

Company Name

Nabtesco Corporation 29th September 2003

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Nabtesco Corporate Profile

Gifu Plant

Tsu Plant

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TEL: +81-584-22-3121 FAX: +81-584-23-1534

1414, Tarui-cho, Fuwa-gun, Gifu 503-2121, Japan Tarui Plant TEL: +81-584-22-2111 FAX: +81-584-23-1532

594 Icchoda, Katada-cho, Tsu, Mie 514-8533, Japan

TEL: +81-59-237-4600 FAX: +81-59-237-4610

Kobe Plant 3-3, Takatsukadai 7-chome, Nishi-ku, Kobe, Hyogo 651-2271, Japan

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35, Uozakihama-machi, Higashinada-ku, Kobe, Hyogo 658-0024, Japan Konan Plant

TEL: +81-78-413-2531 FAX: +81-78-413-2543

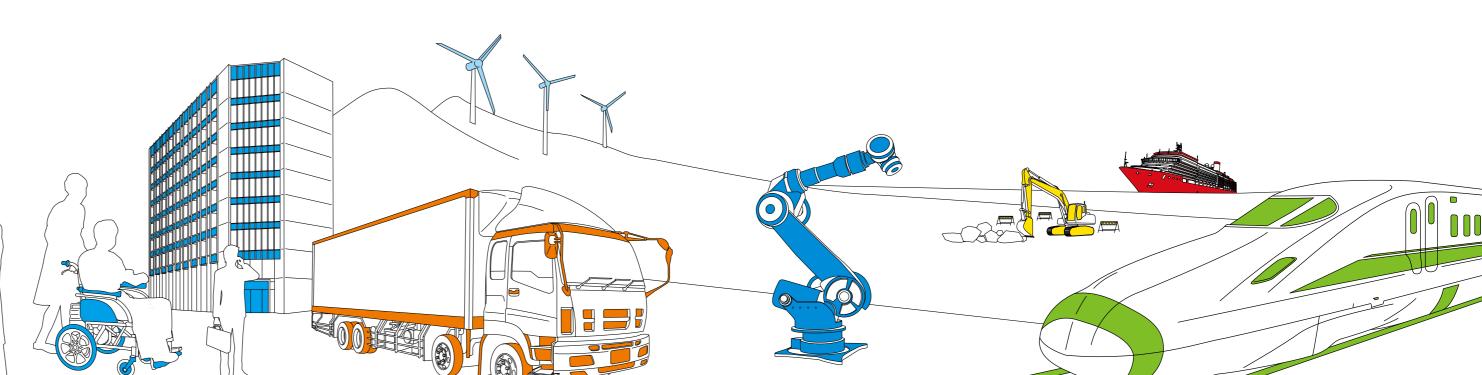
1617-1, Fukuyoshidai 1-chome, Nishi-ku, Kobe, Hyogo 651-2413, Japan Seishin Plant

TEL: +81-78-967-1551 FAX: +81-78-967-1563

Nabtesco Corporation

www.nabtesco.com

Printed in Japan



Nabtesco operates a wide range of businesses in the industrial, daily life-related, and environmental fields, capitalizing on its motion control technology, which moves and stops objects in a precise manner.

Although most of our products are not immediately visible, they are hard at work behind the scenes, fulfilling high-performance functions to enhance the safety and comfort of individuals as well as supporting the infrastructure that societies all over the world depend upon.

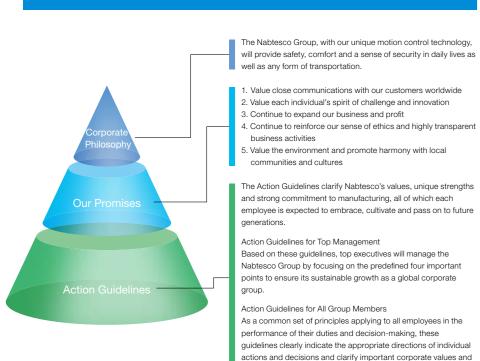
We enjoy high market shares both in Japan and abroad for a range of products and are currently expanding into new growth areas by utilizing our core technology. We will continue to fulfill our mission to be a company that supports society by delivering highly reliable products and services.

