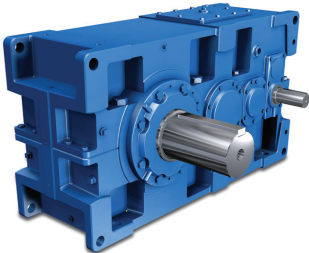
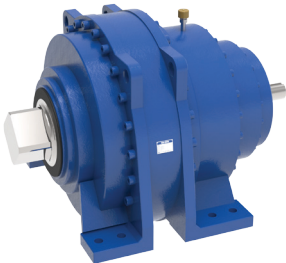


Power Transmission Solutions for  
**SUGAR INDUSTRY**

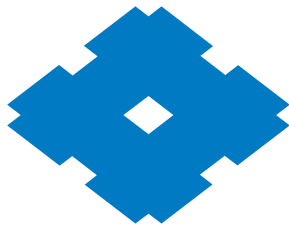


Innovative Products  
High Performance  
Engineering Excellence  
Quality and Reliability  
Global Support Network



# Sumitomo Drive Technologies

**Sumitomo Drive Technologies** is the global brand name for the *Power Transmission and Control* business of Sumitomo Heavy Industries Ltd.



Company Emblem of Sumitomo Group  
Igeta (well frame) Symbol

The Sumitomo Group, with a history dating back to 400 years, is one of the largest corporate groups in the world with diversified businesses from mining, metals, manufacturing to real estate, banks and insurance.

Sumitomo Drive Technologies has 100 years of expertise in design, development and manufacture of geared products, under several reputed brands: Sumitomo, Hansen, SEISA, IMT, Ueda and SKK.

Today, Sumitomo Drive Technologies manufactures gear-motors and gearboxes ranging from 6 Watts to 60 Mega-Watts, serving industries such as Agriculture, Mining, Material Handling, Factory Automation, Robotics and Medical Equipment.

“We strongly believe in local presence for faster delivery and better technical support.”

## Global Manufacturing

**Sumitomo Drive Technologies** serves the global customers with ten (10) manufacturing facilities strategically located around the world - Japan, USA, Germany, Belgium, Brazil, China and Vietnam.

## Local Assembly Centers

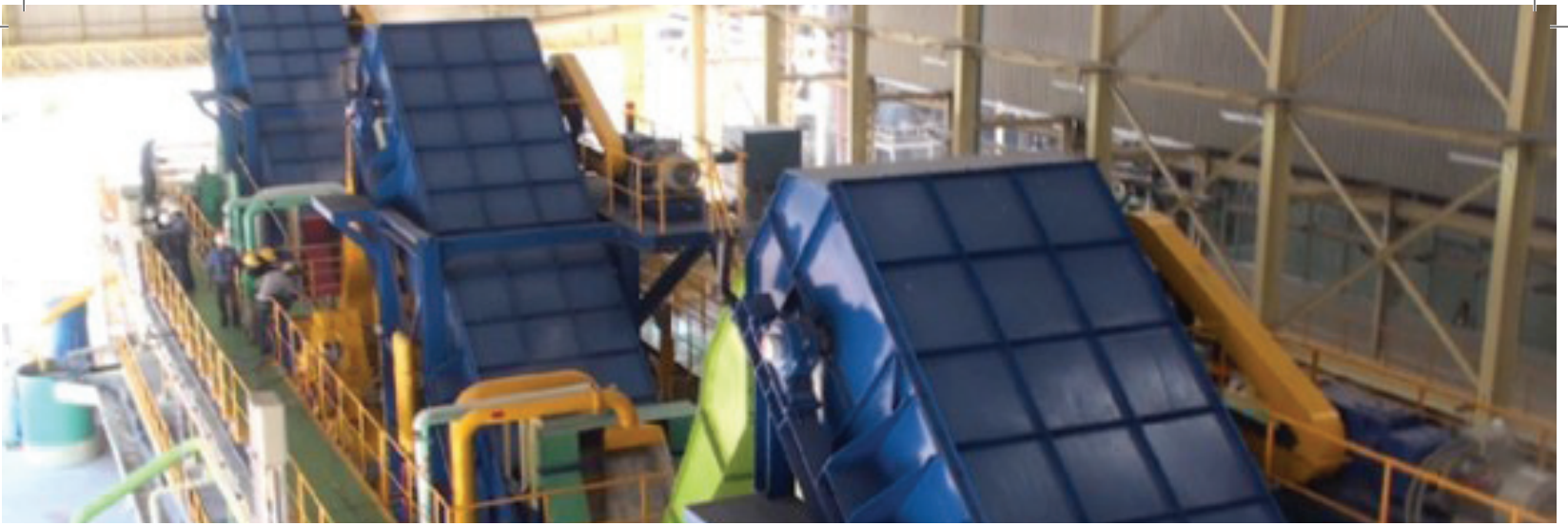
There are thirty-five (35) Engineering Service Centers (ESC) around the world, each equipped with stock, assembly, before and after-sales service capabilities, together with engineering and technical support teams

