092, 8579623

CASE STUDY

Shaft Support That Outperforms and Outlasts

THE RESULTS SPEAK FOR THEMSELVES

Compared to fixed end support and stationary shearlock options, the Ever Extruder Shaft Stabilization System lasts up to 30,000 hours—30x longer.



Specifications

System Components

The complete Ever Extruder Stabilization System includes:

- Shaft Support
- Carriage Support
- Laser Alignment & Installation

Extruder Compatibility

Designed for single screw extruders. Compatible with the following models:

- Wenger: X165, X175, X185, X235
- ExtruTech: E750, E925
- Andritz: AZ1250

Alignments & Adjustments

Periodically adjusted with an alignment tool to ensure the extruder shaft and screws are always in the center of the barrels.

Engineered for You

No two challenges are the same, and neither are our solutions. Our team ensures a custom fit for your needs.



Screws

MADE STRONGER TO LAST LONGER

Single screw extruders carry a heavy load in the pet food production process, feeding, compressing, mixing, shearing, and pumping an abrasive ingredient mix through a restrictive die cavity to ensure a consistent, high-quality end product. It's why steel extruder screws don't last.

Ever Extruder Screws are reinforced with solid carbide in high-wear areas to maintain flight profiles, keeping single screw extruders running at peak production, lasting 4-8x longer than steel screws.

Step up production and cut down rebuild with this upgraded wear part.

YOUR NEW EXTRUDER REBUILD SCHEDULE: ONLY IN LEAP YEARS.

THE PROBLEM

OEM STEEL SCREWS

Inconsistent Performance: Wear at the outer diameter of the flight tip and the rounding of the leading edge reduces extruder performance. Throughputs are reduced and product consistency and quality deteriorates proportional to screw wear.

Inefficient Production: Frequent rebuilds due to worn screw flights reduces overall production rates and overall extruder efficiency—significantly raising the cost of wear parts per ton of feed produced.

Short Wear Life: Steel screws degrade quickly, requiring frequent rebuilds, unplanned downtime, and costly replacements.

Unreliable & Costly: Constant wear and tear leads to frequent repairs, production slowdowns, and all factors reducing Overall Equipment Effectiveness (OEE).

THE SOLUTION

EVER EXTRUDER CARBIDE SCREWS

Consistent Performance: Screw flighting is protected with carbide to retain its dimensions at the outer diameter and leading edge, allowing the extruder to deliver consistent throughput and product quality—supporting higher OEE.

Maximized Production: Infrequent rebuilds and maintenance increase overall production rates and OEE - significantly lowering the cost of wear parts per ton of feed produced.

Built to Last: Solid carbide is twice as hard as steel and 25x more wear resistant, lasting 4-8x longer than steel screws.

Dependable & Cost-Effective: Higher capacity, less maintenance, and superior product quality—all factors improving Overall Equipment Effectiveness (OEE).

Patents 7513676, 7764155, RE45423

CASE STUDY

Ever Extruder Screws Extend Peak Performance

A major pet food manufacturer previously performed a mini rebuild—replacing the first three screws in the extruder—every six months and a full rebuild annually, using OEM parts.

After switching to Ever Extruder Carbide Screws, the first mini rebuild wasn't needed until 2.5 years later. The system then continued running for another 24 months. After a total of 66 months of peak production, it was time to rebuild the extruder.

By comparing screws in the same extruder in the same position, it is clear to see the magnitude of corrosion and abrasion wear on the steel fighting. The Carbide Protected screw held up to the same abuse while maintaining the important screw fighting characteristics for optimal performance.

After 12 months



OEM SCREW

After 36 months



EVER EXTRUDER SCREW with Carbide Protection

Specifications

Extruder Compatibility

Direct replacement for OEM screws. Fits most single screw extruders:

- Wenger
- Andritz
- ExtruTech

Material & Durability

- Carbide is applied to high-wear areas to maintain flight profiles.
- 2x harder than steel in this application.
- 25x more wear-resistant than steel screws.
- Optional: Extra carbide cladding reinforces the push face of screw flights, further reducing substrate wear for maximum part lifetime.

Installation

The Ever Extruder Shaft Stabilization System (see page 16) is required to prevent damage to surrounding steel components from the strength of the carbide protected screw.