Kazuaki Kotani

Representative Director, President & CEO



The Nablesco Way



Always There, Supporting Your

Nabtesco's products and technologies are used in everyday goods as well as a range of construction machinery, new energy devices, and other types of equipment that both support

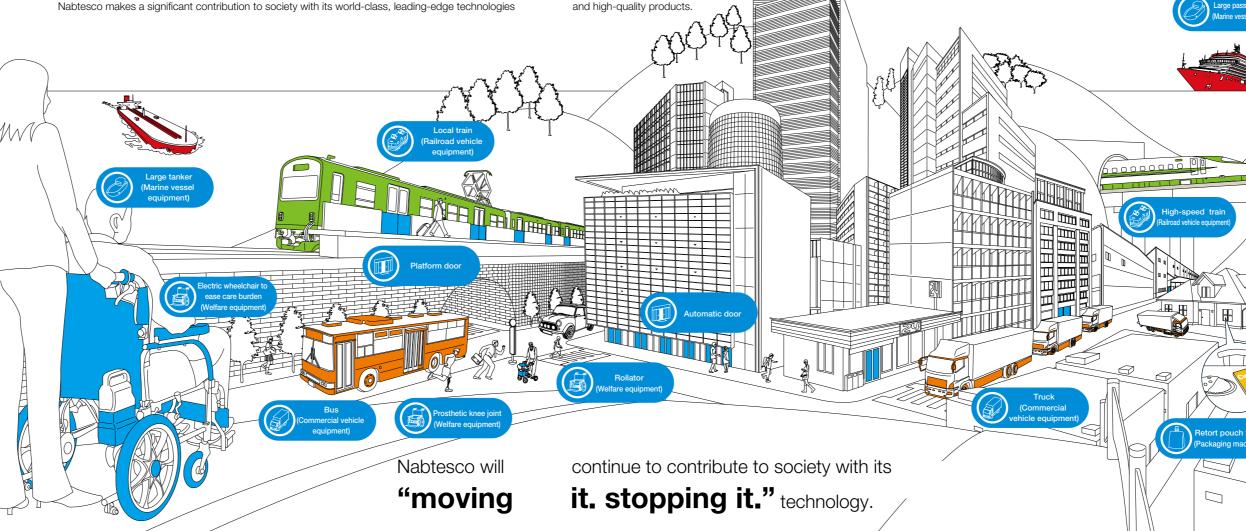
We deliver these products and technologies based on our "moving it. stopping it." technology, in a precise and flexible manner. You might not see us, but we are always somewhere there in ways with this technology.

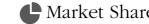
Nabtesco makes a significant contribution to society with its world-class, leading-edge technologies

Life

transport equipment, industrial robots, our society and drive it forward.

which helps to move and stop objects the background, supporting your life in a myriad of





Nabtesco Corporate Profile

As an Honorable Company (Shinise) Established in the 21st Century





Soun off from the parent company (presently Teijin Limited) to become Teijin Aircraft Industry Co., Ltd. Iwakuni City, Yamaguchi)

1940

Teijin Seiki Co., Ltd. and began manufacture and sale

Listed on the Hiroshima Securities Exchange and Osaka Securities Exchange and relocated the headquarters to Osaka City

Resumed manufacture of aircraft components and launched the aircraft equipment business

Began manufacture and sale of machine tools

machine business

1964

Established Toyo Jidoki Co Ltd. to manufacture and sell packaging machines

Opened the Tarui Plant and began manufacture and sale of hydraulic equipment

Listed on the first section of

the Tokyo Stock Exchange

Developed an automatic

packaging machine and launched the packaging

> Established Teijin Seiki America Inc. (presently

> > 1970



Opened the Gifu Plant



Launched the precision Nabtesco Aerospace Inc.) in reduction gear business Washington, the United States targeting industrial robots