## Largest Network in Asia Pacific

**Sumitomo Drive Technologies** has the largest network of Engineering Service Centers (ESC) in Asia Pacific with fully equipped ESC's located in the key industrial regions of each country:

Bangkok	Singapore
Kuala Lumpur	Ho Chi Minh
Sydney	Jakarta
Pune	Manila





## Reliable Solutions for Sugar Industry

Reliability and efficiency are the key requirement of any equipment in Sugar Industry.

Be it production of sugar, ethanol-extraction or generation of energy from residue or by-product, Sumitomo Drive Technologies has the quality and reliable drives to delight the customers in the sugar industry worldwide.

Globally, our R&D engineers are continually developing products and solutions for more reliable, efficient and cost effective solutions.



## One-Stop Solution Provider

Our dedicated experts are able to provide complete solution for power transmission and control for all processes of sugar industry, from cane preparation, milling, to crystallization to refining and packaging.

Sumitomo's in-depth understanding of sugar industry ensures appropriate products selection for each application.



## RECEPTION AND PREPARATION

Pre-milling processes are dealing with sugar canes in bundles of all shapes and sizes. The applications are rugged with high shock loads and may encounter jamming. Power Transmission Drives used on these applications need to be robust, strong and durable as mill stoppage due to breakdown is not an option.

### Sugarcane Unloading

PX PX10

The cane is hoisted to a feeder where industrialization of sugarcane begins. Sumitomo's Paramax® reducers are used for their robustness, high torque, silent operation with minimal downtime.

### Feeder Table and Stowage

PX PX10 C S H B

The feeder table and mats measures the load and ensures uniform and uninterrupted operation. Clean water is used to clean feeder table from dust and dirt.

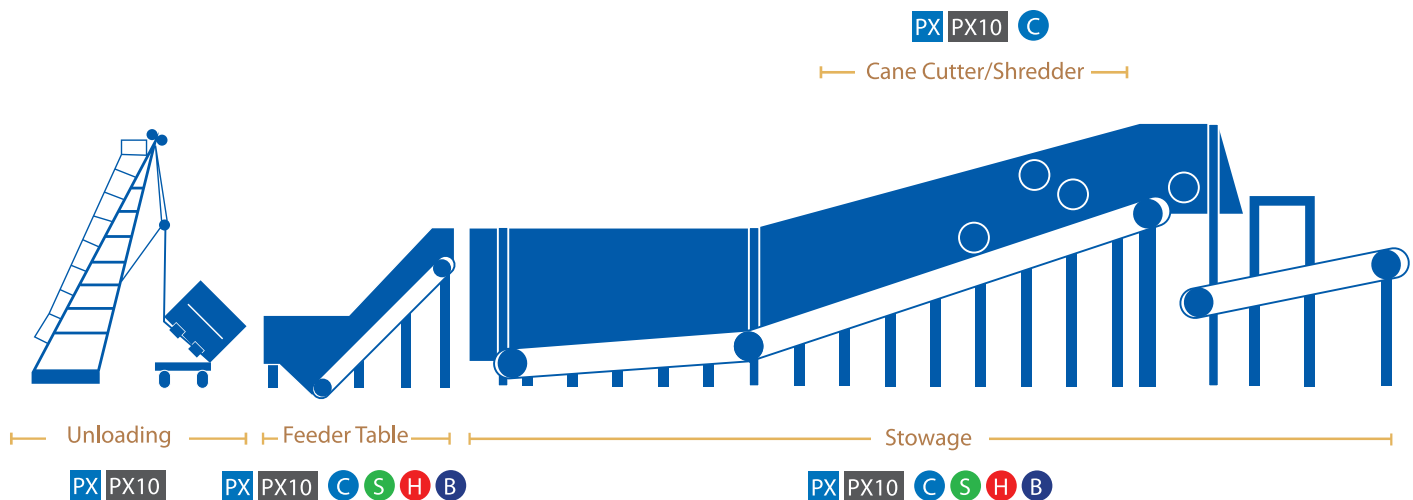
Sumitomo's Paramax® or Cyclo® Drives ensure continuous operation under rugged and dusty environment.