Planned Maintenance Schedule

- Mini Rebuild: After 2.5 years
- Full Rebuild: After 4.5 years

Engineered for You

No two challenges are the same, and neither are our solutions. Our team ensures a custom fit for your needs.



Liners

MADE STRONGER TO LAST LONGER

Single screw extruders carry a heavy load in the pet food production process, feeding, compressing, mixing, shearing, and pumping an abrasive ingredient mix through a restrictive die cavity to ensure a consistent, high-quality end product. It's why steel extruder liners don't last.

Carbide Clad Liners are reinforced with carbide cladding in high-wear areas to maintain liner flighting and ribbing dimensions, keeping single screw extruders running at peak production, lasting 3-5x longer than steel liners—before ever needing a mini- or full rebuild.

Step up production, cut down rebuild frequency, and lower maintenance costs with this one upgrade.

THE STRONGER, LONGER-LASTING LINER SOLUTION

THE PROBLEM

OEM STEEL LINERS

Inconsistent Performance: Wear at the minor diameter of the liner ribbing and flighting changes the screw-to-liner gap. As the gap grows, extruder performance declines, reducing throughput and increasing motor energy requirement.

Prone to Wear: Steel construction degrades quickly in production environments.

Short Wear Life: Wears out in 5,000 - 10,000 hours requiring frequent replacements.

THE SOLUTION

CARBIDE CLAD LINERS

Consistent Performance: Maintains dimensions of minor diameter of the liner ribbing and flighting and screw-to-liner gap. Consistent screw-to-liner gap maintains optimal throughput and motor energy requirement.

Durable: Protected with carbide cladding, making it abrasion-resistant and corrosion resistant.

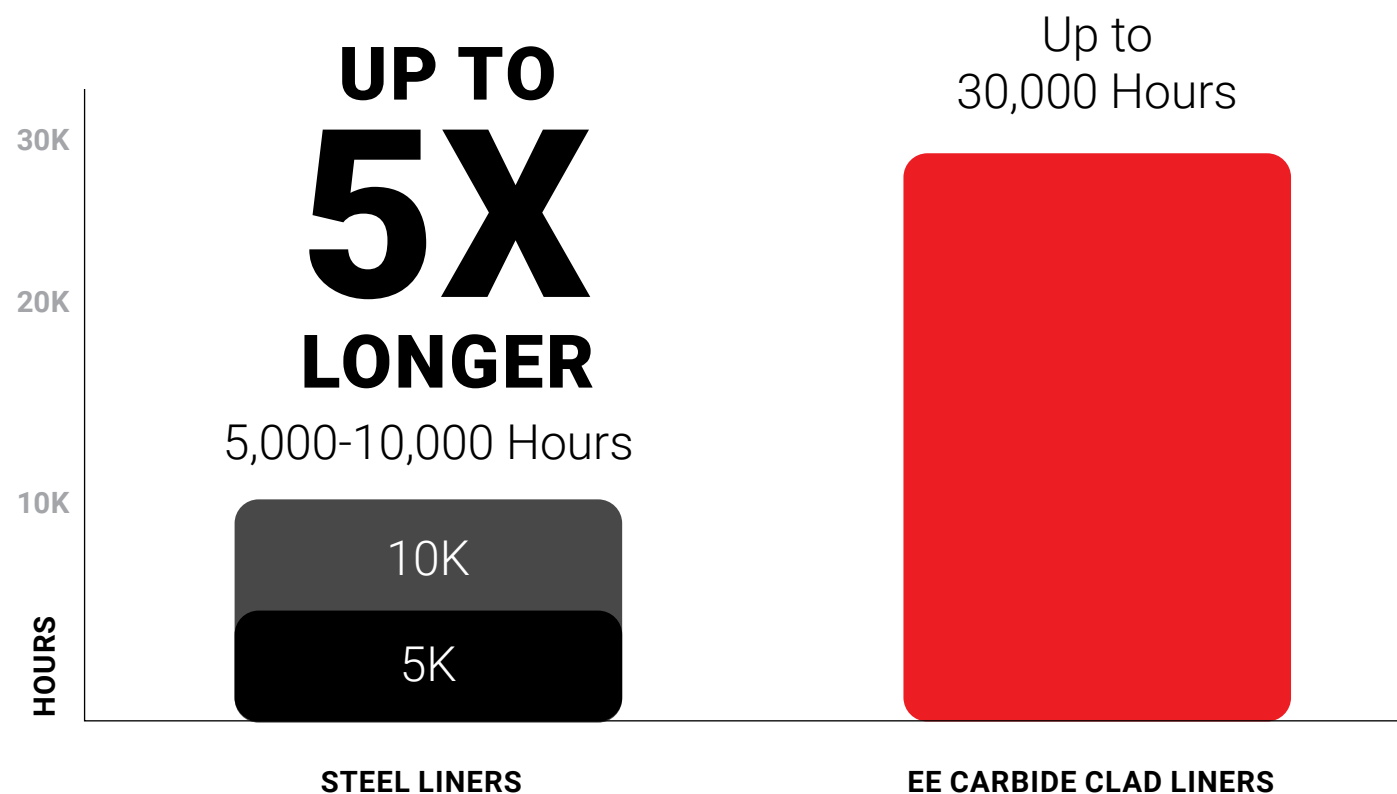
Built to Last: Lasts up to 30,000 hours, reducing replacements and downtime.