Established Teiiin Seiki Precision Co., Ltd. (presently S Precision Co. Ltd.) and transferred the machine tool business to the new company

Established Shanghai Teijin Seiki Co., Ltd. (presently Shanghai Nabtesco Hydraulic Co., Ltd.) as a joint company to manufacture and sell



Opened the Tsu Plant to manufacture precision reduction gears

Began manufacture and sale of 3D stereolithography equipment (3D printers)



to generation to be incorporated into the highly reliable Nabtesco brand.

Nabtesco Corporation was established.

2004

Established Nabtesco Automotive Products (Thailand) Co., Ltd. in Thailand (Commercial vehicle equipment)

The two companies decided to merge to become one firm based on the belief that the integration of their products, core technologies,

Over the course of the 10-plus years since the integration, Nabtesco has been steadily expanding its business into a broader range of fields

based on its motion control technology. Meanwhile, the manufacturing DNA of the two founding firms has been passed down from generation

corporate strategies, and corporate cultures would help them increase their corporate value and achieve long-term growth.

Nabtesco consolidated Teijin Seiki and NABCO and became an operating holding company.

2009

Nabtesco Corporation was established by two companies with a long history, Teijin Seiki Co., Ltd. and NABCO, Ltd., which together founded a holding company in 2003 to give birth to Nabtesco.

Established Nabtesco Automotive Corporation as a Group company for commercial vehicle



2013

Established the New Energy **Business Development Division**

Established Nabtesco Marine Machinery (Shanghai) Co., Ltd. in China (Marine vessel equipment)

Established Nabtesco Oclap S.r.l. in Italy (Railroad vehicle equipmant)

Nippon Air Brake Co., Ltd. was established in Kobe City by three companies: Kobe Steel, Ltd., Engine Manufacturing Co., Ltd., and Tokyo Gas Electric Industrial Co. Ltd. to manufacture and sell air brakes for railway cars

NABCO NABCO. Ltd.: Established in 1925

1930

Began manufacture and sale of air brake systems for

Changed corporate name to Nippon Brake Systems Co..

Changed name to Nippon Air

1949 Listed on the (present first section of) the Osaka Securities Exchange

Began manufacture and sale of hydraulic equipment

1950

Began manufacture and sale of automatic doors for railway of marine vessel control cars and buildings

Began manufacture and sale

pneumatic equipment

1980

Opened the Nishi Kobe Plant Listed on the first section of (presently Seishin Plant) to the Tokyo Stock Exchange manufacture hydraulic and



1990



Changed corporate name to

Opened the Kobe Plant (in Nishi-ku, Kobe City) to equipment

Established Teijin Seiki Textile

Machinery Co., Ltd. (TSTM

Co., Ltd.) and transferred the

textile machinery business to

(stereolithography equipment)

Established TMT Machinery

Inc. as a joint company with

Toray Engineering Co., Ltd.

and Murata Machinery, Ltd.

and transferred the synthetic

fiber machinery business to

the new company

the new company

Established CMET INC.

Opened the Yamagata Plant to manufacture commercial

manufacture railroad vehicle

- 2003

Nabtesco Corporation was established. Listed on the first section of theTokvo Stock Exchange

Teijin Seiki and NABCO formed business alliance in the hydraulic equipment business and concluded a basic agreement on business integration.