### Cane Cutter / Shredder

PX PX10 C S H B

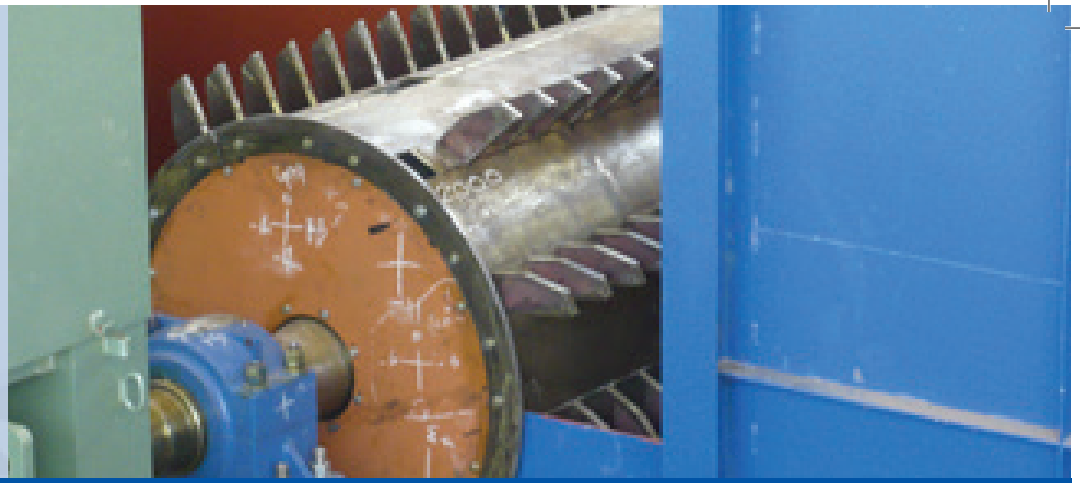
Sugar canes are cut into desirable lengths and size of cane fibres.

With the robust housing design and optimised gear tooth profile, Sumitomo gears deliver quiet and efficient operation with outstanding capability of handling shock load.





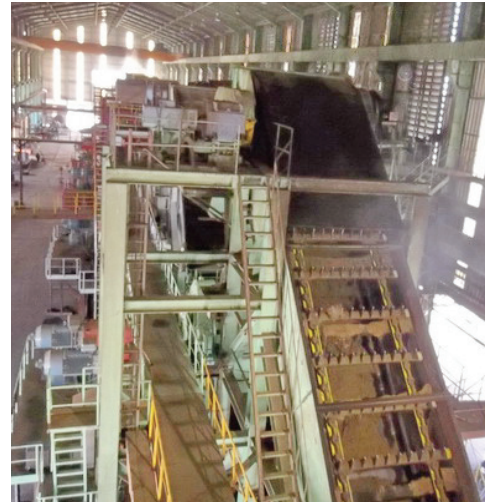
Sumitomo products are synonymous with reliability, robustness and efficiency.



## Robust Products for Demanding Applications



Side Cane Carrier



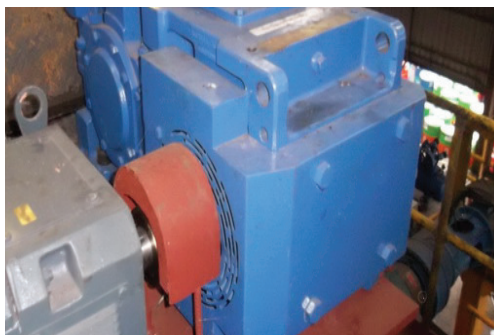
Intermediate Cane Carrier



Side Cane Leveler



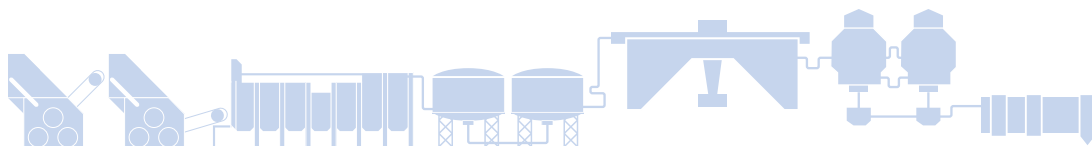
Cane Kicker



Shredder Elevator



Hammer Mill



Sumitomo offers several options for improving Mill efficiency



## MILLING

*Sumitomo's quality and reliable Planetary or Large Helical Gearboxes, and High Speed Gearboxes meet the critical demands from the entire Milling process, and ensure low maintenance and minimum downtime.*

### Milling and Pressure Feeder

SP SH

The Milling process is the heart of the Sugar mill. Naturally, reliability and performance is the key.

