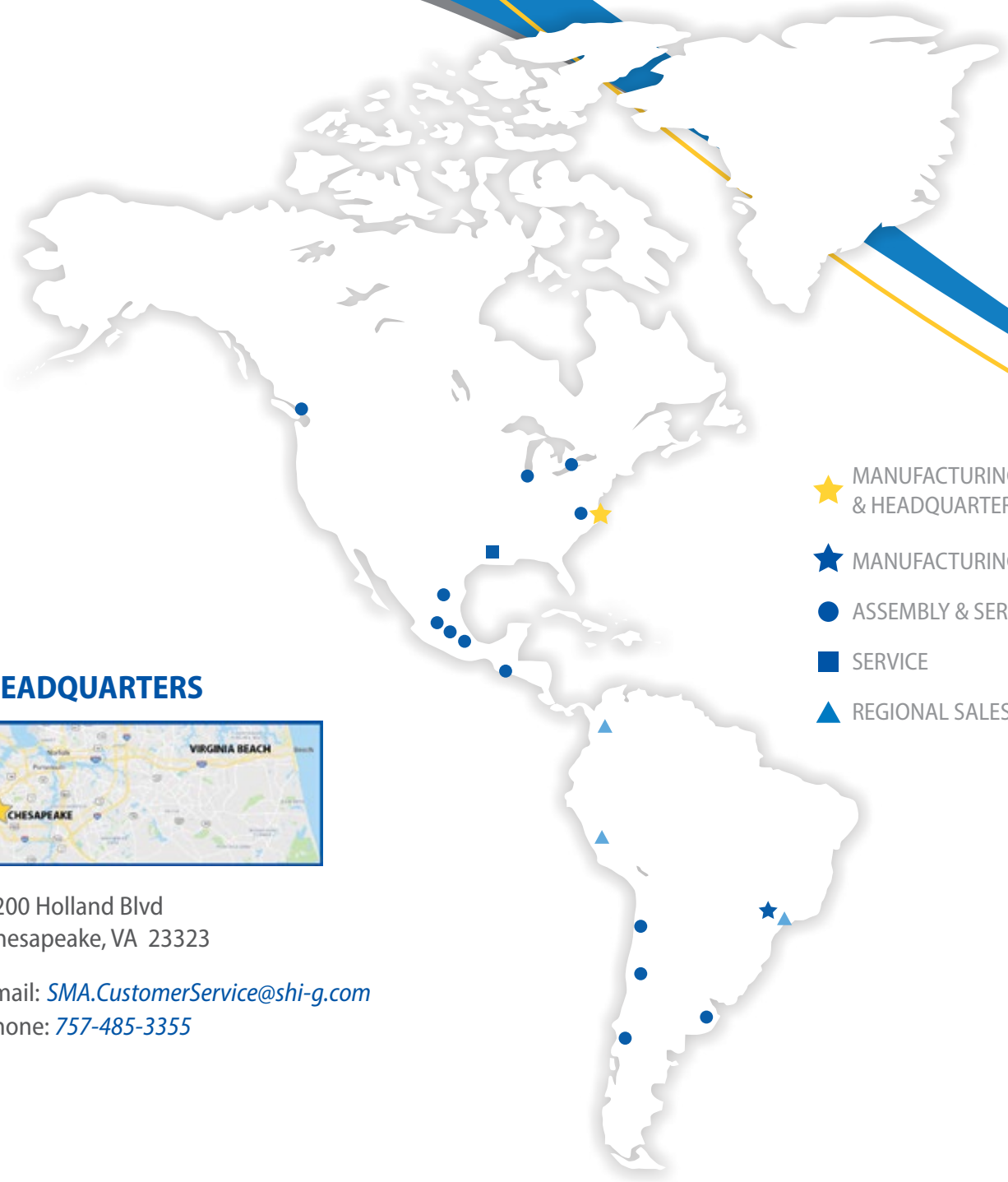


A global power transmission solutions provider, with facilities strategically located throughout the world, providing comprehensive products and services in your region.