→ 2002

- 2008

Established Nabtesco Power Control (Thailand) Co., Ltd. in Thailand (Hydraulic equipment)



□ 2011

Established Gilgen Door Systems AG through M&A (Automatic doors, platform



Established Jiangsu Nabtesco KTK Railroad Products Co., Ltd in China (Railroad vehicle equipment)





For Powerful, Elaborate, and Swift Movements at the Forefront of Manufacturing **Precision Reduction Gears**



Key Component for Accurate Positioning

Motion Control Report

Because it may be hard to judge its function from the name alone, an explanation of the reduction gear is in order. Reduction gears are used to get a large amount of torque (turning force) from a small motor (a power source) by reducing its rotation speed. They also support the flexible movements of machines in a range of fields and are indispensable for ensuring accurate positioning. For example, as well as being used in the joints of industrial robots on automobile manufacturing lines, reduction gears are used in automatic tool changers (ATCs) for machine tools and in semiconductor production equipment.

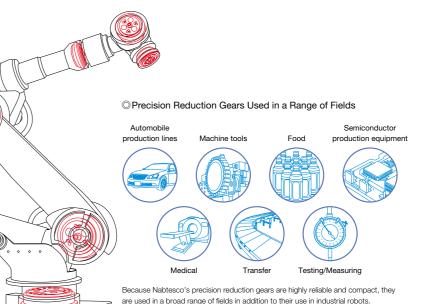
In 1985, when Nabtesco released its very first precision reduction gear, users of industrial robots were facing problems, such as the robots' vulnerability to shocks and the excessive vibration of their arms. By incorporating the solutions to these problems in the products, Nabtesco rapidly expanded the use of its precision reduction gears

> in industrial robots both in Japan and abroad.

Specifically to help increase industrial robots' resistance to shocks, we adopted peritrochoid gears, which are more resistant to shocks and not easily broken because of a greater number of teeth in mesh compared with ordinary involute gears. Moreover by minimizing the gaps between the peritrochoid gears, we have achieved higher precision. These technologies support the smooth and accurate movements of industrial robots

while contributing to increasing their resistance to shocks and also helping reduce movement errors at the tip of the robot arm to 0.1 millimeter or less (no easy feat, considering robot arms can measure up to 3 meters in length).

Further, Nabtesco's precision reduction gears are compact and lightweight with high output density. Because of these features, our gears are becoming more widely used in a number of sectors, ranging from medical to food to semiconductors, in addition to their use in industrial robots at automotive plants.



Market Share Precision reduction gears for industrial robots' joints Machine tools ATC drive field

Thanks to their high reliability, Nabtesco's precision reduction gears are used by a range of domestic and overseas robot manufacturers in the joints of their industrial robots, giving us a large share of the market. In the domestic machine tools ATC drive field, we enjoy a market share of about 60%. We are further expanding the applications of our precision reduction gears in order to enter new markets.



Peritrochoid gears, which help increase

resistance to shocks

Precision Reduction Gears: RV Component Type

he precision reduction gears RV are compact and ghtweight with outstanding rigidity and overload resistance. Vith these features, the reduction gears serve to provide excellent accelerating capabilities, smooth motion, low backlash, and accurate positioning precision, leading to enhanced robot controllability.



Gear Head Type

This is a gear head type product based on the precision reduction gears RV with the emphasis on ease of use. The product is easily installed on servomotors and features airtight grease sealing.



Gear Head Type (Table Type)

This table-type series is designed for accurate positioning. The low-profile products with large and hollow shafts are easy to use and are therefore widely adopted for index tables as well as for pivots of various devices.





Core Technologies for People- and Earth-Friendly Energy

New Energy Equipment

Technology: moving it. stopping it.