Sumitomo's Planetary (previously known as SEISA® Planetary) Gearboxes offer excellent service factor, greater durability, high efficiency, low noise and reduced vibration.

In traditional turbine driven mills, High Speed Turbine gearboxes and low speed helical gearboxes are used thus offering you options.

### Drag Stowage

PX PX10 S H B C

The important function in this process is to remove the bagasse from milling outlet.

Depending on the mill size, Paramax®, Cyclo®, HSM, BBB or HBB lines of products are used here.

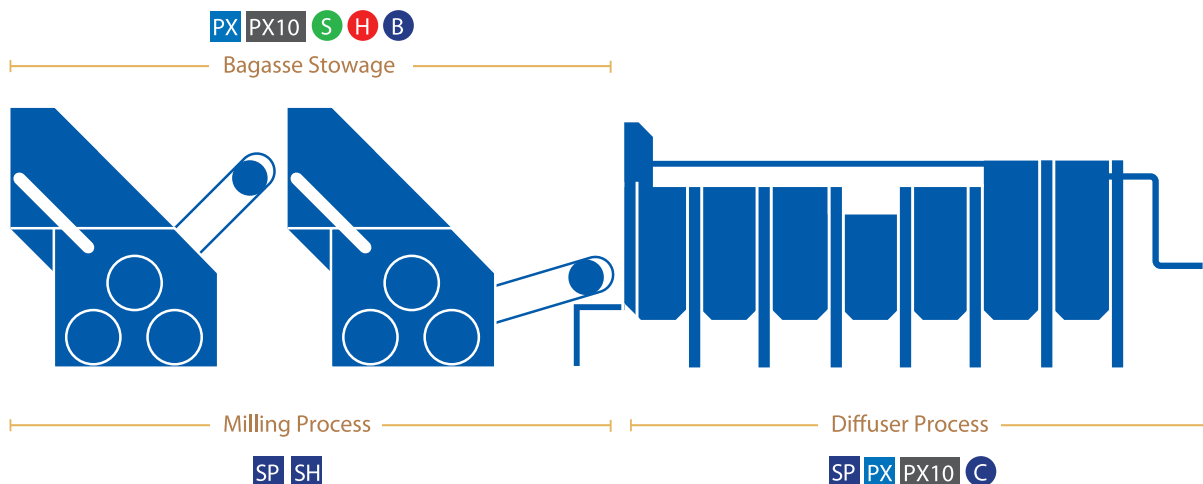
### Diffuser

SP PX PX10 C

The diffusion process for extracting sugar molecules from sucrose of sugar cane has recent technological improvements like Transform Diffuser Technology.

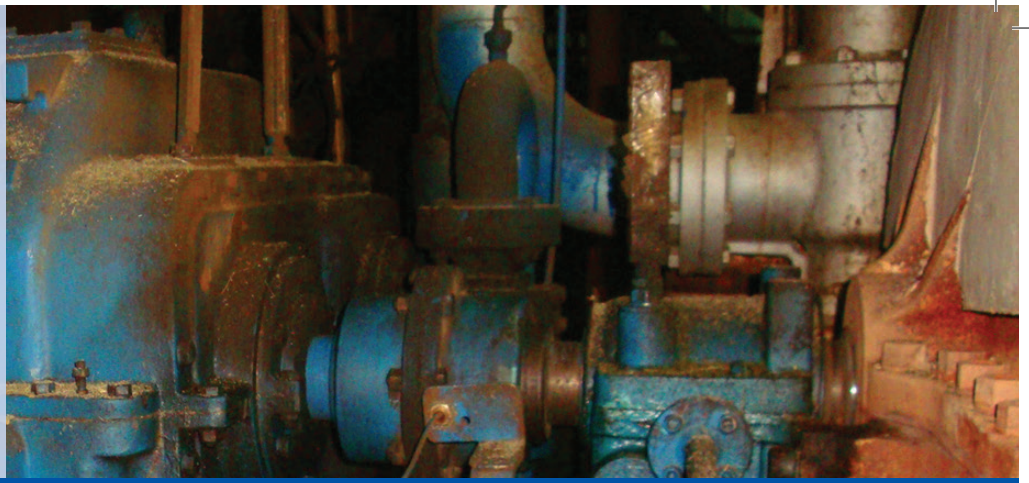
This process demands no interruption in order to save energy and achieve high quality sugar molecules.