# PRECISION AND ADVANCED GEARBOXES



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

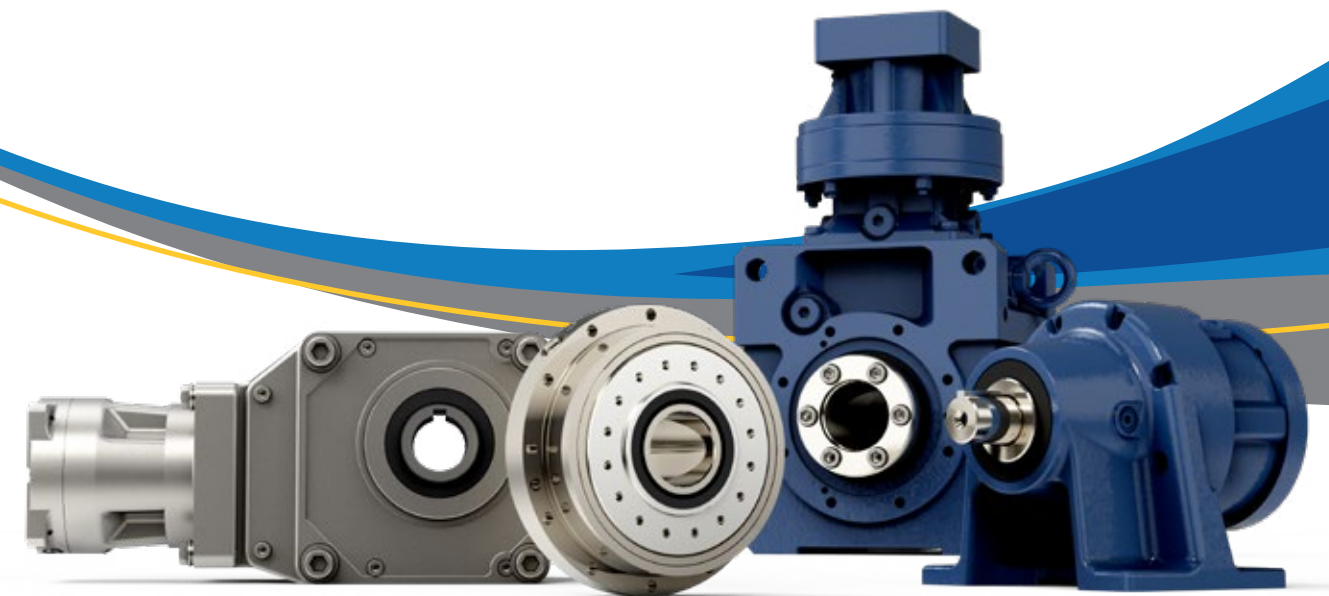
## HEADQUARTERS



4200 Holland Blvd  
Chesapeake, VA 23323

Email: [SMA.CustomerService@shi-g.com](mailto:SMA.CustomerService@shi-g.com)

Phone: 757-485-3355



*We offer a comprehensive lineup of high quality motion control gearboxes.*

*For any of your motion control needs, we have the right product for you.*

## WE KNOW MOTION CONTROL

Lifestyle in general has always been changing because of the **fast development of information technologies**. Internet, social media, online shopping, video on demand, smart phones, and a high level of connectivity speed up our lives. **Products need to be available everywhere and at any time**. This has a strong influence on the development of **high-speed logistic systems and infrastructure** such as factories, storage, ports and terminals, railroads etc. In the industrial sector, the development of **Industry 4.0** has greatly changed machine and plant engineering in recent years.

The industrial world is increasingly entering an era of **automation and labour savings**. Companies that want to remain competitive need to **optimize** their operational and manufacturing processes. **Robots, machine tools, and automated factories** must be flexible, fast, and individual. This trend to automate all processes even affects the development of modern health equipment. **Speed and precision is key**. Most industrial processes need **high performance precision drives with low and zero backlash**.

Sumitomo Drive Technologies understands these **growing challenges** and offers a comprehensive range of products for high performance tasks. **We support our customers** with the creation of **tailor-made differentiating solutions**.

## 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

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.



### NAGOYA, JAPAN

**Global** Sumitomo Power Transmission Control Manufacturing **Headquarters**. The Nagoya factory has been manufacturing the **CYCLO® Reducer, Fine Cyclo®,** as well as other reducers and motors, since it began operations back in 1961.



### GLENDALE HEIGHTS, IL

Houses our **state-of-the-art paint system** for our **SHIELD360®** packages for Cyclo®, BuddyBox®, and Hyponic®.



