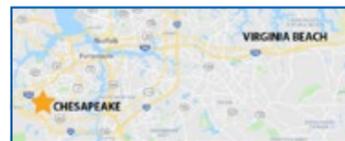


### Sumitomo Drive Technologies

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

#### Headquarters



4200 Holland Blvd  
Chesapeake, VA 23323

email: [SMA.CustomerService@shi-g.com](mailto:SMA.CustomerService@shi-g.com)  
phone: 757-485-3355

#### Corporate Industry Manager

Sara Kirkpatrick  
Aggregate / Sand / Cement

email: [Sara.Kirkpatrick@shi-g.com](mailto:Sara.Kirkpatrick@shi-g.com)  
phone: 319-493-8462

## Aggregate / Sand / Cement



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.

### KEEP 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.

### MAKE 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 Adaptor

#### 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**

## Comprehensive Torque Arm Options



Turnbuckle



Transverse



European



Cast Iron Flange Mount



T-Type



Fabricated Flange Mount



## 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.



### TAPERED BEARINGS

Resists axial and radial loads simultaneously.

### TANDEM DUAL LIP SEALS

Prevent leaks and exclude contaminants.

### SINGLE-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.

### INTEGRAL BACKSTOP

At high-speed shaft to achieve 100% lift-off which increases life.

### CYCLO® DISC

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

## CYCLO® BEVEL BUDDYBOX® 4 (BBB4)

### 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**.

### 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



### 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

• **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**

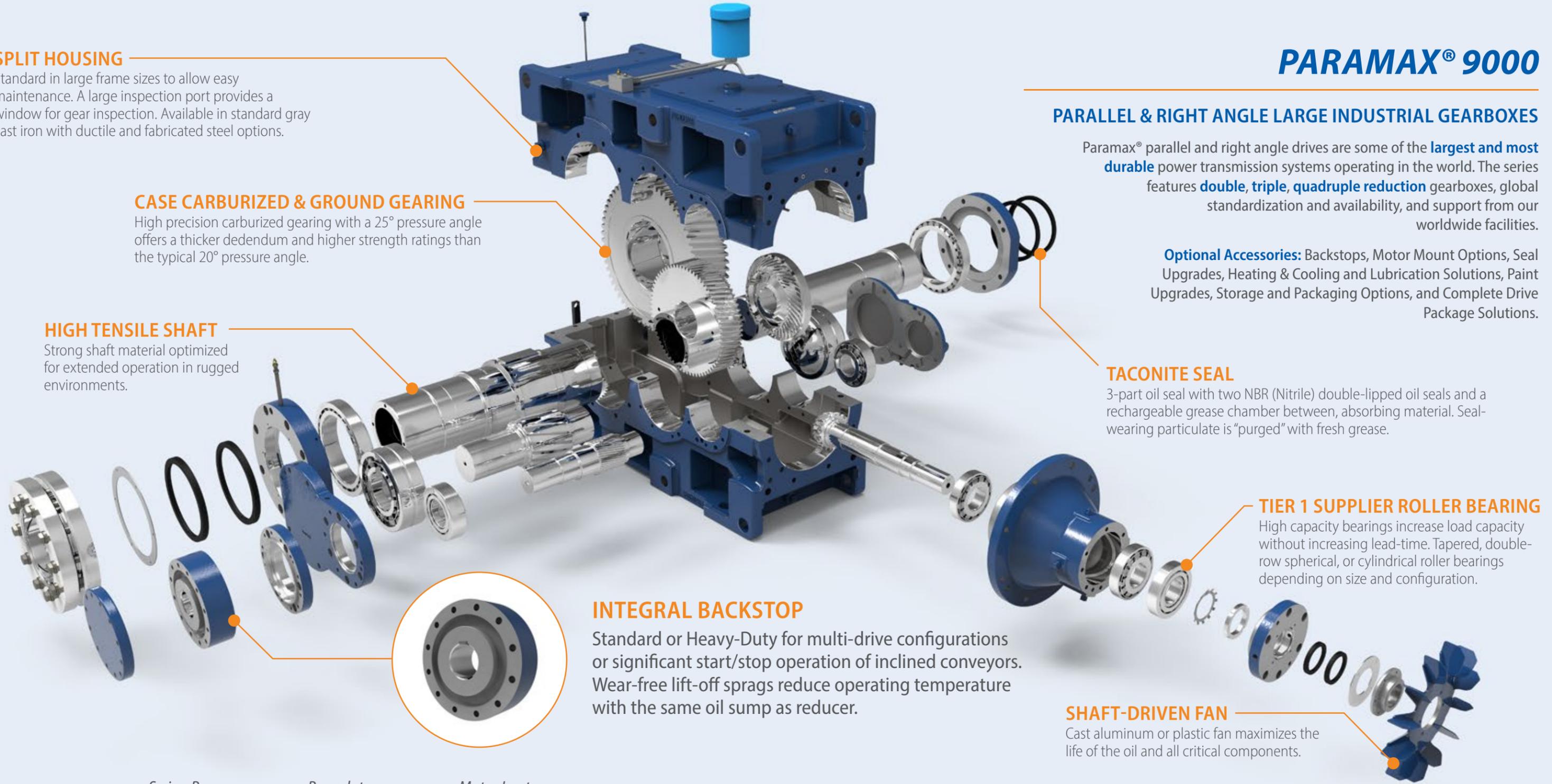
Standard in large frame sizes to allow easy maintenance. A large inspection port provides a window for gear inspection. Available in standard gray cast iron with ductile and fabricated steel options.