Technology to Track the Sun in a Precise Manner

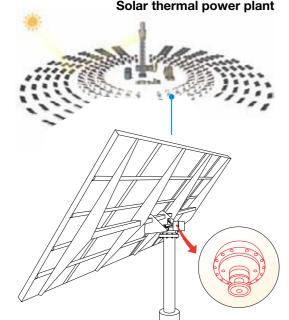
[Solar Thermal Power Generation]



Motion Control Report

Do you remember in your elementary school science class doing an experiment to generate heat by reflecting and concentrating sunlight onto a central point? What if you had to reflect and concentrate sunlight onto a central point that was a kilometer or more away from you? You would need to use a very large mirror and you would have to keep readjusting its position to follow the movement of the

Nabtesco supplies solar tracking equipment for use in heliostats (reflective mirrors) installed at solar thermal power plants. The tracking unit drives the heliostat to follow the movement of the sun in order to reflect sunlight onto the central tower, enabling the maximum amount of thermal energy to be captured. The unit must be capable of very precise measurement and movement to keep the heliostat reflecting sunlight onto the heat receiver of the central tower, and must also be resistant to external shocks, such as gusty winds, as solar thermal power plants tend to be constructed in deserts. By applying our technologies used to create highly precise, rigid, and efficient reduction gears for the industrial robotics sector, we have developed high-precision and highly shock-resistant solar tracking equipment to support the stability of solar thermal power generation.





Located in the U.S. state of Nevada, the Crescent Dunes Thermosolar Power Plant is a 110 MW Concentrated Solar Power (CSP) plants equipped with a molten salt storage system. It is one of the biggest solar thermal power plant in the world and has about 10,000 heliostats. The distance from the central tower to the furthest heliostat is about 1.6 kilometers. Each heliostat, which is as long as 11 meters on one side, reflects sunlight onto the central tower, which then uses the collected solar heat to turn the turbines to generate power. The plant can even generate electricity at night by using stored thermal energy,

Products



Solar Tracking Equipment

Highly resistant to shocks, including gusty winds, this highprecision drive unit ensures that the heliostat tracks the sun in a precise manner. It uses only a small amount of electricity and is maintenance-free, helping to reduce the life cycle cost of solar thermal power generation.



Optimal Control of Wind Turbines



If looked at from a distance, wind turbines appear to be driven solely by the wind. Wind turbines used for power generation, however, are actually rotated using a range of technologies for optimum performance. Although wind strength and direction constantly changes, wind turbines must be rotated at a specific speed. Also, because wind strength and wind pressure differ between higher and lower altitudes, the position of the wind turbine blades has a tremendous impact on rotation speed. Nabtesco provides drive units for wind turbines that respond quickly to changes in wind conditions to control turbine rotation.

Specifically, we provide yaw drives, which are rotating drives installed behind the wind turbine blades. These drives keep the turbine facing the wind as the wind changes direction and are designed to rotate to catch as much wind as possible even on days when wind speed is low. We also provide pitch drives, which adjust the angles of the wind turbine blades according to changes in wind velocity for optimal power generation. We have developed these products based on our technologies accumulated in the design of reduction gears used in industrial robots. Wind turbines need to be as light as possible but also have to be strong enough to withstand storms, to which they are prone. Thanks to the use of the gear mechanism developed independently by Nabtesco, our wind turbine drive units provide excellent rigidity and low backlash while also being light and compact, making them highly evaluated in the domestic and global markets.



Wind power generation has been fostered and expanded across the world. In particular, European countries such as Denmark and Germany have advanced technologies for wind power generation. The last few years have seen a growth in the number of offshore wind farms, since more wind force can be obtained offshore than on land for more effective power generation. The size of wind turbines has also been expanded, with some of the larger models having blades measuring as much as 160 meters in diameter and towers as tall as 80 meters. As size increases, it is expected that the demand for compact and lowweight designs will only grow

Products



This drive unit has high rigidity and high load performance based on the Rotor Vector (RV) reduction gear technology. It can be used under severe natural conditions, for example, in both low- and high-temperature areas as well as areas prone to salt damage. The low backlash feature helps prolong the field life of wind turbines.

