



Sumitomo Drive Technologies

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Sumitomo, Hansen and Seisa. Three brands, one global power transmission solutions provider. Sumitomo Drive Technologies has facilities strategically located throughout the world, providing comprehensive products and services in your region.

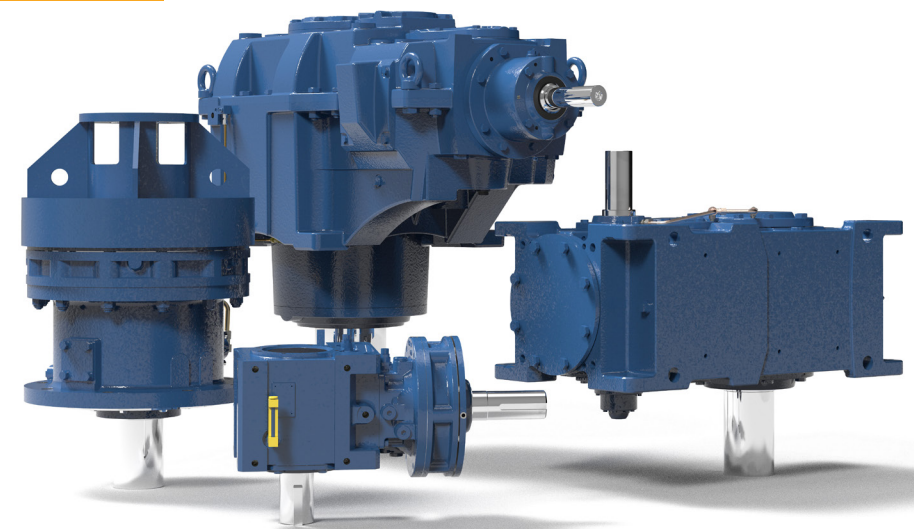


- ★ MANUFACTURING HUB
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Sumitomo Machinery Corporation of America  
[www.sumitomodrive.com](http://www.sumitomodrive.com)

For worldwide locations, please visit [www.sumitomodrive.com/worldwide](http://www.sumitomodrive.com/worldwide)  
Contact your local representative at [www.sumitomodrive.com/representative](http://www.sumitomodrive.com/representative)  
Tel: 1-800-SM-CYCLO (762-9256)

## Mixer Drives

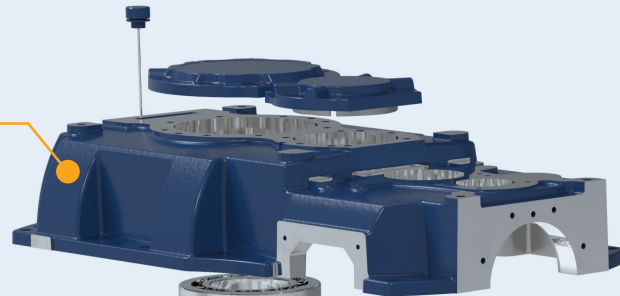






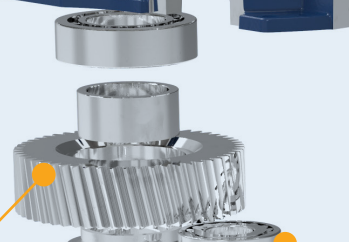
**SPLIT HOUSING**

Rugged, split housing for horizontal and vertical applications. Round housing tops help keep the unit free from debris. Stepped housing design means a small mounting footprint.



**GEARS**

High torque geometry in low-speed gears. Low-noise geometry in high-speed gears.



**LOW SPEED BEARINGS**

Standard arrangement includes spherical roller bearings for combined axial and radial shaft loads. Bearing Upgrades are available for the most demanding mixer shaft loads.