CASE STUDY

Up to 5x the Wear Life Vs. OEM

WEAR LIFE COMPARISON

Compared to steel liners, Ever Extruder Carbide Clad Liners deliver up to 30,000 hours of wear life—lasting 3-5x longer.



Specifications

Extruder Compatibility

Fits most single screw extruders:

- Wenger
- Andritz
- ExtruTech

Material & Durability

- Protective carbide cladding on ribbing and flighting for superior wear and corrosion resistance
- 3-5x more wear life than steel liners

Barrel Considerations

- Can be installed with or without Ever Extruder Barrels
- Full Barrel/Liner refurbishing

Installation

Ever Extruder Shaft Stabilization System (see page 16) is required when Ever Extruder Carbide Liners are used to allow proper support and maintenance requirements for the equipment.

Engineered for You

No two challenges are the same, and neither are our solutions. Our team ensures a custom fit for your needs.

Even after extended use, the Carbide Clad Liner shows minimal wear, maintaining its shape and durability for longer-lasting performance compared to OEM options.



Density Control System

MORE CONTROL, SAFER PROCESSES.

The Ever Extruder Density Control System makes maintaining product quality, sanitation, and operator safety significantly easier and more reliable.

It allows operators to adjust pressure, specific mechanical energy, and density on the fly with the end of extruder flow valve - resulting in streamlined operations and better product quality. An integrated bypass valve improves sanitation by rejecting undercooked product at startup. The bypass valve improves operator safety by relieving pressure under high die pressure loads and under loss of power events. Unlike other extruder valves, it seamlessly integrates, and is easy to maintain and clean.



AN ADDITIONAL TOOL TO IMPROVE FLEXIBILITY IN EXTRUSION PROCESSING

Processing Flexibility: adjust the valve plate position to change pressure, barrel fill, motor load, and density.

Product Shear Control: valve plate restriction increases specific mechanical energy (SME) and promotes more cellular structure.

Valve Design Flexibility: valve plate provides more open surface area when compared to other systems.

Symmetrical Valve Design: valve provides equal, distributed flow to the die plate.

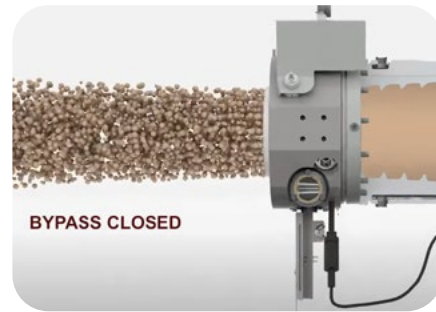
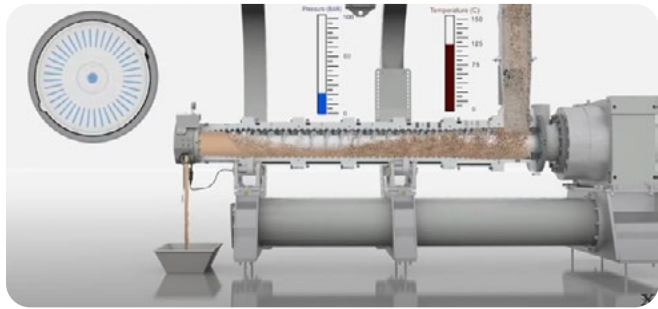
Simple Valve Removal: valve design provides access to the end of the extruder to inspect, clean, and flush the extruder as necessary.