Sumitomo Planetary, Paramax® or Cyclo® are recommended for high reliability and durability.





100 years of experience  
in Planetary, High Speed  
and Large Helical  
Gearboxes.



## Dedicated Drives for Key Milling Applications



High Speed Gearbox for Steam Turbine Generator Drive, up to 80MW.



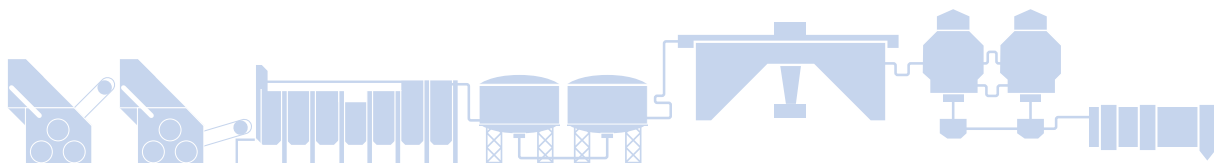
Large Planetary Gearbox for Mill Drive and Pressure Feeder Drive.



High Speed and Secondary Helical Gears for Pressure Feed Drive.



Large Planetary Gearbox for Diffuser and Dewater Drives



Sumitomo Gearboxes and Gearmotors guarantee long life with minimal maintenance



# PREPARATION OF JUICES AND SUGAR PRODUCTION

*Post milling equipment demand same quality and reliability as milling equipment as the quality of the output is at stake.*

## Decanters



Concentrated juice is filtered and clarified juice is extracted as outputs.

Sumitomo's Cyclo® in-line speed reducer ensures quiet and efficient performance backed by 500% momentary overload capacity.

## Floats



Float litters or flakes in the rotary filter is removed through rotating scrapers.

Sumitomo's Cyclo® (more than 10 million units in operation globally) is best suited for this task.

## Vacuum or Cooker Pans



Sucrose crystals are formed when cooked. Sumitomo's Paramax® with Drop Bearing Housing with high torque and radial load capabilities, is ideal for this rugged demands.

## Crystallizers



Concentrated sugar molecules are fed to crystallizer process in tanks with mechanical agitators to avoid build-up and accumulation of sand at the bottom of the settling tank.

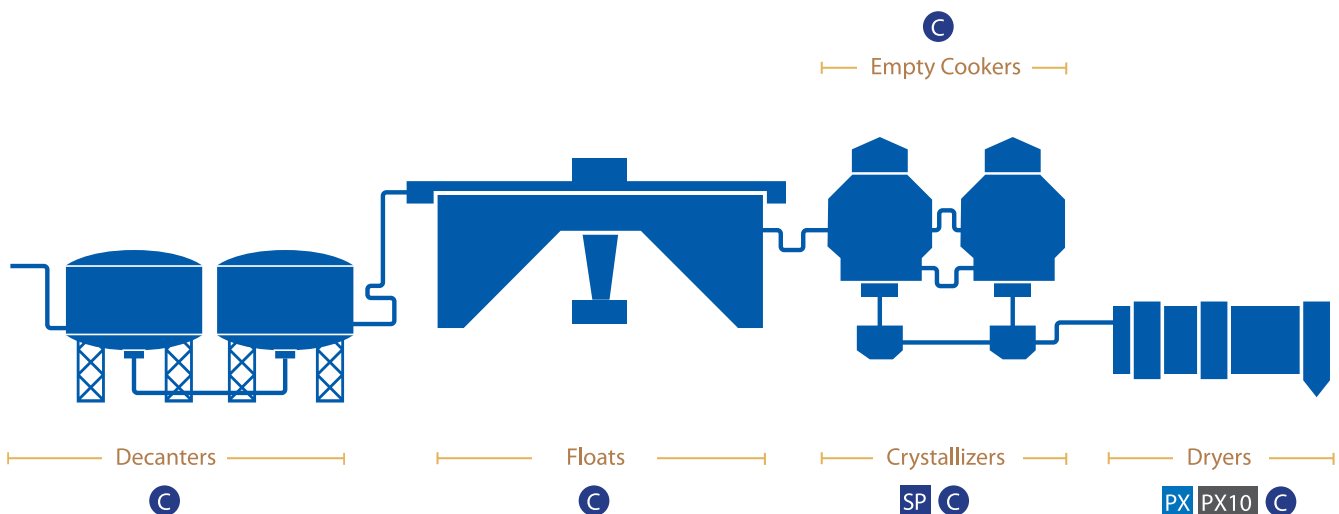
Sumitomo's Planetary and Cyclo® products meet this demand for intensive power and torque.