**PINION SHAFTS**

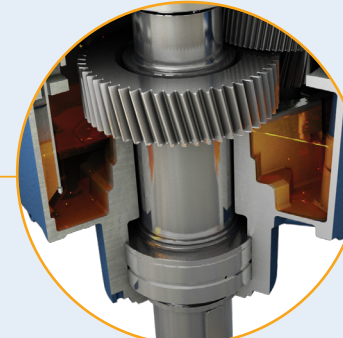
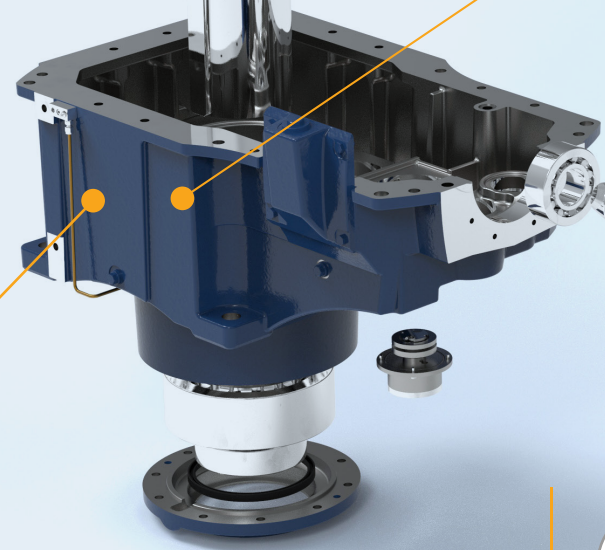
Rigid standardized pinion shafts and housings for better lateral load distribution.



**SLOW-SPEED SHAFT**

Shaft projections include captured keyways with rounded end key inserts to eliminate stress concentrations. Standard low-speed shaft upgrades include:

- Reinforced Solid Shaft
- Extended Bearing Housing
- Hollow Shaft with Shrink Disc
- Hollow Shaft with Keyway.



**INTEGRATED DRYWELL**

Cast into 3 and 4 stage vertical housings mean this option provides a truly leak-proof low-speed shaft.

**HIGH-SPEED SHAFT**

Extra-long high-speed shaft projections are suitable for interference-free coupling connections.

**INTERNAL POCKETS**

Exceptional detailing ensures bearings are lubricated at start-up to maximize reliability and life.

**MAINTENANCE-FREE OIL-LOCK®**

Standard high-speed seal is a dynamic non-contact seal arrangement. Non-contact seals are maintenance-free and will not damage the shaft during operation.

**SPECS**



**HP RATING**  
Up to 14,080 HP  
(10,500 kW)



**DIAMETER**  
80mm to 400mm  
(Solid, Heavy-Duty,  
and Hollow)



**TORQUE**  
Up to 9.7 million lb-in  
(1.1 million N·m)



**RATIO RANGE**  
Up to 630:1 (Custom  
ratios available)

INDUSTRIES



Chemical



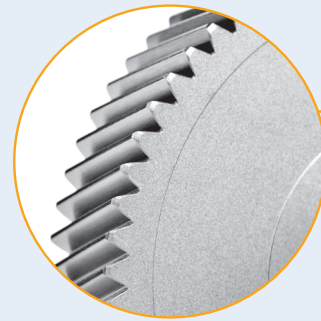
Mining



Water Treatment

### CASE CARBURIZED GEARING

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



### AVAILABLE SPLIT HOUSING

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

### SPHERICAL ROLLER BEARINGS

Readily available, high capacity bearings increase life without increasing lead time.

### HIGH ALLOY SHAFT

Strong shaft material optimized for extended operation in rugged environments.

### SLOW SPEED SHAFT

### FORCED LUBRICATION

Vertical units have a mechanical shaft-driven or motorized pump to provide positive lubrication for the upper bearings. Standard lubrication is internal for many sizes.

## PX PARAMAX® 9000

Built upon seventy years of Sumitomo excellence, Paramax® 9000 vertical mixer drives are some of the largest and most durable power transmission systems operating in the world. The Paramax® 9000 product line features double, triple and quadruple reduction gearboxes, global standardization and 26 frame sizes.