### MARKT INDERSDORF, GERMANY

**State-of-the-art facility** where precision drives, standard drives, and custom drive solutions are developed, manufactured, and assembled.

## PRECISION GEARBOXES



### FINE CYCLO®

- **Zero** backlash Cycloidal
- Up to **138mm** (Hollow Bore)
- Up to **265,522 N·m** (30,000 lb·in)
- **29:1** up to **283:1**



### ECY

- **Zero Backlash** Strain Wave
- Up to **25.5mm** (Hollow Bore)
- Up to **284 N·m** (Momentary Torque)
- **50:1** up to **100:1**

## ADVANCED GEARBOXES



### SERVO CYCLO®

- Up to **4,000 RPM** Input Speed
- Up to **603,000 N·m**
- **3:1** up to **658,503:1**
- **1/2in** to **7in** (Output Shaft)



### SERVO HYPONIC®

- Up to **3,600 RPM** Input Speed
- Up to **269 N·m**
- **5:1** up to **60:1**
- **3/4in** to **2in** (Output Shaft)



### SERVO BEVEL BUDDYBOX®

- Up to **4,000 RPM** Input Speed
- Up to **159,983 N·m**
- **11:1** up to **26,000:1** and greater
- **1in** to **4-15/16in** (Output Shaft)

• "H" Foot



• V-Flange



• F-Flange



### MOUNTING

• Key Hollow Bore



• Clamp Ring (Standard)



### INPUTS

### SEALS

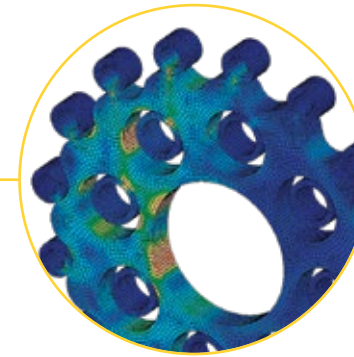
Wear sleeves and pressure-rated to prevent leaks.

### HOUSING

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

### SLOW-SPEED SHAFT

### CYCLO® DISC

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

### HIGH-SPEED SHAFT

### CLAMP RING

### SERVO MOTOR FLANGE

## SERVO CYCLO®

### 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

### SPECS



**INPUT SPEED**  
Up to 4,000 RPM



**OUTPUT 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

• Foot Mount

• Flange

MOUNTING



• Plug-In-Shaft

• Shrink Disc

• Clamp Ring (Standard)

OUTPUTS

INPUTS



QUALITY HOUSING

Aluminum housing is lighter and increases thermal rating.

ALL-STEEL HYPOID GEARING

Patented Hyponic® gear technology is up to 93% gear efficient across all ratios providing a smooth, quiet operation which does not require a cooling fan.

HYPOID PINION

Single-piece all steel hypoidal pinion for longer life. Lasts millions of cycles without measurable wear.

SEALS

Multiple lip, harsh duty, and food-grade designs available to prevent leaks.

DUAL TAPER ROLLER BEARINGS

CLAMP RING INPUT

Hollow bore input for a smooth shaft. Ideal for easy installation and torque transfer.

CLAMP RING

MOTOR ADAPTER

SERVO HYPONIC®

REQUIRES NO OIL CHANGES AND UP TO 93% EFFICIENT

The Sumitomo Hyponic® gearing represents hypoid gearing excellence. With millions of Hyponic® units currently in service, the product features a compact, modular housing, maintenance-free grease lubrication and boasts a gear efficiency of up to 93% across all ratios.

The maintenance-free grease lubrication enables the unit to be mounted in any orientation without custom modifications. In addition to general-purpose solutions, with multiple food grade options, Hyponic® is perfect for harsh, high-pressure wash-down environments.

Simplify your gear drive assembly and increase efficiency by switching to Hyponic®.

OPTIONS



SHIELD360® Protection



EasyGrip™

SPECS



INPUT SPEED  
Up to 3,600 RPM



OUTPUT DIAMETER  
3/4in to 2in



TORQUE  
Up to 269 N•m



RATIO RANGE  
5:1 up to 60:1





**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.

**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.

**CYCLO® DISC**

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

**BEARING**



\* Rating applies to specific products.

