

Sumitomo Drive Technologies

A global power transmission solutions provider, with facilities strategically located throughout the world, providing comprehensive products and services in your region.

HEADQUARTERS



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CORPORATE INDUSTRY MANAGER

Sara Kirkpatrick
Aggregate / Sand / Cement

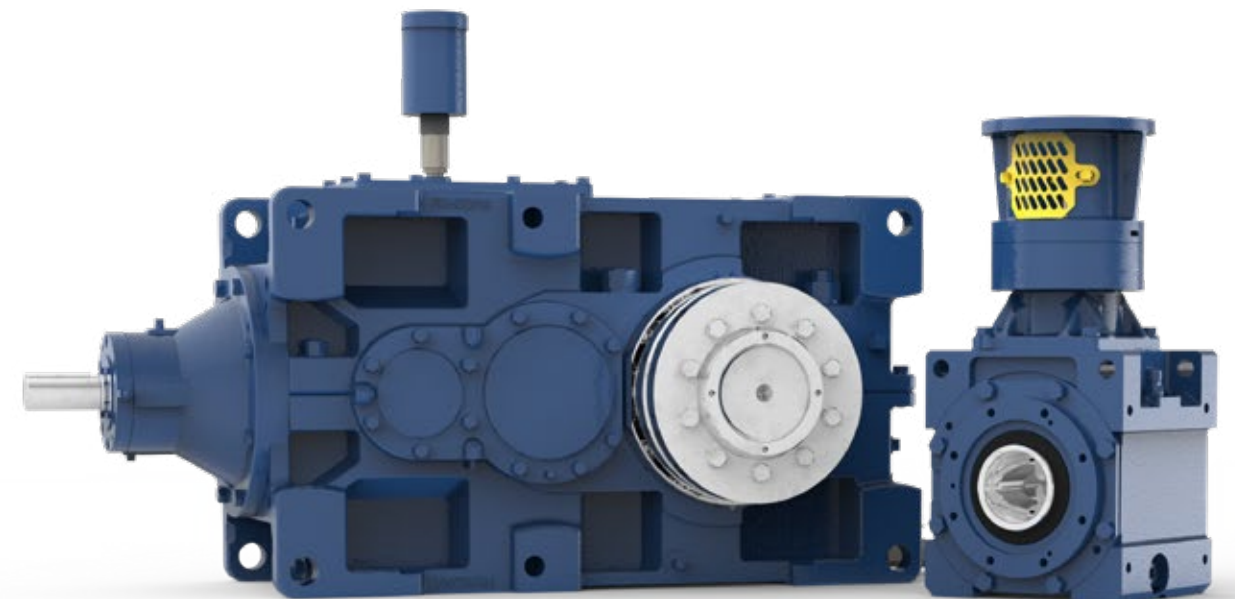
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- ★ MANUFACTURING HUB & HEADQUARTERS
- ★ MANUFACTURING HUB
- ASSEMBLY & SERVICE
- SERVICE
- ▲ REGIONAL SALES OFFICE

Sumitomo Drive Technologies

AGGREGATE / SAND / CEMENT

INDUSTRY-LEADING DRIVES AND SOLUTIONS



Choose Sumitomo Drive Technologies for aggregate, sand, & cement applications.

We offer the toughest drives available to meet the harshest demands.

WE'VE GOT YOU COVERED

From **crushing, screening, dredging, and washing**, to **conveying and stacking**, Sumitomo Drive Technologies has a product to fit **your** application.

We can **lower** your total cost of ownership and **reduce** maintenance and downtime.

Let our **experts** assist you in **reducing** Mine Safety and Health Administration (MSHA) **citations** for powered haulage incidents and guarding.



OUR COMMITMENT

GET it Right

We provide the **right gearbox** for the application—not just any gearbox in our inventory. We offer **top-tier products** that perform well in any heavy-duty operation. **Local engineering, manufacturing, and assembly** allow us to customize these products to meet your needs.

MAKE it Right

By using CycloSMART®, our intuitive **condition monitoring** solution, and following our **preventative** maintenance procedures—your gearbox will stay operational for years to come. Plus, with one of the most **extended** warranties in the gearbox industry, your operation and investment is well protected.

KEEP it Right

Customer experience is our **top priority**. Our network of experienced **aftermarket experts** is always available with **after-hours** service, expedited gearbox replacements for select products, on-site inspections, maintenance & repairs, and more.

PRODUCT SPOTLIGHT



Cyclo® Bevel BuddyBox® 4

RIGHT ANGLE SPIRAL BEVEL WITH CYCLO® INPUTS

The Cyclo® BBB4 has a **unique** combination of features that result in a highly **reliable, efficient, and durable** gearbox with **unmatched** ruggedness.