Die Pressure Relief: pressure relief at startup, shutdown, sudden loss of power, and during high pressure situations.

Sanitation: Control the product bypass/discharge to discharge product that has not reached temperature above the Critical Control Point (CCP).

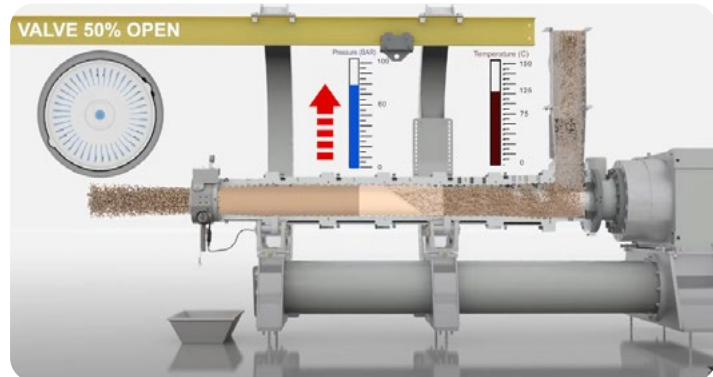
Startup Functionality

Start up extruder utilizing the bypass port. Product discharges outside of the final product stream. When the temperature of the Critical Control Point is reached, the flow valve opens, the bypass port closes, and the product continues to the final product stream.



Process Control Functionality

The flow valve is OPENED and CLOSED to change the extruder product discharge pressure; this, in turn, changes the barrel fill of the extruder and the extruder motor load. The change in pressure and mechanical energy has resulting effects on the final product; changing mechanical shear, cell structure, and expansion characteristics.



Operator and Equipment Safety Functionality

The Bypass Port is driven by a pneumatic actuator that allows Die Pressure Relief in case of:

- Die Pressure Relief at End of Production Run
- High Pressure Setpoint Reached – Immediate Discharge
- High Motor Load Setpoint Reached – Immediate Discharge
- Loss of Power or Air – Immediate Discharge

Specifications

Extruder Compatibility

Designed for single screw extruders and select twin screw extruders.

Compatible with:

- Wenger X165, X175, X185, X235
- ExtruTech E750, E925
- Andritz AZ1250

Installation & Fit

Bolted fit to end of extruder. Control system can be offered as “Standalone” or “Customer Controlled” - integrating controls into existing control system.

Engineered for You

No two challenges are the same, and neither are our solutions. Our team ensures a custom fit for your needs.





Rear Seal System

PREVENT LEAKAGE AND PREMATURE FAILURE

Premature rear lip-seal failure leads to leakage in the extrusion process, contamination, mechanical wear, and costly downtime. Ever Extruder's Rear Seal System is the long-term solution, designed to outlast OEM seals by 20x and provide maximum protection for your extruder.

Built for reliability, it prevents leakage behind the inlet barrel, protects drive components from contamination, and improves sanitation at the back and base of the extruder. By reducing machine rebuilds and maintenance downtime, the Ever Extruder Rear Seal System helps keep your operation running cleaner, longer, and more efficiently.

MAINTAIN YOUR EXTRUDER'S CRITICAL BARRIER

THE PROBLEM

OEM REAR LIP SEALS

Short Wear Life: Wears out in 1,500 hours or less, requiring frequent replacements.

Prone to Leakage: Lip Seals fail prematurely, leaking fluids and solids through the back of the extruder to the shaft, drive system and processing floor.

Sanitation Risk: Uncooked fluids and solids contribute to floor contamination, requiring additional cleaning operations.

Expensive & Inefficient: Misalignment and leakage accelerate lip seal bearing deterioration, increasing repair costs and downtime.

THE SOLUTION

EVER EXTRUDER SEAL SYSTEM

Built To Last: Prevents leakage for the entire lifetime of the extruder rebuild.

Leak Proof Design: Prevents extrudate leakage, protecting drive and bearings from contamination.

Sanitation Friendly: Keeps extruder base and floor at the inlet end clean, improving plant hygiene.