## Dryers (Rotary Drums)



Water is removed from the raw wet sugar from crystallizer, while the rotatory drum is slightly inclined with respect to the plain horizontal.

Sumitomo's Paramax® and Cyclo® are selected for their durability with minimum downtime.





Whatever the application may be, Sumitomo has a solution.



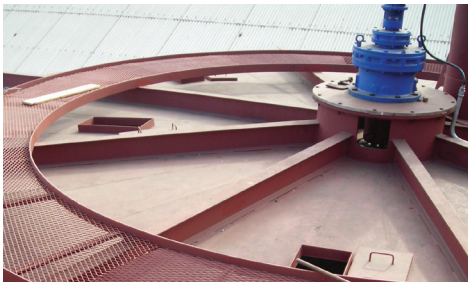
## Complete Drives for Processing Equipment



Vacuum Pan



Vertical Crystallizer with Cyclo Drive



Vertical Crystallizer Drives



Rotary Screen



Bagasse Feeder Conveyor



Pump Molasses



## Planetary Drive

Sumitomo's Planetary drives are used in several applications in Sugar Industry such as Mill, Pressure Feeder, Diffuser and Crystallizer. Available in standard as well as custom-built sizes in horizontal or vertical mounting.

Gears are designed to 25° pressure angle, precisely machined, carburised, hardened and ground.

Torque Rating: 6,930 kNm

Ratio Range: Available in 2,3,4 and 5 Stages

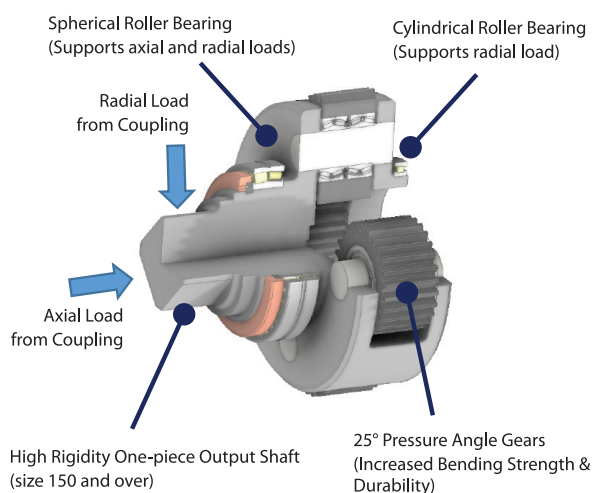
Housing: Fabricated Steel

### Key advantages of Sumitomo Planetary Gears:

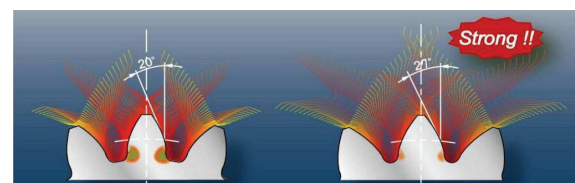
- High Precision Gears
- Smooth Operation
- Low Noise
- Reliability and Toughness
- High Efficiency
- Minimal Maintenance Cost



### Features and Benefits of Sumitomo Planetary Drive for Mill



### What makes Sumitomo's Planetary and Helical / Bevel gears unique?



20°  
Conventional

25° to 27°  
Sumitomo

Sumitomo's unique gear designs with high pressure angle gears provide increased surface durability by **+18%**, and bending strength by **+13%**, thus stronger than conventional 20° pressure angle gears.



# s for Sugar Mill Applications

## SH High Speed Gear

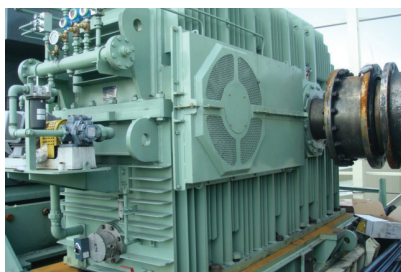
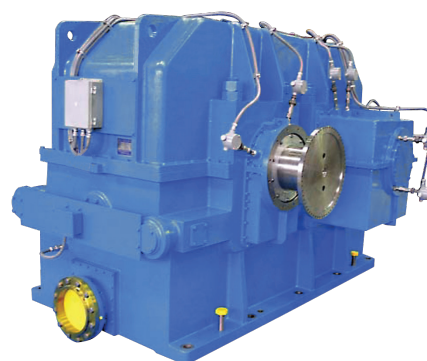
Sumitomo's High Speed Gearboxes are manufactured to high precision and available for up to 80MW capacity.