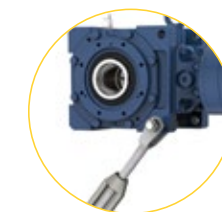
Belt Drive Elimination

- Eliminates Belt **Maintenance**
- Eliminates Safety **Guarding** – MSHA Target
- Eliminates Oil **Leaks** Related to Belt Tension
- Eliminates **Cost** and Stocking of Extra Components

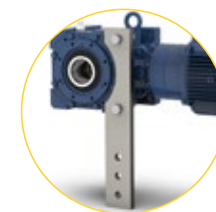
Convenient

- **Smaller** Overall Footprint
- **Easy** Installation and Removal
- Use **Existing** Motor With a C-Face Transition Kit
- **Many** Configurations Available
- **Large** Access Windows in C-Face Motor Adapter

Comprehensive Torque Arm Options



Turnbuckle



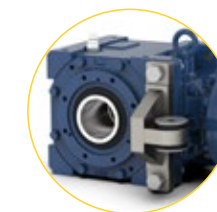
Transverse



European



Cast Iron Flange Mount



T-Type



Fabricated Flange Mount

Unique Features

- **300%** Momentary Shockload
- Easily **Replace** Input Reduction Stage With New Ratio
- Taper-Grip Bushing® XL to Accept **Shorter** Shafts

Efficient & Durable

- **Larger** Bevel Set to Achieve Right-Angle
- More **Efficient** Transmission of Torque
- Ductile **Iron** Housing
- Runs **Cool** With Cyclo® Design
- **Double** Input and Output Seals
- Extremely **Durable** Backstop



■ CHALLENGE: V-Belt Issues

- Incorrect belt tension can cause **thrown belts**.
- Thrown belts result in costly **downtime**.
- Guards are unsafe and a target for **MSHA citations**.
- Incorrect belt tension can cause **seal failure**.
- Max gearbox input speed can be unknowingly exceeded—causing **failure**.



■ CHALLENGE: Backstop Failure

- Backstop failure is a **safety risk**.
- Backstop failure is a target for **MSHA citations**.
- Does not achieve 100% lift-off which **shortens lifespan**.
- Backstop failure results in **frequent downtime**.
- Location exposes backstop to **large amounts of torque**.
- Can cause gearbox to have **contaminated oil** or require **special oil**.



■ CHALLENGE: Limited Torque Arms

- Turnbuckle torque arms means mounting is **limited**.
- Poses a safety risk if installed incorrectly under **compression**.
- Potential for incorrect installation of **rubber bushings**.



■ CHALLENGE: Limited Coupling Access

- Two small access holes create a **blind install**.
- Lack of window causes the unit to **run hotter**.
- If coupling shifts but does not release, may need to **cut shaft**.
- Without a large window, coupling **options are limited**.



■ SOLUTION: Direct Drives

- **Eliminates** belts, sheaves, guarding, top/side motor mounts.
- **Eliminates** belt changes, drastically reducing downtime.
- **Eliminates** belt-related injuries and MSHA citations.
- **Eliminates** belt tension-related oil leaks, which result in early failure.
- **Flexible speed** can be achieved by changing only one component (Cyclo® cartridge) and is the only direct drive with this capability.



■ SOLUTION: Long Lasting Backstops

- **Reduces** potential backstop-related injuries.
- **Reduces** potential backstop-related MSHA citations.
- **100% lift-off** achieved as located on high-speed shaft.
- **100% maintenance-free** backstop.
- **Least amount of torque** encountered on high-speed shaft.
- **Sealed off** from gearbox for protection.



■ SOLUTION: Range of Torque Arms

- **Wide range** of torque arms for all anchor points.
- **Safer** torque arm options available for installation.
- **Pre-installed** rubber bushing options for a simple install.



■ SOLUTION: Large Access Window

- **Easy install** and removal due to increased visibility.
- **Runs cooler** due to ventilation provided by window.
- **Coupling easily accessible** eliminating the risk of having to cut the shaft.
- **Expanded range** of coupling options such as the time-saving Wrap Style, which is safer as it eliminates spreading shafts apart to change insert.

• Multiple Torque Arm Types



• Foot



• Flange



MOUNTING

• C-Face



• Quill



• Integral Motor



INPUTS

• Solid Shaft



• Keyed Hollow Bore



• Shrink Disc



• Taper-Grip® Bushing



OUTPUTS

DUCTILE IRON HOUSING

Twice as strong as cast iron, making it one of the most rugged bevel gearboxes on the market.

OPTIONAL TACONITE SEAL ASSEMBLY

Heavy-duty, fortified, grease purgeable system withstands the most demanding applications.