**SERVO BEVEL BUDDYBOX®**

**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**.

Also available as a **mixer drive** with an **integrated drywell** and space-saving footprint. BBBH design available for **low ratio options**.

**MOBIL SHC™ GEAR HI-SHOCK 150**

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

**SPECS**



**INPUT SPEED**  
Up to 4,000 RPM



**OUTPUT 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

• A-Series



• C-Series



• UA-Series



• DA-Series



• SERIES

• Hollow Shaft



• Keyed



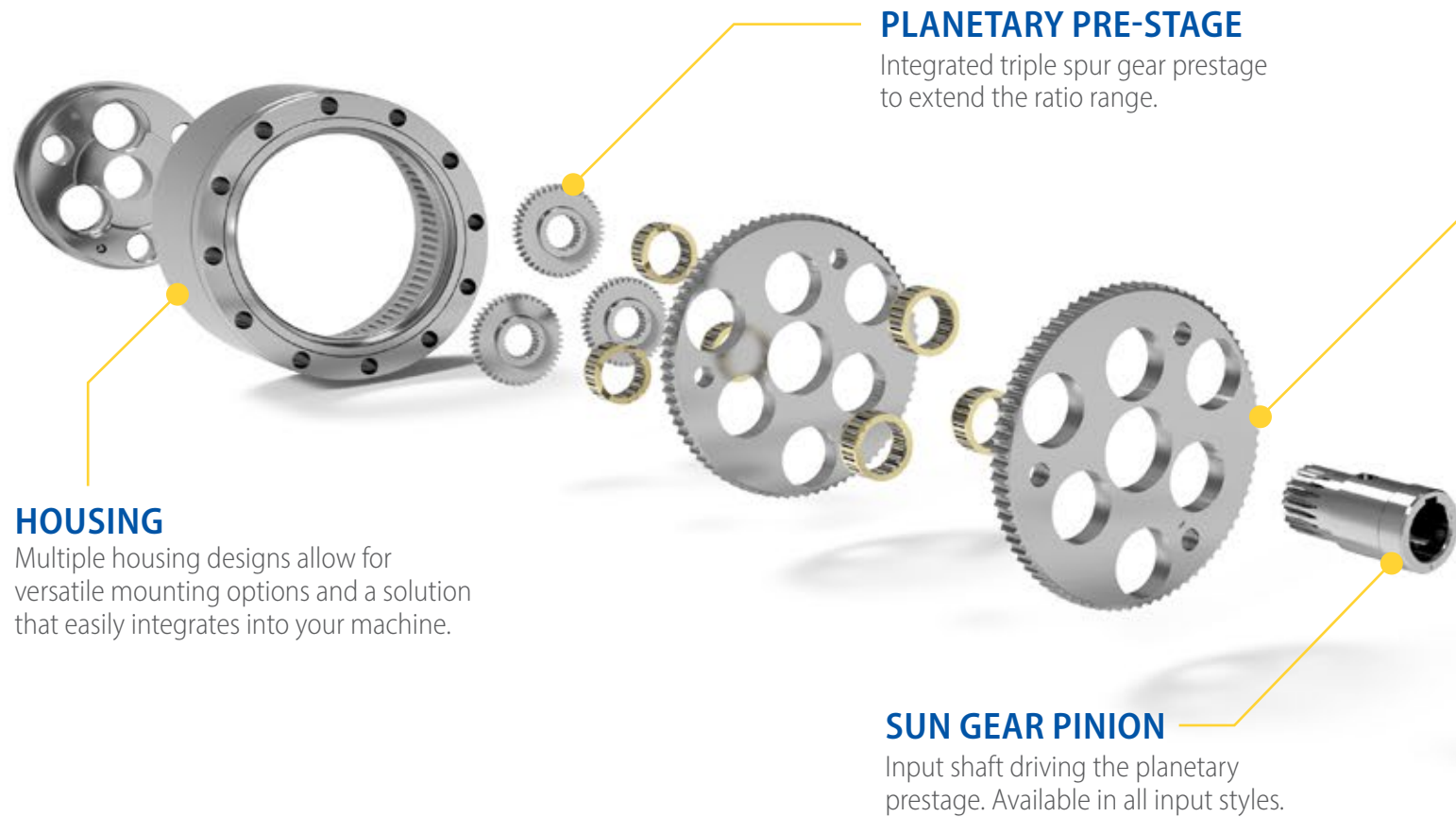
• Coupling



• Clamp Ring



• INPUTS & OUTPUTS



### HOUSING

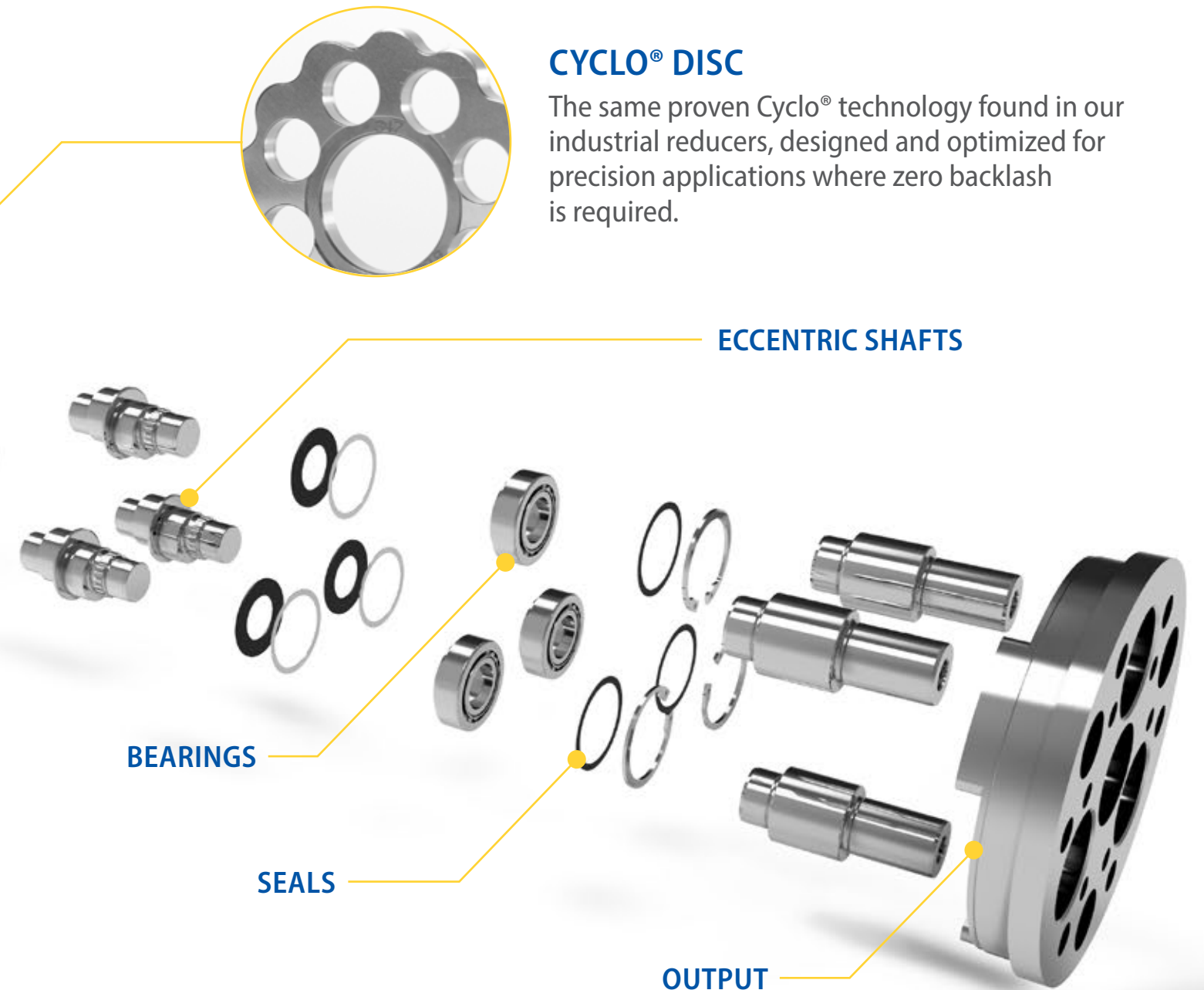
Multiple housing designs allow for versatile mounting options and a solution that easily integrates into your machine.

### PLANETARY PRE-STAGE

Integrated triple spur gear prestage to extend the ratio range.