Compact, high efficiency and low noise are the special features of these drives built by Sumitomo's state-of-the-art technology.

Size: 14 standard sizes

Ratio Range: Up to 11:1 (single stage)

Housing: Fabricated Steel-Horizontal Split



## Large Gear Drives

These custom Gearboxes are available in parallel and rightangle shaft configurations. Sumitomo utilizes the rugged power of spiral bevel and helical gearing components.

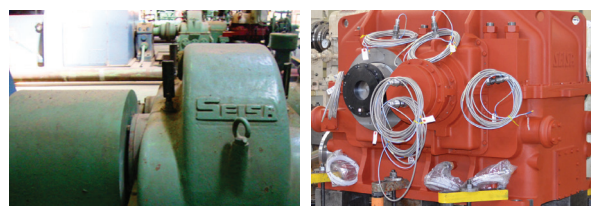
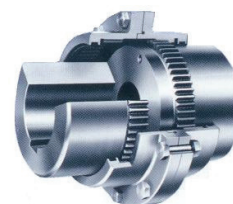
Torque Rating: Up to 7,000 KNm

Housing: Fabricated Steel-Horizontal Split

## SEISA Gear Coupling

Transmittable Torque: Up to 6,460 KNm

Shaft Diameter: Up to 900mm and more



## Full range of Products f

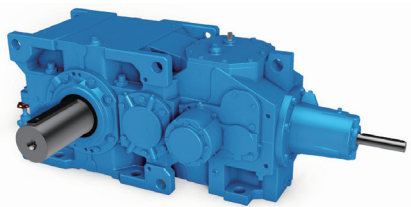
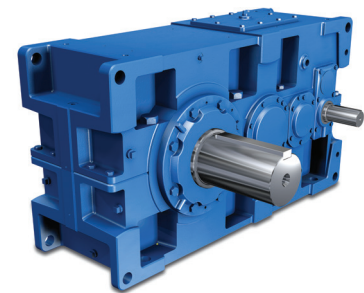
### **PX** PARAMAX 9000 series

High Quality Industrial Gearbox with 25 degrees Pressure Angle. Available in 26 Sizes.

Torque Rating: 2,600Nm ~ 552,000Nm

Ratio Range: 6.3:1 ~ 500:1

Housing: Gray Cast Iron (Standard), Nodular Cast Iron, or Fabricated Option (Optional)



### **PX10** PARAMAX PX10

Newly designed Industrial Gearbox with over 25 degrees Effective Pressure Angle. Available in 13 sizes.

Torque Rating: 9,000Nm ~ 103,000Nm

Ratio Range: 6.3:1 ~ 630:1

Housing: Gray Cast Iron (Standard), Nodular Cast Iron, or Fabricated Option (Optional)

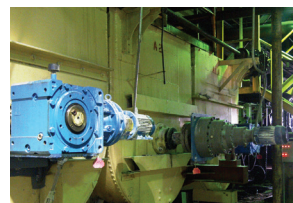
### **S** Helical Shaft Mount (HSM)

Helical Shaft Mount (HSM) Drives offer helical gears feature carburized teeth at 25-degree Pressure Angle and wide gear faces, enabling high-efficiency torque output and maximum ratings for shaft-mount configurations

Torque Rating: 440Nm ~ 44,000Nm

Ratio Range: 5:1, 14:1, 20:1, 25:1

Housing: Cast Iron





# s for Sugar Mill Applications

## C Cyclo® 6000 Series

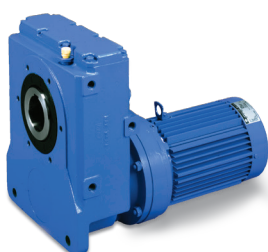
Sumitomo's Cyclo® 6000 Speed Reducer and Gearmotors provide quiet, efficient and reliable performance. With over 500% momentary shock load capacity, Cyclo® is ideal for sugar mill application.

Torque Rating: 6.2 ~ 68,130Nm

Ratio Range: 3:1 to 119:1 (single) 121:1 to 7,569:1 (double)

8041:1 to 658,503:1 (triple)

Housing: Cast Iron



## H Helical BuddyBox®

Helical BuddyBox® (Cyclo® HBB) Drives combine the advantages of the Cyclo® with helical gears to yield a high torque range in an offset parallel configuration.