TANDEM DUAL LIP SEALS

Prevent leaks and exclude contaminants.

TAPERED BEARINGS

Simultaneously resists axial and radial loads.

SINGLE-PIECE PINION

Built to handle 300% momentary shock loads, the oversized, single-piece pinion delivers maximum strength and reliability. Proudly designed and manufactured in the USA.



100% HARDENED STEEL COMPONENTS

Delivers extended service life, smooth operation, and exceptional strength.

INTEGRAL BACKSTOP

Mounted on the high-speed shaft to achieve 100% lift-off, increasing service life and reliability.

CYCLO® DISC

All rotating components are manufactured from fully hardened, vacuum-degassed, bearing-grade steel for consistent, reliable performance.

CYCLO® BEVEL BUDDYBOX® 4

RIGHT ANGLE SPIRAL BEVEL WITH CYCLO® OR PLANETARY INPUTS

A **robust**, state-of-the-art, mid-sized suite of speed reducers and gearmotors. The Cyclo® BBB4 has a unique combination of features that result in a **highly reliable, efficient, and durable gearbox**. The all-steel internal construction, Cyclo® or planetary gear inputs and the ductile iron housing, provide **unmatched ruggedness**.

We offer a **wide range of torque arm styles** including, Turnbuckle, Transverse, T-Type, Cast Iron Flange-Mount, Fabricated Flange-Mount, and European. This makes mounting the BBB4 **safe** and **simple**.

OPTIONS



Taper-Grip Bushing® XL

Accepts shorter shafts for seamless direct drive upgrades. Allows for easy upsizing to higher mechanical ratings.



Screw Conveyor

SPECS



HP RATING
Up to 100 HP
(75 kW)



DIAMETER
1in to 4-15/16in
(Hollow & Solid)



TORQUE
Up to 159,983 lb·in
(18,076 N·m)



RATIO RANGE
11:1 up to 26,000:1
and greater

MOBIL SHC™ GEAR HI-SHOCK 150

- High-Performance Synthetic Lubricant
- Available for Cyclo® Products
- Extends the Life up to 3 Times
- Available 4-Year Warranty

Paramax® UniMiner
 Flippable housing and horizontal split line make the ideal alignment-free drive package for mining.



• Right-Angle



• Parallel



• CONFIGURATIONS

• Solid Shaft



• Shrink Disc



• Keyed Hollow Bore



• OUTPUTS

SPLIT HOUSING

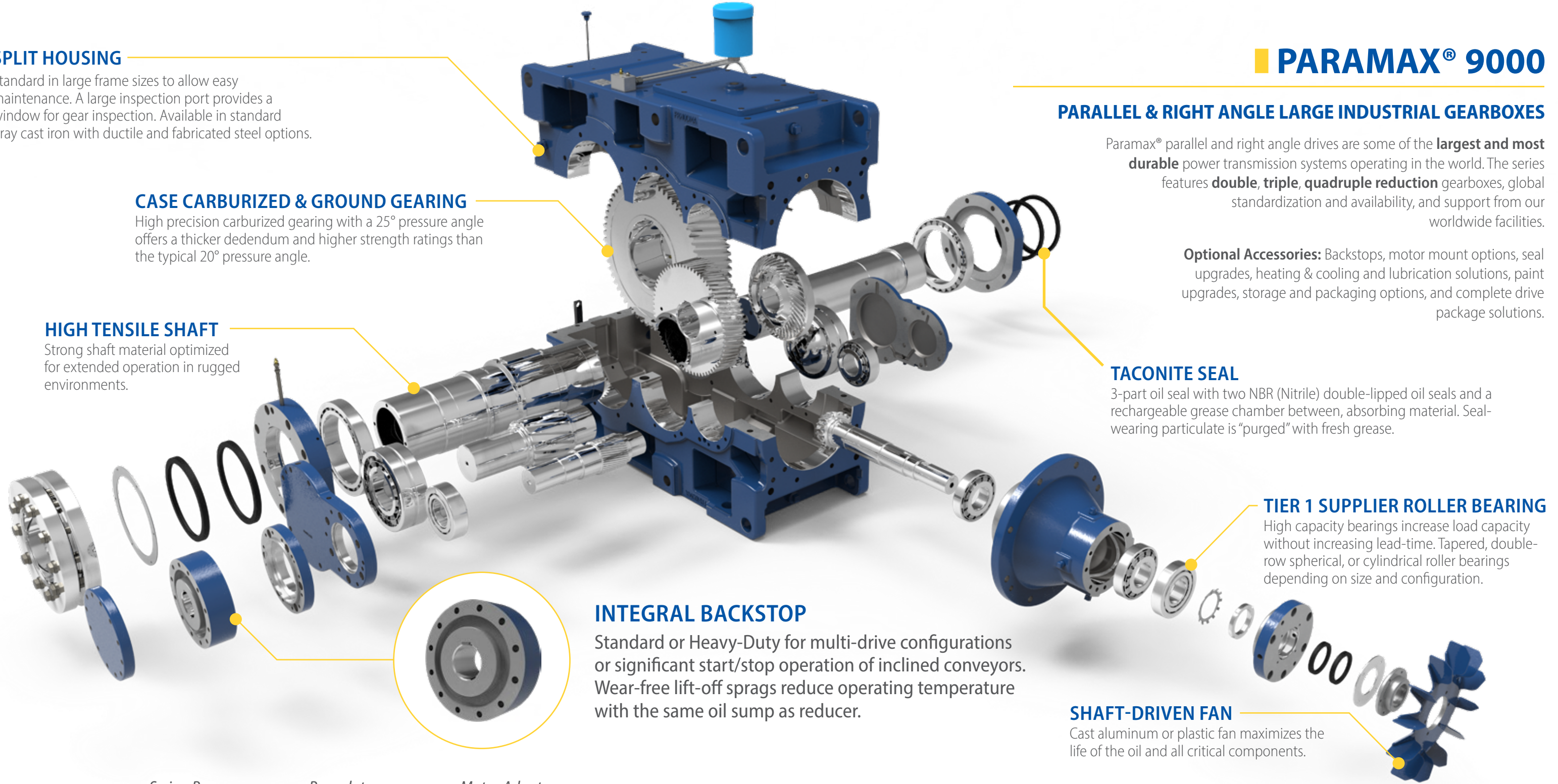
Standard in large frame sizes to allow easy maintenance. A large inspection port provides a window for gear inspection. Available in standard gray cast iron with ductile and fabricated steel options.