### SUN GEAR PINION

Input shaft driving the planetary prestage. Available in all input styles.



### CYCLO® DISC

The same proven Cyclo® technology found in our industrial reducers, designed and optimized for precision applications where zero backlash is required.

### ECCENTRIC SHAFTS

### BEARINGS

### SEALS

### OUTPUT

## FINE CYCLO®

### HIGH PRECISION POINT TO POINT AND TRAVERSE MOVEMENT

The Fine Cyclo® product series are **high precision cycloidal gearboxes** with **zero backlash**. These single and double stage gearboxes are **highly compact** in design, provide **long life**, and can be optimally integrated into your application. **High torsion** combined with their **low moments of inertia**, create ideal solutions for highly dynamic tasks.

**A Series** - High precision point to point movement. Single stage with high acceleration torque and bearing capacity.

**C Series** - Large hollow shaft with high precision point to point movement. Fully sealed, single stage gearbox.

**UA Series** - Highly efficient traverse movement. Double stage gearbox with a planetary 1st stage and cycloidal 2nd.

**DA Series** - New single stage gearbox with high acceleration torque and stiffness. Fully sealed.

### SERVORUN SIZING SOFTWARE

As part of our support in the design phase of new applications, our sizing software Servorun verifies the gearbox selection as well as motor suitability.