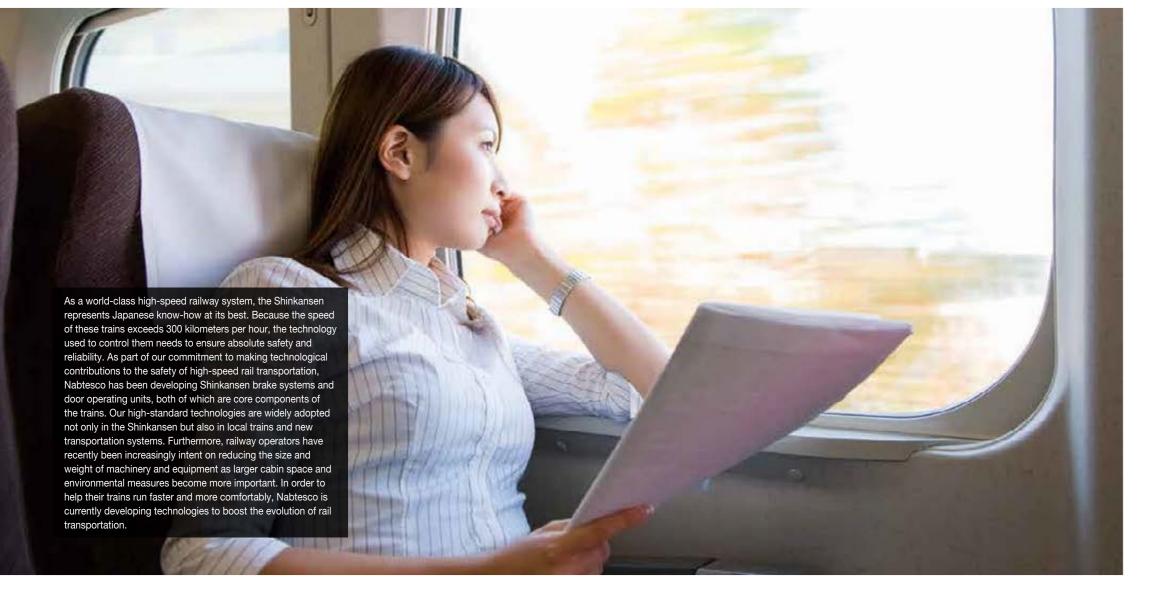


(Control System for Wind Turbines)

The pitch drive controls the orientation of the wind turbine blades with high precision. Because it is compact, it provides high maintenance performance and allows easy oil replacement. As the wind turbine control system, it also helps increase power generation efficiency.



Enhancing Safety Technologies in Line with the Increasing Speeds of Rail Transportation **Railroad Vehicle Equipment**



Core Technology to Control the Curving and Braking of Trains Running at High Speed

Motion Control Report

It is of utmost importance for railway operators providing public transportation facilities to maintain highly reliable schedules with no unplanned suspensions while at the same time ensuring safety. Brake systems represent a core technology to support the safety and reliability of rail transportation. Nabtesco has been providing railway companies with highly reliable braking systems for nearly a century since receiving its first brake system order from the national government in 1925.

Our brake operating units, which we have developed by incorporating the essential features of our advanced technologies, play an important role as the main component of brake systems. On railroads, multiple train cars, being connected with each other, run concurrently, including cars that do not have engines/motors but still need to brake. It is therefore necessary to equip trains with multiple brake systems, including those for service and emergency air braking and regenerative braking. Nabtesco's brake operating units calculate the train speed, weight, and the rail surface conditions in real time to control the different brake systems in

Our technologies are used in various rail transportation systems across the world















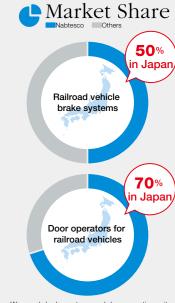


an optimal manner by giving out electric command signals. Moreover, we have modularized the air brake systems to save space.