Torque Rating: 104 - 11,600 Nm

Ratio Range: 11:1 to 26,000 and greater

Housing: Cast Iron

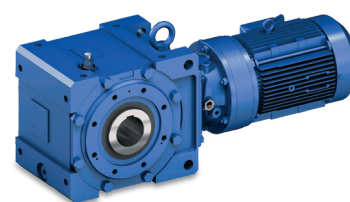
## B Bevel BuddyBox®

Bevel BuddyBox® (Cyclo® BBB) 4 Series combines the advantages of the Cyclo® drive with bevel gears to yield a high torque range in a right angle shaft configuration. This yields an extremely robust design with high overload reserves.

Torque Rating: 225 - 13,400 Nm

Ratio Range: 11:1 to 26,000 and greater

Housing: Ductile Iron



# Sumitomo Drive Technologies

## Comprehensive Aftermarket Service

Our regional presence at major industrial cities in Asia-Pacific (including Australia and India) is catered to your before-and aftermarket services needs.



**Retrofits and Custom-Built Units**

Talk to us for retrofits or custom-built speed reducers of any kind.

We provide a competitive and comprehensive solution with a quick delivery to minimise your downtime.

Our Engineering Service Centers in the region offer a wide range of services including and not limited to:

- Factory certified repair centres located throughout Asia Pacific.
- Application upgrades: Lubrication systems, sealing systems, etc.
- Expedited service
- 24 hour on-call service
- Field service
- Technical support and maintenance recommendations
- Dedicated resources for customer support:
  - Service parts
  - Repair services
- Improved reliability of existing drives
  - Reduced down-time
  - Reduced Maintenance costs
  - Repair Hansen, Sumitomo and other brands
- Maintenance seminars and surveys available upon request
  - Recommended service parts and service parts management
  - Recommended maintenance intervals
- Custom "drop-in" replacements

Please talk to us on comprehensive Condition Monitoring System to:

- Maximize machine productivity
- Minimize unscheduled downtime
- On-Site Technical Support by Sumitomo Engineers

### Condition Monitoring System







## What our customers say?

“When it comes to gearboxes, gearmotors, or couplings, Sumitomo has everything we need. For us, they are the first point of contact.  
- Purchasing Manager, Sugar mill, Philippines

A few years ago, we decided to purchase a Sumitomo Paramax® Gearbox even though there was no reference in our country. The price was competitive, delivery was on time and the technical support was excellent. Moreover, the product quality is superb and our plant manager is very satisfied with the performance. We decided to purchase similar gearbox for another mill upgrade earlier this year. “  
- Sugar Mill Owner, Pakistan

“Sumitomo has well trained service engineers in the Philippines. Not only they respond quickly, they also provide professional service and good report. That makes our maintenance planning a breeze.  
- Maintenance Manager, Sugar Plant, Philippines

Because they keep large stock in Thailand, we do not need to purchase spare parts in advance. They provide prompt delivery and good service. I'm very happy with high quality product and service attitude. “  
- Operations Manager, Sugar mill, Thailand

“Sumitomo products are engineered to excellence. The 500% shock load capacity of Cyclo and 25° Pressure Angle of Paramax® Drives are key features we consider when selecting Sumitomo products for our upgrade initiatives.  
- Engineering Manager, Sugar mill, Indonesia

Seisa Gearboxes (Currently re-named Sumitomo Gearboxes) are of excellent quality. We recommend them to plant owners whenever they invest in new mills. “  
- Plant Equipment Integrator, Thailand



# Reliable Power Transmission Solutions for Sugar Industry

*We aim to provide quick delivery and fast technical service to our valued customers from our eight (8) well established Engineering & Service Centers in the Asia Pacific region; each with comprehensive stock, assembly, before and after sales technical support capabilities.*



Singapore  
Tel: +65 6591 7800



Sydney, Australia  
Tel: +61 2 9208 3000



Manila, Philippines  
Tel: +63 2 584 4921



Pune, India  
Tel: +91 2 06674 2900



Jakarta, Indonesia  
Tel: +62 21 2961 21



Ho Chi Minh, Vietnam  
Tel: +84 8 3766 3709



Kuala Lumpur, Malaysia  
Tel: +60 3 5121 0455



Chonburi, Thailand  
Tel: +66 2670 0998

**Sumitomo Drive Technologies** offers products and services from three highly experienced companies as one Industrial Power Transmission Solutions provider to our valued customers. The integration of three companies - Sumitomo, SEISA and Hansen - each having leadership in different sectors of the industry, is part of our comprehensive strategy to strengthen the brand portfolio and creating our group's profile as the leading industrial power transmission solutions provider in the world. Together, our companies offer the highest quality, innovative products and services for any power transmission needs.