CASE CARBURIZED & GROUND GEARING

High precision carburized gearing with a 25° pressure angle offers a thicker dedendum and higher strength ratings than the typical 20° pressure angle.

HIGH TENSILE SHAFT

Strong shaft material optimized for extended operation in rugged environments.



PARAMAX® 9000

PARALLEL & RIGHT ANGLE LARGE INDUSTRIAL GEARBOXES

Paramax® parallel and right angle drives are some of the **largest and most durable** power transmission systems operating in the world. The series features **double, triple, quadruple reduction** gearboxes, global standardization and availability, and support from our worldwide facilities.

Optional Accessories: Backstops, motor mount options, seal upgrades, heating & cooling and lubrication solutions, paint upgrades, storage and packaging options, and complete drive package solutions.

TACONITE SEAL

3-part oil seal with two NBR (Nitrile) double-lipped oil seals and a rechargeable grease chamber between, absorbing material. Seal-wearing particulate is "purged" with fresh grease.

TIER 1 SUPPLIER ROLLER BEARING

High capacity bearings increase load capacity without increasing lead-time. Tapered, double-row spherical, or cylindrical roller bearings depending on size and configuration.

INTEGRAL BACKSTOP

Standard or Heavy-Duty for multi-drive configurations or significant start/stop operation of inclined conveyors. Wear-free lift-off sprags reduce operating temperature with the same oil sump as reducer.

SHAFT-DRIVEN FAN

Cast aluminum or plastic fan maximizes the life of the oil and all critical components.

DRIVE PACKAGE

Swing Base



Baseplate



Motor Adapter



SPECS



HP RATING
 Up to 5,230 HP
 (3,900 kW)



DIAMETER
 58mm to 360mm
 (Hollow & Solid)



TORQUE
 Up to 4.9 million lb•in
 (552 kN•m)