**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 Lantern



**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**

**SEALS**

Wear sleeves and pressure-rated to prevent leaks.

**HOUSING**

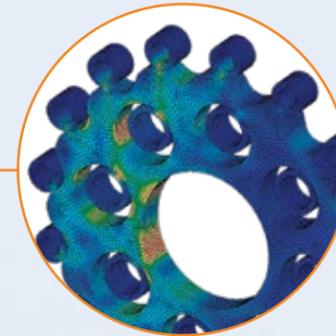
Rugged, shock-resistant cast iron housing. Optional ductile iron housing also available.

**RING GEAR HOUSING**

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

**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.



**CYCLO® DISC**

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

**DYNAMIC AIR MOTIVATOR**

**MOTIVATOR COVER**

**OIL LEVEL INDICATOR**

**SLOW-SPEED SHAFT**

**ECCENTRIC CAM**

**HIGH-SPEED SHAFT**

**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

## GENERAL PURPOSE DRIVE

A **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 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


 Compliant with international standards.



ENCLOSURES

## INTEGRATED DISPLAY

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



## FAST CONNECTION

5mm rising clamp terminals with captive screws.

## KEYHOLE MOUNTS

## QUICK REFERENCE

Integrated help card.

## OPTISTICK SMART

Rapid Commissioning Tool that allows copying, backup, and the restoring of drive parameters.



## DUAL ANALOG INPUTS

## INTEGRATED CABLE MANAGEMENT

## PLUGGABLE CONTROL TERMINALS

## FANS

High-quality long-life fans.

# OPTIDRIVE P2

## HIGH PERFORMANCE DRIVE

A **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 Fieldbus **communication protocols** such as Ethernet/IP and others, ensure the drive can be **easily integrated** into a wide variety of control systems.

Dedicated Hoist Mode Operation with motor holding brake control makes 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**.*



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

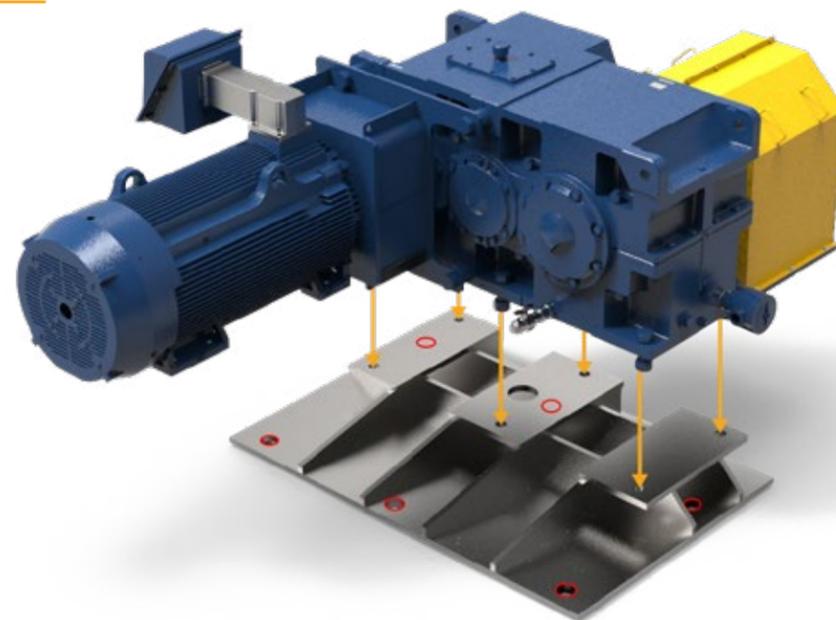
*Custom drop-in units made to match existing unit's critical dimensions.*

## Upgrade and Replace

Don't let **ageing** units and lack of **support** slow down your operation.