SPECS



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



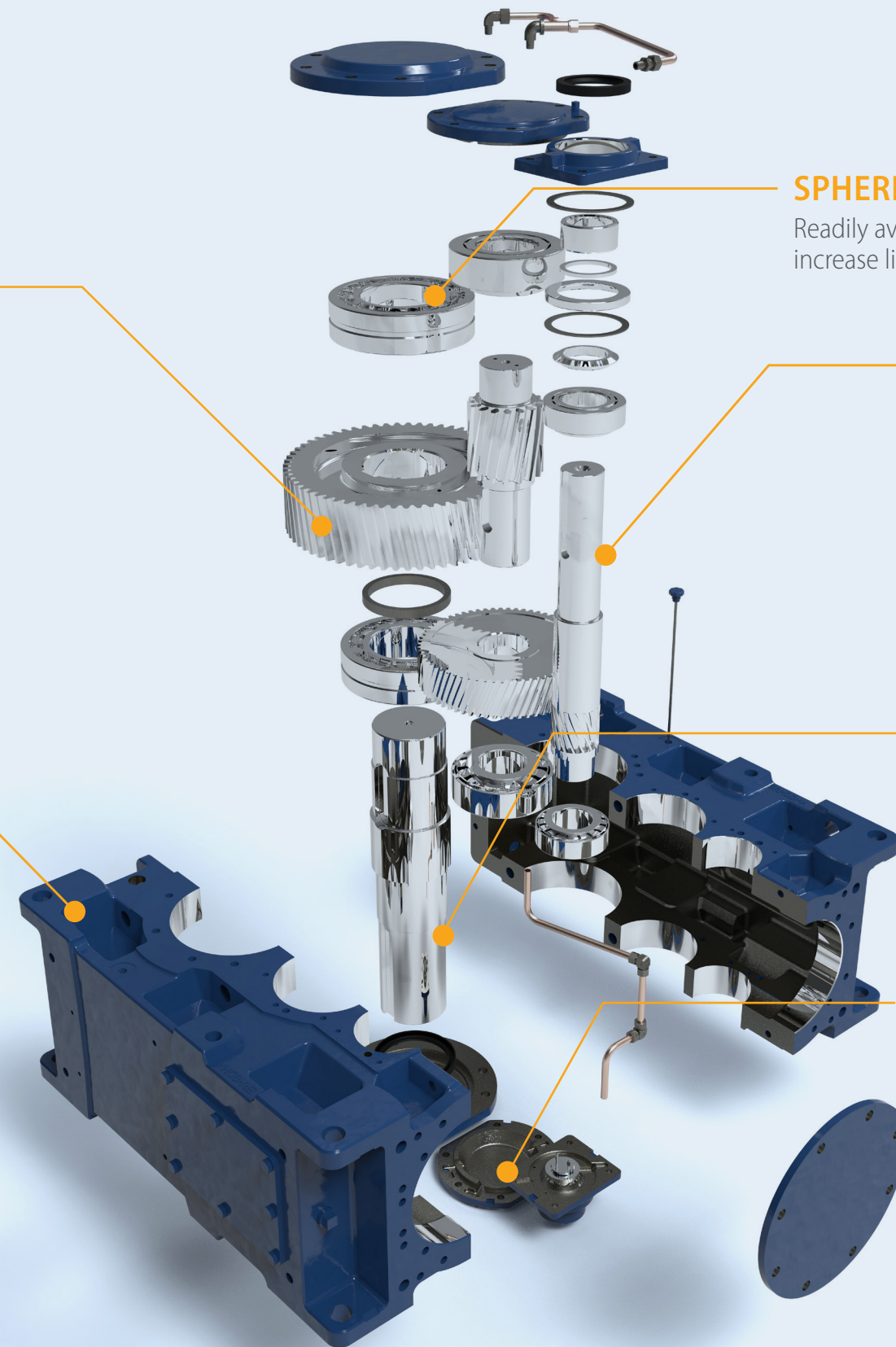
**DIAMETER**  
58mm to 360mm  
(Hollow & Solid)



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



**RATIO RANGE**  
Up to 500:1  
Standard





INDUSTRIES



Food & Beverage



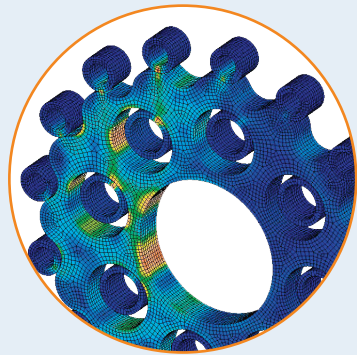
Wastewater



Plastics

**C-FACE MOTOR ADAPTER**

Fabricated steel with a wide variety of input options available.