RATIO RANGE
 Up to 500:1
 Standard



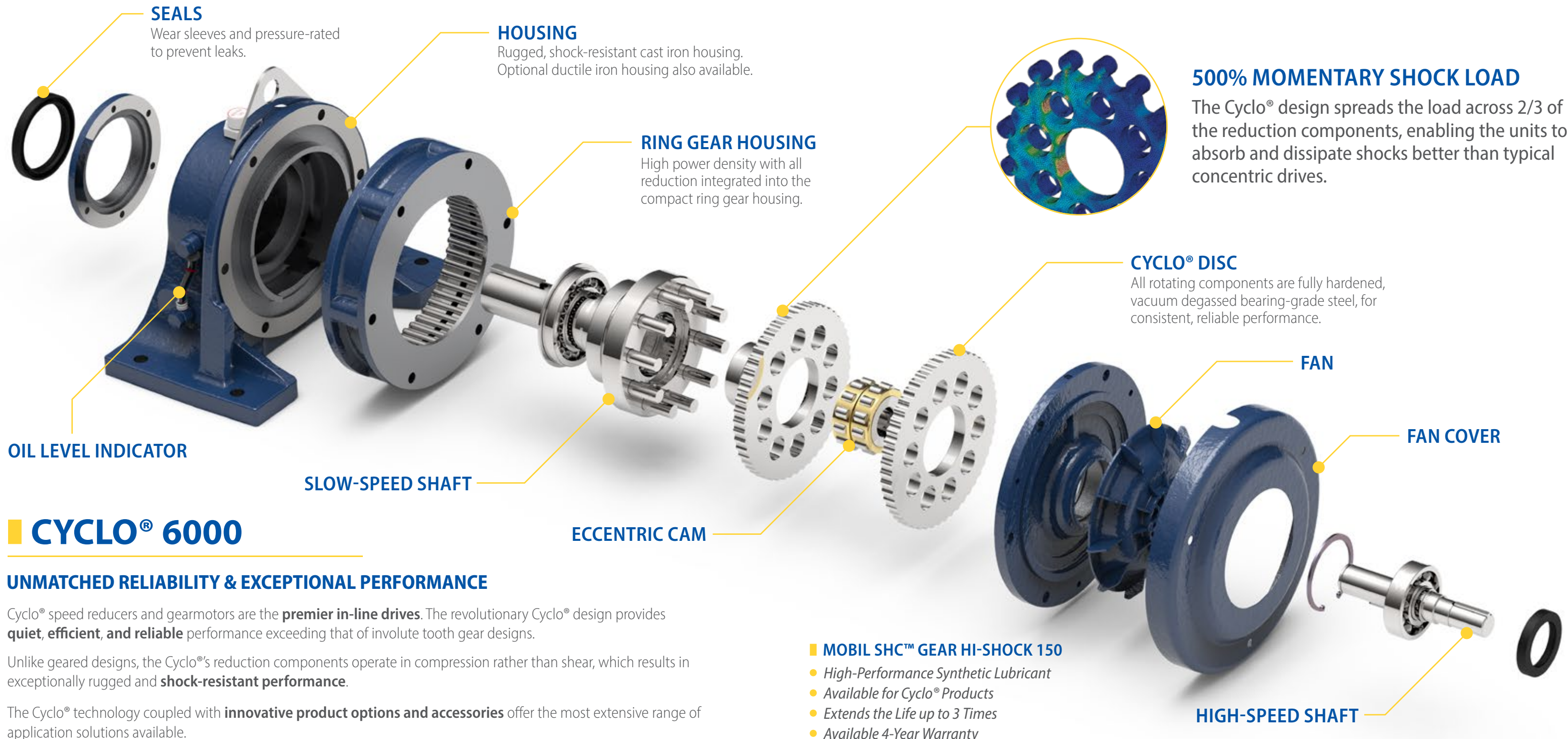
• "H" Foot • V-Flange • F-Flange

MOUNTING



• Top Mount • Quill • Free Shaft • Shovel Base • Integral Motor • Coupled C-Face

INPUTS



CYCLO® 6000

UNMATCHED RELIABILITY & EXCEPTIONAL PERFORMANCE

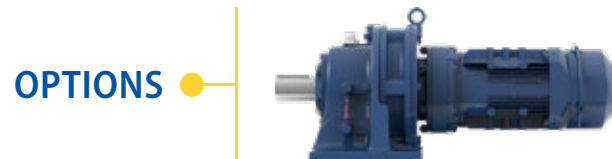
Cyclo® speed reducers and gearmotors are the **premier in-line drives**. The revolutionary Cyclo® design provides **quiet, efficient, and reliable** performance exceeding that of involute tooth gear designs.

Unlike geared designs, the Cyclo®'s reduction components operate in compression rather than shear, which results in exceptionally rugged and **shock-resistant performance**.

The Cyclo® technology coupled with **innovative product options and accessories** offer the most extensive range of application solutions available.

MOBIL SHC™ GEAR HI-SHOCK 150

- High-Performance Synthetic Lubricant
- Available for Cyclo® Products
- Extends the Life up to 3 Times
- Available 4-Year Warranty



OPTIONS

Wheel Drive

Double-reduction Cyclo® is torque-dense and compact. Superior internal components and non-splined motor shaft options for unmatched durability.

SPECS



HP RATING
Up to 235 HP
(175 kW)



DIAMETER
1/2in to 7in
(Solid Shaft)



TORQUE
Up to 603,000 lb-in
(68,130 N•m)



RATIO RANGE
3:1 up to 658,503:1

OPTIDRIVE E3

Compliant with international standards.