Retrofits, drop-ins, and custom specialty units allow us to **upgrade** and **replace** competitor units.

We can replace your unit with **minimum** impact while delivering an **improved** replacement product.



## Retro-Fit

*Match the Existing Unit's 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

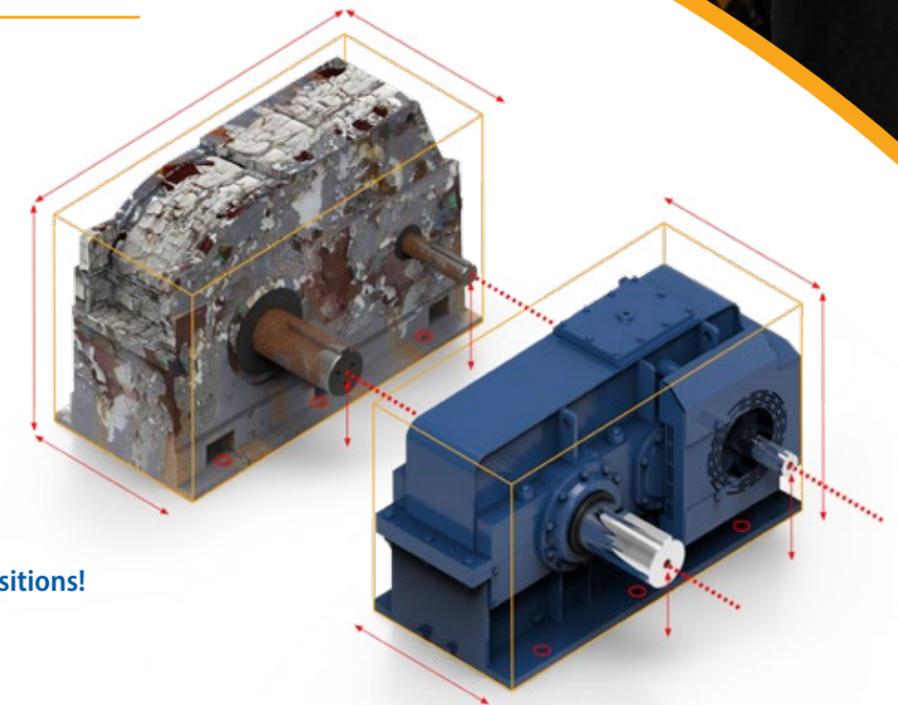
*Match the Existing Unit's Critical Dimensions*

**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

*Custom Units to Fit Any Application*

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.



**LUFTEX**

A Sumitomo Drive Technologies Company

**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-manufactured parts.

*Extended warranty programs are available upon request.*

**On-Site Inspections**

*Failure Detection*

Our industrial gearbox **inspection** services and **reporting** will help you **detect failures** as early as possible and ensure the efficiency of your application.

**Field Services**

*For Your Convenience*

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

email: [SMA.Service@shi-g.com](mailto:SMA.Service@shi-g.com)

phone: 757-485-3355

web: [SumitomoDrive.com](http://SumitomoDrive.com)

**Aftermarket**

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

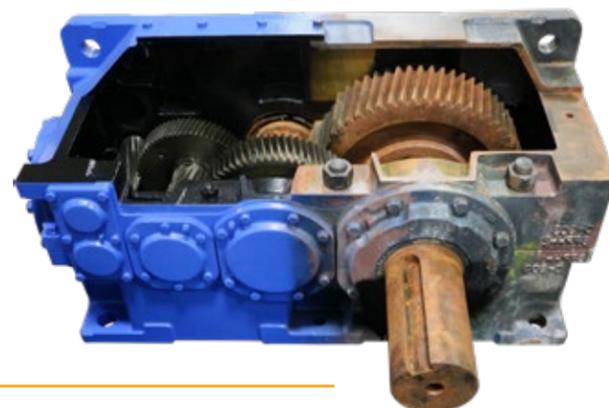
**Experts in Service**

*Global Support, Local Service*

With a vast network of engineers and gearing experts, there is **no problem** we can't handle.

In addition to our extensive network, **LUFTEX Gears Manufacturing and Services** provides unmatched capabilities and expertise in the area of **custom** gearbox **repair** and **service**. With state-of-the-art equipment, no gearbox is too big for us to handle.

Whether custom gear manufacturing or on-site gearbox repair, let our team at LUFTEX **keep your operation running**.



**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 **250,000 ft<sup>2</sup> 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**

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



**Glendale Heights, IL**

**Gearmotor Assembly and Support**

Our Mid-West 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.



**Corona, CA**

**Gearmotor Assembly and Support**

Our West Coast facility offers dynamic product and service solutions timely for the **Pacific coast region**.