**500% MOMENTARY SHOCK LOAD**

The Cyclo® design spreads the load across 2/3 of the reduction components, enabling the units to absorb and dissipate shocks better than typical concentric drives.



\* Rating applies to specific products.

**CYCLO® DISC**

All reduction components are fully hardened, vacuum degassed bearing grade steel for consistent, reliable performance.

**SLOW-SPEED SHAFT**

**RING GEAR HOUSING**

High power density, all reduction contained in compact ring gear housing.

**LUBRICATION PUMP**

insures lubricant get all the way to the top bearings and minimizes the amount of oil required to maximize the unit's life.

**HOUSING**

Rugged, shock-resistant cast iron housing. Optional ductile iron housing also available.

**TANDEM SEALS**

Wear sleeves and pressure-rated seals to prevent leaks.

**CYCLO® 6000 MIXER DRIVE**

The revolutionary Cyclo® design is remarkably efficient at all ratios. We offer multiple output flange styles and extended base designs. Oil leaks are eliminated by a combination of dual output seals with seal collars and grease lubrication or shaft-driven lubrication pumps. The extremely compact design minimizes space requirements while providing the capability to resist the bending loads inherent to mixing applications.

SPECS



**HP RATING**  
Up to 200 HP  
(150 kW)



**DIAMETER**  
Up to 7.5 inch  
(190mm)



**TORQUE**  
Up to 383,000 lb•in  
(42,273 N•m)



**RATIO RANGE**  
Up to 119:1 (Single)  
Up to 7569:1 (Double)  
Up to 658,503:1 (Triple)



## INDUSTRIES



Cosmetics



Chemical



Pharmaceutical

### DUCTILE IRON HOUSING

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

### DRYWELL ASSEMBLY

An optional additional protection against oil leaks, as the output bearings are grease lubricated.

### TAPERED BEARINGS

Resist axial and radial loads simultaneously.

### TANDEM DUAL LIP SEALS

Prevent leaks and exclude contaminants.



### ONE PIECE PINION

Oversized, single-piece pinion provides a robust solution capable of 300% momentary shock-load. Designed and manufactured in the USA.

### 100% HARDENED STEEL COMPONENTS

Provide long life, smooth operation, and superior strength.

### BEARING

### CYCLO® DISC

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

### HIGH-SPEED SHAFT



\* Rating applies to specific products.

## B4 CYCLO® Bevel BuddyBox® 4

## SPECS



**HP RATING**  
Up to 60 HP  
(45 kW)



**DIAMETER**  
Up to 4.75 inch  
(130 mm) (Solid)  
Up to 4.25 inch  
(120 mm)  
(Key hollowed)



**TORQUE**  
Up to 159,983 lb·in  
(17,400 N·m)



**RATIO RANGE**  
Up to 26,000:1  
and greater

The power-dense Cyclo® Bevel BuddyBox 4 (BBB4) is a robust state-of-the-art, mid-sized family of right-angle gearboxes. Robust tapered output bearings and tandem output seals yield efficient and reliable mixer drives. Cyclo® technology, integrated into innovative products, generates the most complete range of solutions available.



# OPTIDRIVE E3

## 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 rigid 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 secs
- 175% Overload for 2.5 secs
- 98% Typical Efficiency

Compliant with international standards.