GENERAL PURPOSE DRIVE

Compact, robust, and reliable general purpose drive.

Focused on ease of use, Optidrive E3 provides unrivaled simplicity of installation, connection, and commissioning, allowing the user to benefit from precise motor control and energy savings within minutes.

Available in IP66/Nema 4X outdoor rating with tough polycarbonate plastics specifically chosen to withstand degradation by ultraviolet (UV), greases, oils, and acids. Also, robust enough not to be brittle at -20°C (-4°F).

- 150% Overload for 60 Seconds
- 175% Overload for 2.5 Seconds
- 98% Efficiency



ENCLOSURES

FAST CONNECTION

5mm rising clamp terminals with captive screws.

KEYHOLE MOUNTS

QUICK REFERENCE

Integrated help card.

OPTISTICK SMART

This rapid Commissioning Tool allows copying, backup, and the restoring of drive parameters.



DUAL ANALOG INPUTS



INTEGRATED DISPLAY

Remote keypads provide real time operating information display and parameter access.

INTEGRATED CABLE MANAGEMENT

PLUGGABLE CONTROL TERMINALS

FANS

High quality long-life fans.

OPTIDRIVE P2

HIGH PERFORMANCE DRIVE

High-performance variable frequency drive for standard induction and permanent magnet motors. A user-friendly interface and high performance make it perfect for tackling the most demanding applications smoothly.

Extensive I/O and communications interface capabilities ensure the drive can be integrated quickly and efficiently into a wide variety of control systems.

Dedicated Hoist Mode Operation with motor holding brake control make it perfect for marine and elevator applications.

SPECS



HP RATING
Up to 400 HP
(250 kW)



POWER OPTIONS
Single-Phase: 200-240V
3-Phase: 200-600V



TORQUE
Up to 200%
(From Zero Speed)

- 200% Overload for 4 Seconds

- 98% Efficiency

- Integral Brake Transistor

Make belt-related costs and downtime a thing of the past.

Avoid catastrophic failure, minimize risk and increase production uptime.

UPGRADE YOUR BELT DRIVE TO A DIRECT DRIVE

We make the process of **upgrading** to a direct drive, **simple**. Either remotely or on-site, let us quickly **assess** your application data and suggest the **perfect** direct drive.

Motor: _____ *hp*

Motor: _____ *rpm*

NEMA Frame: _____

Existing Reducer: _____

Existing Reducer Ratio: _____ *:1*

Driver Sheave (Motor): _____ *"*

Driven Sheave (Reducer): _____ *"*

Head Pulley Shaft Diameter: _____ *"*

Usable Shaft Length: _____ *"*

Backstop Desired: **Yes** | **No** (will eventually need rotation)

Motor Orientation: *Motor Vertical Up* | *Motor Horizontal*

Let us Help Calculate Your ROI

Typical Conveyor Downtime - Thrown/Broken Belts

- 15 min - **Lockout** / Tagout
- 30 min - **Discovery** of Problem
- 30 min - Locate **Man-Lift** and Relocate
- 15 min - **Harness** Up
- 15 min - Remove **Guard**
- 15 min - Remove **Belts** and Check Belt Size
- 30 min - Find **New** In-Stock Belts
- 15 min - **Install** Belts and Adjust Tension Correctly
- 15 min - **Replace** Guarding
- 30 min - **Scoop Belt?** (not included in total below)
- 15 min - Remove **Lockout** / Tagout
- 15 min - **Restart** Equipment

Total Unplanned Downtime: 3.5 Hours x (\$3,000)

\$10,500 for a **SINGLE** belt change
(Lost production based on TPH of plant - adjust accordingly)

Replacing a Belt 4 Times a Month:
\$42,000 or **\$504,000** A YEAR!

Backstop failures are potentially **more costly** due to **longer** downtime and **higher** parts cost.



SYSTEM MANAGEMENT AND RELIABILITY TECHNOLOGY (SMART)

SMART is a range of products and reducer options that were developed to help end users in their **reliability** and **asset management** initiatives within their plant's daily operations.

- **Safe**
Safely monitor assets via network.
- **Predictive**
Machine diagnostics for early warning.
- **Optimization**
Customizable systems to meet many needs.
- **Expandable**
Multi-reducer monitoring.
- **Reliable**
Schedule machine downtime.
- **Cost-Effective**
Lower overall ownership cost.

Experience **worry-free** operation with constant **condition monitoring** of vibration, temperature, oil level, oil humidity, oil flow, oil particulates, and more. SMART is **compatible** with reducers from Sumitomo Drive Technologies, **competitor** units, motors, pumps, and more.

the **CHECK** 
ENGINE LIGHT for
SPEED REDUCERS

It's all about **detecting** small issues today before they become costly **failures** tomorrow.