SPECS



**NOM TORQUE**  
Up to 12,000 N·m  
(106,209 lb·in)



**DIAMETER**  
Up to 138 mm  
(Hollow Bore)



**ACCEL TORQUE**  
Up to 30,000 N·m  
(265,522 lb·in)



**RATIO RANGE**  
29:1 to 283:1

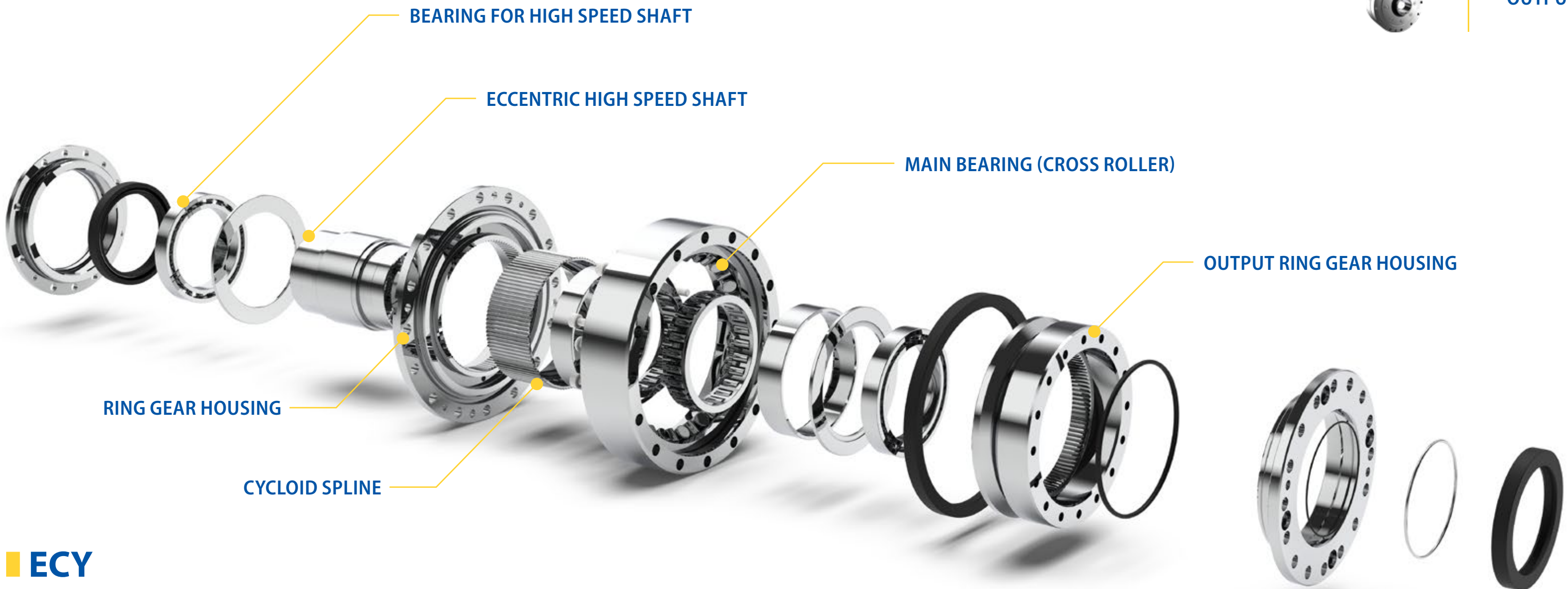


**INPUT SPEED**  
Up to 10,260 RPM

• Hollow Shaft



INPUTS & OUTPUTS



## ■ ECY

### HIGH PRECISION POINT TO POINT AND TRAVERSE MOVEMENT

**Compact Zero Backlash Gearbox** blending traditional strain wave reduction and cycloidal engagement technology.

The ECY **precision gearboxes** were created using a **trochoid tooth design** similar to our Cyclo® for zero backlash applications.

The ECY features a **highly compact design** to achieve excellent **torque density**. The **torsional stiffness** is approximately **twice that** of the general strain wave gear **competitor**. The **ratcheting torque** (safety in the event of an overload) is **much higher** due to our inclusion of the **cycloidal** tooth design which is **unique** to the market.

### ■ SERVORUN SIZING SOFTWARE

As part of our support in the design phase of new applications, our sizing software Servorun verifies the gearbox selection as well as motor suitability.

## SPECS



**NOM TORQUE**  
Up to 67 N·m  
(6.8 kgf·m)



**DIAMETER**  
Up to 25.5 mm  
(Hollow Bore)



**ACCEL TORQUE**  
Up to 284 N·m  
(29.0 kgf·m)



**RATIO RANGE**  
29:1 to 283:1



**INPUT SPEED**  
Up to 8,500 RPM

*With precise positioning and zero backlash we've got your industry covered.*

*Standard backlash reducers redesigned for advanced servo mechatronic systems.*

## PRECISION GEARBOXES

For over **30 years**, Sumitomo Drive Technologies has been providing reducers which **excel in applications** where you demand **precise positioning** and **zero backlash**, such as the robotics, automation, machine tools, and medical industries.

### FINE CYCLO®

- **Single** and **Double** Stage Options
- **Clamp Ring** and **Keyed Hollow Bore** Options
- **Highest** Torque Density
- **Zero** Backlash
- **High** Input Speed
- **Low** Moment of Inertia

### ECY

- **Unique Strain Wave** Design
- **Light** Weight
- **Highest** Torque Density
- **Zero** Backlash
- **High** Input Speed

### INDUSTRIES

Aerospace



Food & Beverage



Machine Tool



Packaging



Medical



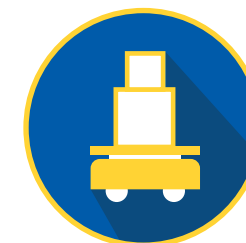
Communications



Material Handling



AGV



### APPLICATIONS

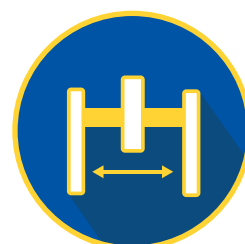
Pick and Place



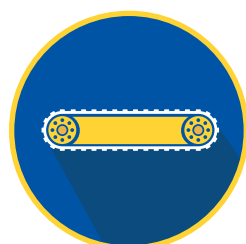
Robotics



Gantry



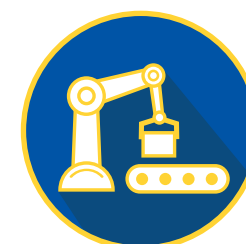
Conveyor/  
Accumulator



Backstop  
Positioning



Robot/Material  
Transfer



Antenna  
Positioning



Material Storage/  
Racks



## ADVANCED GEARBOXES

Sumitomo Drive Technologies is a **global industry leader** in Power Transmission gearing. We are taking that same **quality, ruggedness, and commitment** to the customer and adapting our standard backlash reducers.

These gearboxes have been **redesigned** for **advanced servo mechatronic systems**. These gearboxes excel in applications where you demand **reliability** and **consistency** such as the material handling, warehouse, Food & Beverage, and the Autonomous Guided Vehicle (AGV) industries.