## ENCLOSURES

**FAST CONNECTION**  
5mm rising clamp terminals with captive screws.

**KEYHOLE MOUNTS**

**QUICK REFERENCE**  
Integrated help card.

**OPTISTICK SMART**  
A rapid commissioning tool that allows copying, backup, and the restoring of drive parameters.



**DUAL ANALOG INPUTS**

## SPECS

- HP RATING**  
Up to 350 HP (250 kW)
- POWER OPTIONS**  
Single-Phase: 200-240V  
3-Phase: 200-600V
- TORQUE**  
Up to 200% (From Zero Speed)



**INTEGRATED DISPLAY**  
LED multi-language text display.

**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. Its 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 makes it perfect for marine and elevator applications.

- 200% Overload for 4 secs
- 98% Typical Efficiency
- Integral Brake Transistor



*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 and Drop-Ins

Whatever your requirements, we have a solution for you. Sumitomo 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

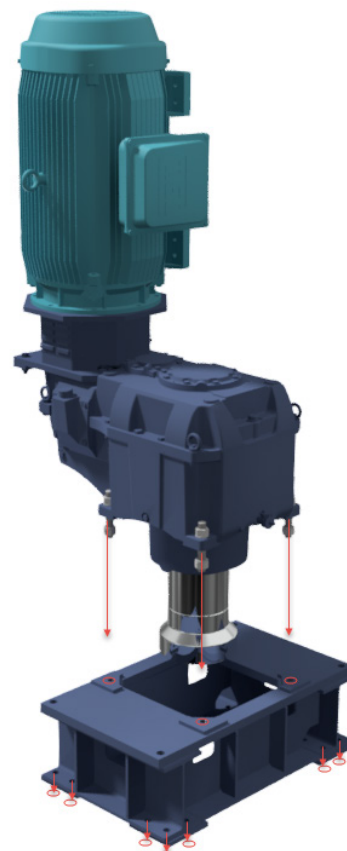
*Match existing footprint*

A custom transition base will position the new low-speed shaft to be in the EXACT same position as the original low-speed shaft. Our retrofits provide an excellent balance between the cost savings of a standard gearbox and the benefits of minimal on-site modifications.

Typically, only relocating the motor mount is required for this option. We offer motor mounting options to help minimize the impact of relocating the motor mount, such as flanged motor adapter for c-face or d-flange motors.

Options might include a special low-speed shaft diameter or length and motor lantern.

The red circles in the diagram represent the existing bolt pattern of a customer's unit. The transition base is fabricated to match the height, ensuring alignment of the low-speed shaft to the machine shaft.



### Drop-In

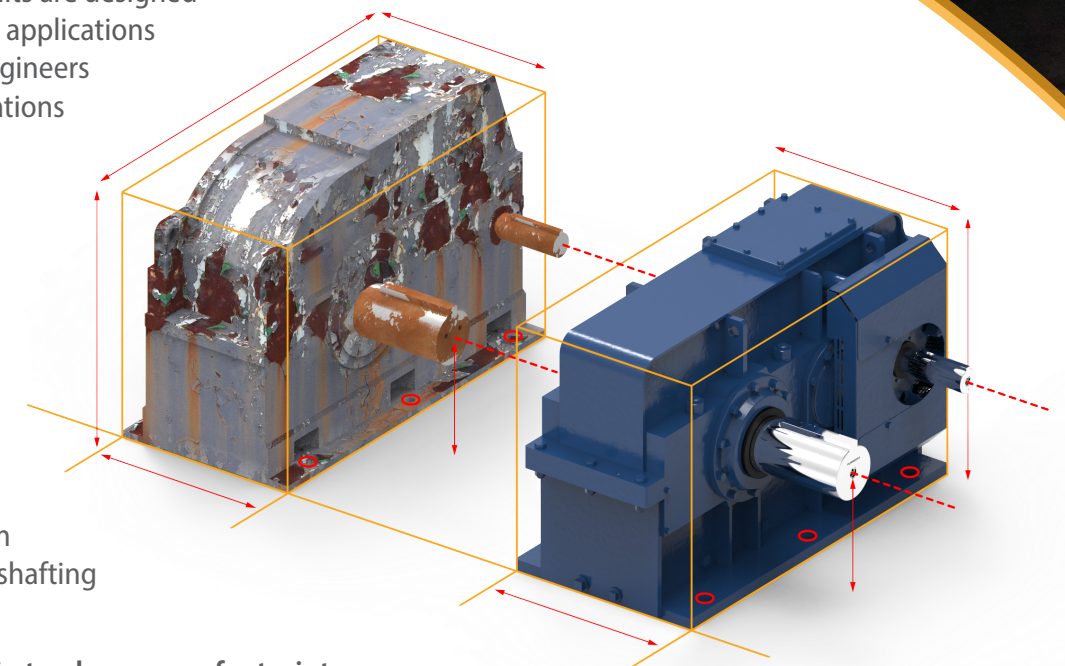
*Match existing unit's critical dimensions*