Learn more at:
US.SumitomoDrive.com/CycloSmart



Retro-Fit units with transition bases allow us to match your existing footprint.

Custom drop-in units made to match existing unit's critical dimensions.

RETRO-FITS & DROP-INS

Whatever your requirements, **we have a solution** for you. Sumitomo Drive Technologies offers **customized bases** which allow our units to **match the footprint** of an array of existing applications and **drop-in gear drives** to **upgrade** and **replace** competitor units.

With a wide range of **options**, our **engineers** can replace your unit with **minimum impact** while delivering a **premier product** with **performance** and **reliability**.

RETRO-FIT

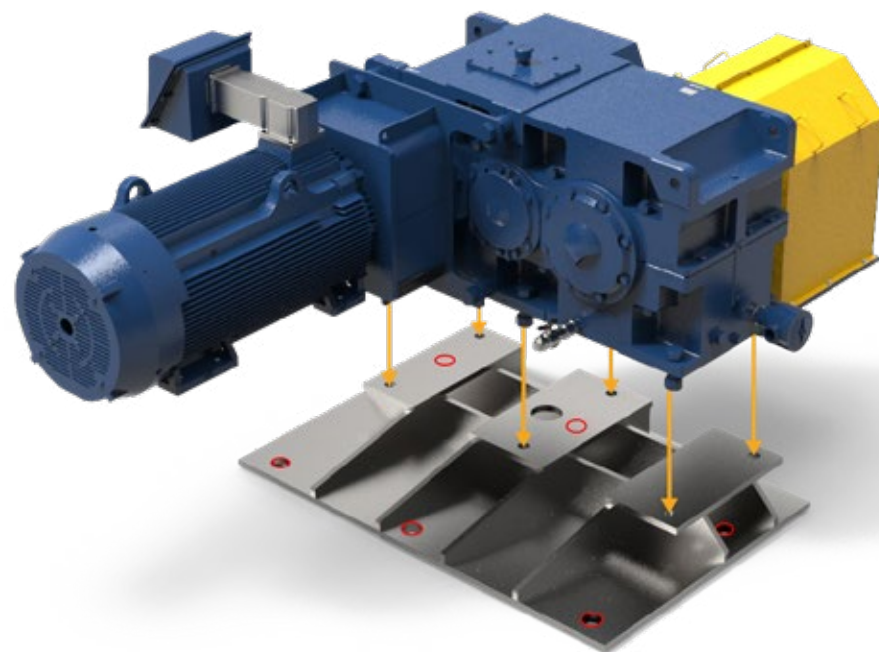
Match Existing Footprint

One of our standard gearboxes with a custom **transition base** will position the new low-speed shaft to be in the **EXACT** same position as the original low-speed shaft.

Retrofits are an excellent balance between the **cost savings** of a standard gearbox and the benefits of minimal on-site modifications.

We offer a range of **motor mounting** options to facilitate motor mount relocation.

The red circles in the diagram represent the **existing** bolt pattern of a customer's unit.



DROP-IN

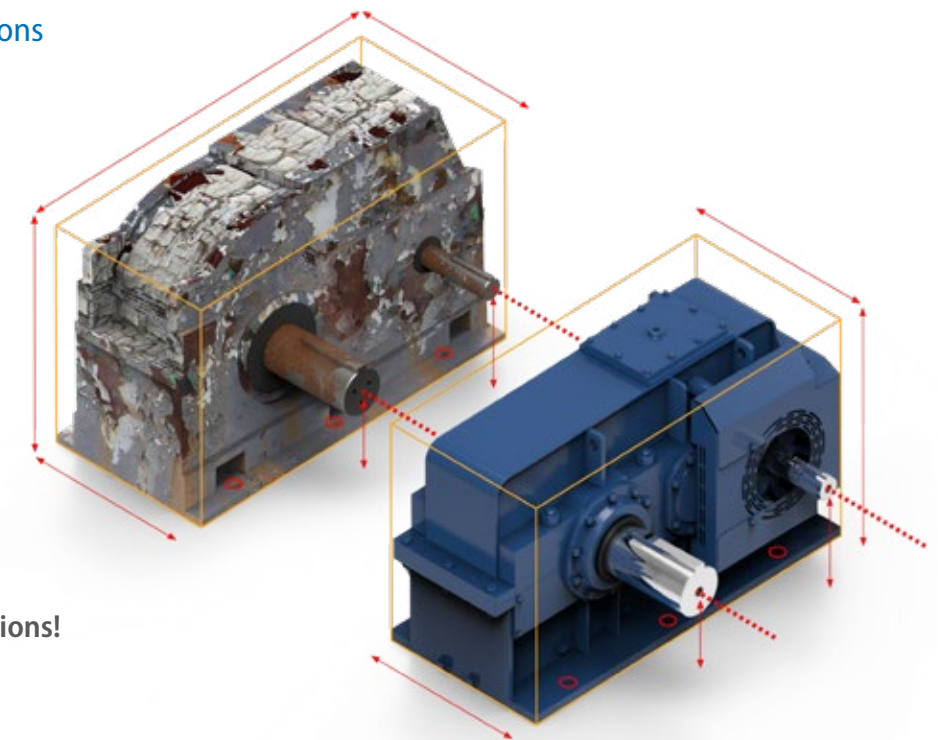
Match Existing Unit's Critical Dimensions