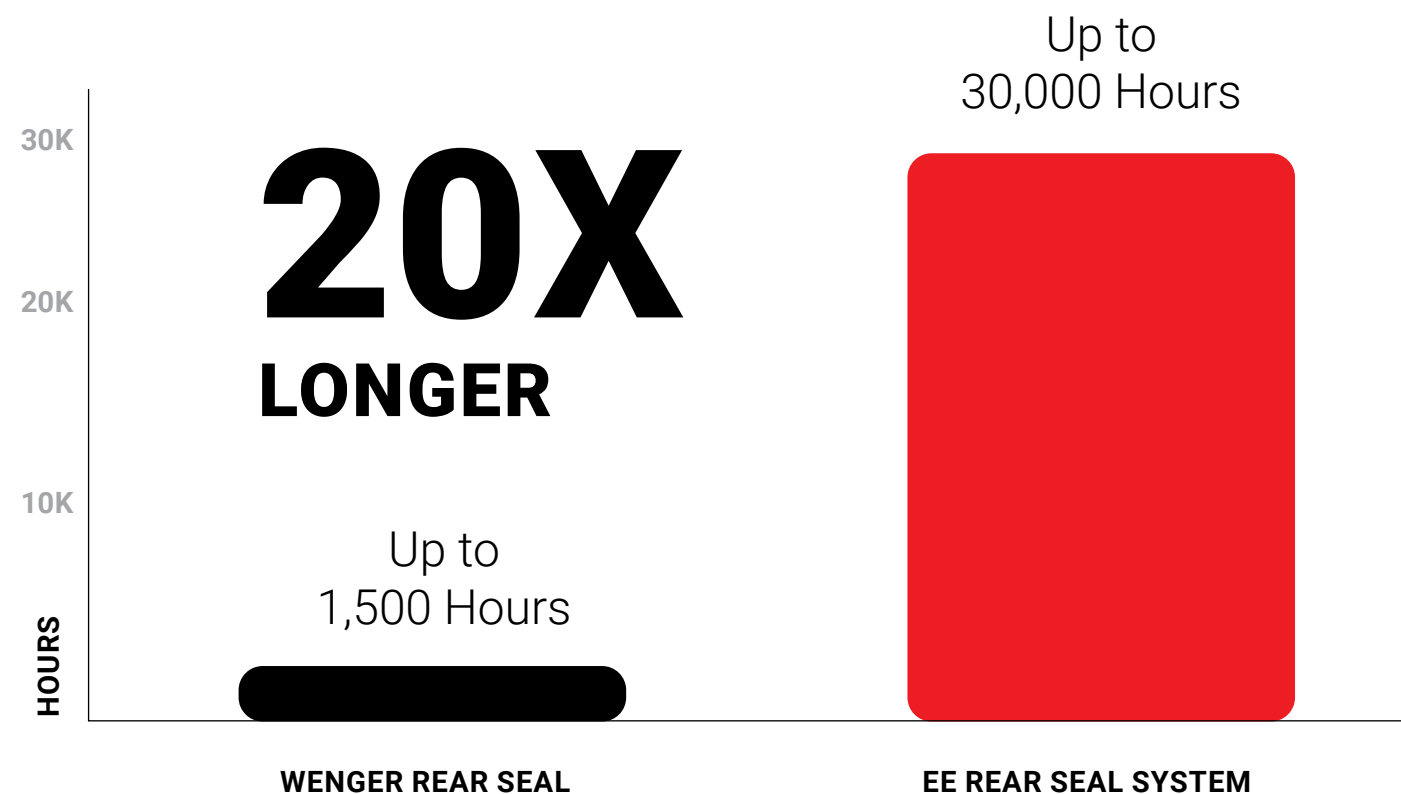
Cost Effective & Productive: Minimizes unexpected failures, keeping production running and maintenance costs low.

CASE STUDY

Engineered to Deliver Maximum Uptime

THE RESULTS SPEAK FOR THEMSELVES

Compared to Wenger rear seals, the Ever Extruder Rear Seal System delivers up to 30,000 hours of performance—lasting 20x longer.