Sumitomo's installation-ready units are designed specifically to drop-in to existing applications with no problems. Our expert engineers understand that on-site modifications or re-engineering your system is not always an option.

With downtime being such a critical factor in your operation, let us install one of our custom drop-in units.

Our stress-free units can have your application back up and running in no time. We offer fabricated steel housings, custom baseplates, custom gearing and shafting and more!

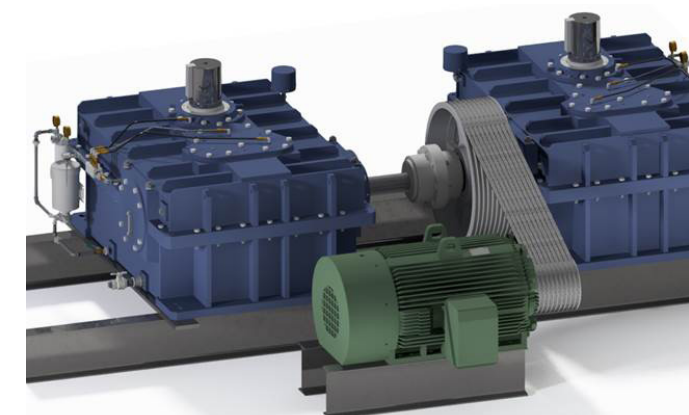
**This product will literally drop-in to place; same footprint, same shaft positions!**



## Specialty Units

For non-standard gearing and custom ratios, we offer special customized units to fit in any application. From custom paint to intricate gearbox lubrication systems, our team of engineers will make sure all of your custom gearbox needs are met.

We have exceptional engineering and factory capabilities to support you on your gearbox needs.





We take asset management seriously,  
because we know you do.

Avoid catastrophic failure, minimize risk  
and increase machine uptime.

## 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.



### Reliability Monitoring

These reducer option packages will help in the consistent collection of data. For Vibration analysis, as well as oil condition and cleanliness testing

#### Large Industrial Gearboxes

##### OPTIONS\*

Opt 1: Machined Accelerometer Mounting Pads Only

Opt 2: Opt 1 + Accelerometers Wired to Junction Box

Opt 3: Opt 2 + Outputs to Customer PLC or DCS

**YOU THINK!**



### Condition Monitoring

Fully customizable systems provide real time condition data of any piece of rotating equipment. Providing an accurate condition signal without the need for further analysis

#### All Gearboxes

##### OPTIONS \*\*

Vibration + Temperature Input


Vibration + Oil Level Input

Vibration + Oil Condition

**WE THINK!**

## CycloSMART® Benefits

- **Safe**  
Monitor assets from the safety of your desk via networked connections
- **Predictive**  
Machine diagnostics for early warning and detection to avoid failure
- **Optimization**  
Customizable systems to meet many different application needs
- **Expandable**  
Multi-reducer monitoring
- **Reliable**  
Schedule machine downtime to avoid lost production
- **Cost-Effective**  
Lower overall ownership cost

the **CHECK**   
**ENGINE LIGHT** for  
**SPEED REDUCERS**

\* All DriveSMART® options include: Oil sampling pitot tube, and Oil Breather package that incorporates oil fill and drain ports.

\*\* All CycloSMART® systems are customizable with many different options for data monitoring. Examples are shown.

Learn more at: [SumitomoDrive.com/CycloSmart](http://SumitomoDrive.com/CycloSmart)