Installation-ready units are designed specifically to drop-in to existing applications with ease.

We can have your application back up and running with **no modifications** needed from you.

We offer fabricated steel housings, custom baseplates, custom gearing and shafting and more!

This product will literally **drop-in** to place; **same footprint, same shaft positions!**



SPECIALTY UNITS

From **non-standard** gearing to **custom ratios**, our team of engineers will make sure all of your custom gearbox needs are met.

Let us solve the **problem** areas and bottlenecks in your operation.



Custom Log Washer

Our factory capabilities support all of your gearbox needs.



AFTERMARKET

Our personnel are the **industry's most versed gearbox problem solvers**. We provide both standard and tailored services, for **maximum** gearbox life.

REPAIRS

Scheduled & Emergency Repair

Repair services for **all** your related gearbox needs and **24-72 hour turnaround** to the **original** factory specifications and **warranty** using Sumitomo Drive Technologies-manufactured parts.

Extended warranty programs are available upon request.

ROOT CAUSE INVESTIGATION

Product Support

Apply a **wide range** of approaches, tools and techniques to uncover the **causes** of your problems.

ON-SITE INSPECTIONS & MAINTENANCE

For Your Convenience

Most of the **services** offered and customized **training** can be performed **on location**.

EXPERTS IN SERVICE

Global Support, Local Service

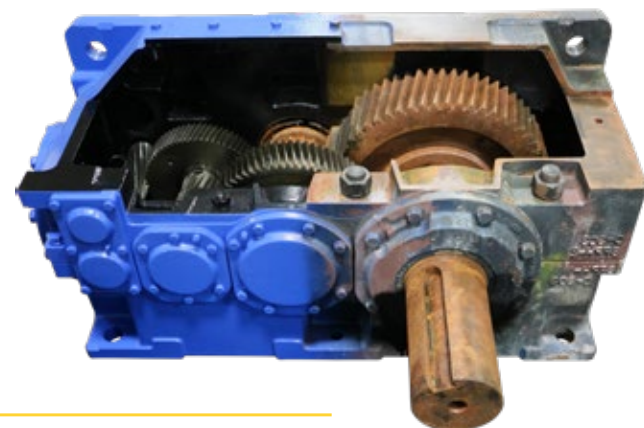
With a **vast network** of engineers and gearing experts, there's **no challenge** we can't tackle.

Our **Luftex facility**, a core part of our operation, brings **unmatched capabilities** and deep **expertise** in **custom** gearbox repair and service. Equipped with state-of-the-art technology, we're built to handle even the **largest** and most **complex** gearboxes.

Sumitomo Drive Technologies

LUFTEX

From custom gear manufacturing to on-site gearbox repair, count on the team at our **Luftex facility** to keep your operation **running smoothly**.



CENTERS OF EXCELLENCE

Our Centers of Excellence offer customers a **nationwide support network**. From **inventory distribution** to **manufacturing** to **assembly**, we have the team to ensure **high-quality, responsiveness, on-time delivery, and quick lead times**.



CHESAPEAKE, VA

Manufacturing, Support, Inventory, and Training

Our Western Hemisphere **headquarters** has **360,000 sq ft of manufacturing space**, and cutting-edge technology. Centralized inventory distribution with a **Foreign Trade Zone (FTZ)**, focused on **inventory optimization, motor assembly, and hands-on training** at our Power Institute.



VERONA, VA

Industrial Gearbox Production

Purpose-built facility specifically designed to handle the assembly of our **large industrial gearboxes**.



GLENDALE HEIGHTS, IL

Gearmotor Assembly and Support

Our Midwest facility is optimized for high volume solutions focusing on **small to medium gearmotors**.



LUFKIN, TX

Manufacturing and Services

This 32,000 sq ft facility handles gear **manufacturing**, gearbox **repairs**, and reverse **engineering**.

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