Specifications

Extruder Compatibility

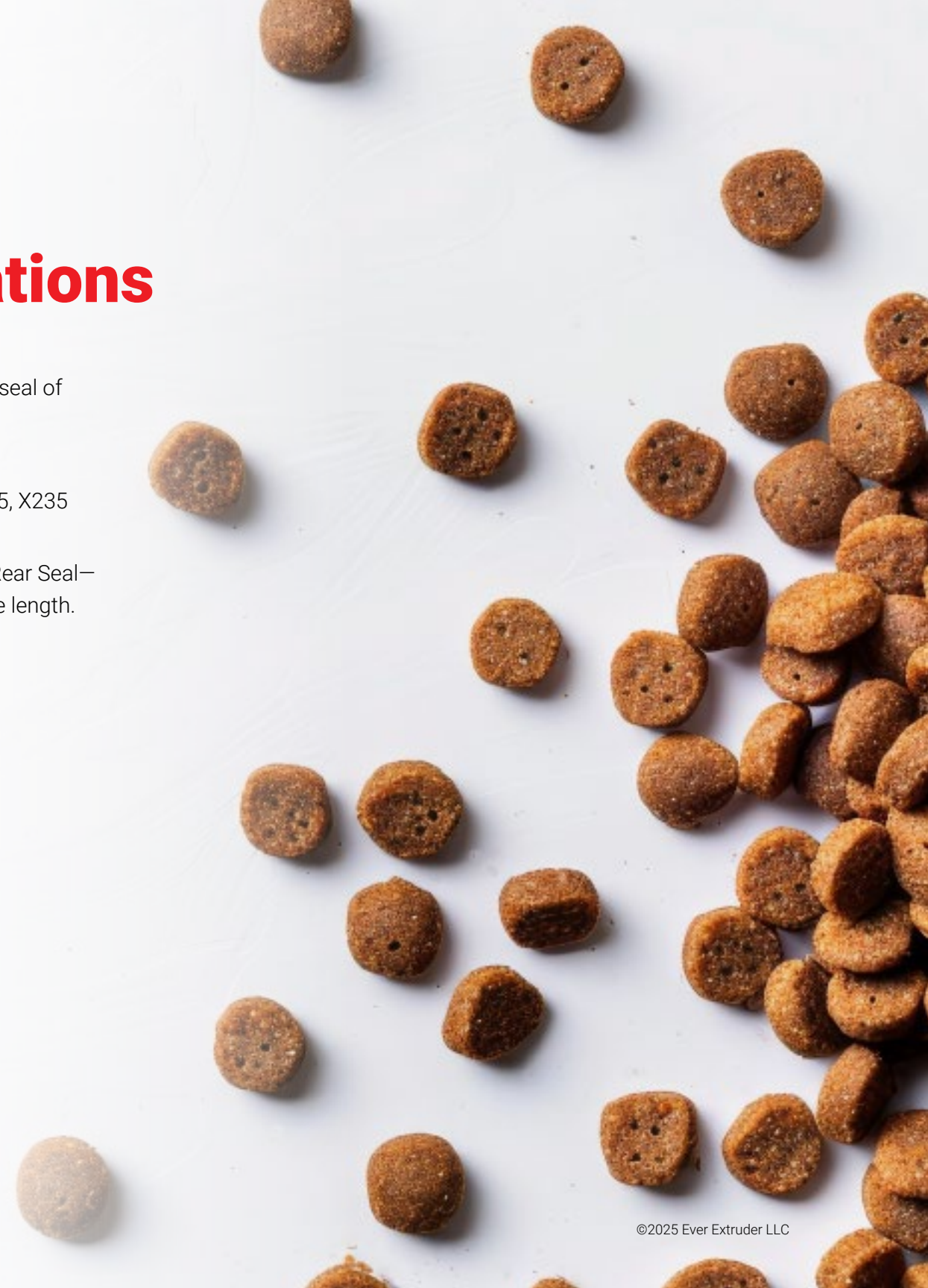
Designed to replace the rear seal of OEM single screw extruders.

Compatible with:

- Wenger X165, X175, X185, X235

Machine Impact

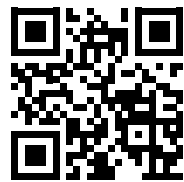
Direct replacement to OEM Rear Seal—no change to overall machine length.





+1 636-265-8167

120 Industrial Drive
Festus, MO 63028



EVEREXTRUDER.COM

We Upgrade Extruders.

IT'S THAT SIMPLE.