Nabtesco has been advancing its technologies while supporting the development of the Shinkansen in other ways, too. For example, unlike ordinary trains, Shinkansen trains must be fitted with special highly airtight doors. On all Shinkansen train cars currently under operation, these airtight doors are equipped with door operators made by Nabtesco. Moreover, Nabtesco's rolling stock tilting valve units have been adopted for the Series N700 Shinkansen. These units are used to communicate data on railroad angularities and other elements to the body control system of each train car, which triggers the supply of compressed air to the air springs, enabling the cars to tilt into curves and thereby increase their curving speed. Our tilting valve units contributed to shortening the bullet train travel time between Tokyo and Shin-Osaka by five minutes.

With these advanced technologies and proven expertise, we are expanding our business beyond national borders. For instance, we are supplying our brake systems and door operators to high-speed railway, subway, and new transportation system companies in China and Taiwan, which have recently been fostering the establishment of railroad networks. Meanwhile, in Europe, which has the greatest demand for railroad vehicles, we have been expanding our sales channels, starting with the

sale of door operators. Through our products, we will continue to support the advancement of rail transportation across the world.



We supply brake systems and door operating units (our main product lines), various test equipment. brake shoes, seat turning equipment, snow removal devices at turnout, and other products to domestic and overseas markets. In Japan, we have a roughly 50% market share for brake systems and a roughly 70% share for door operating units. Of particular note, Nabtesco's door operators are installed on all carriages of the Series N700 Shinkansen.





The unit brake incorporates the integral functions of a conventional foundation brake rigging and a built-in automatic slack adjusting mechanism Compared to existing foundation brake units, the product offers reduced size and weight, simplified maintenance, greater noise protection, and heightened consistency of braking efficiency.



Brake Operating Units for Railroad Vehicles

his system is configured as a unit with a brake operating device that plays the core role in the electric commanding air brake system and the air brake valves that provide the brake cylinder pressure output for service and emergency brakin



Door Operators for Railroad Vehicles

Offering a tremendous variety of door operating units, our product line-up comprises door operators that meet the demands of a wide diversity of applications from high-speed trains including the Shinkansen to commuter trains and ultra-low-floor light rail vehicles

Contact: Railroad Products Company Tel.: +81-3-5213-1164 Email: railroad@nabtesco.com 10

Longtime Commitment to Truck and Bus Safety and Environmental Protection **Commercial Vehicle Equipment**



Pneumatic and Hydraulic Technologies for Higher Safety

Motion Control Report

Just like people need air to live, automotive vehicles—particularly, trucks and buses-need air to run. In fact, despite their large and heavy bodies, these vehicles are supported and safely stopped using the power of air.

At present, many trucks and buses have air control systems that utilize compressed air made by an air compressor to control their brake, suspension, and other systems. These highly efficient air control systems, however, have a defect: water as well as oil can sometimes get mixed up in the compressed air. If such tainted air is supplied to the control system, problems can ensue.

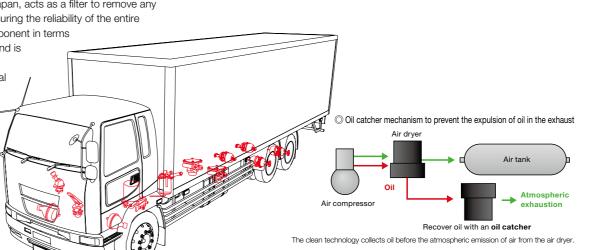
To eliminate this defect, the air dryer, which Nabtesco succeeded in manufacturing ahead of other companies in Japan, acts as a filter to remove any water or oil in the compressed air, thereby ensuring the reliability of the entire air control system. The air dryer is a core component in terms of the safety and performance of the system and is

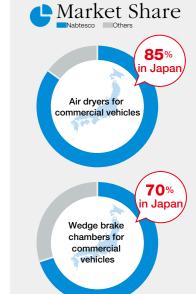
indispensable for trucks and buses. Also, in response to an increase in public environmental awareness, we have developed an "oil catcher" to resolutely remove oil contained in the water collected by the air dryer before expelling that water from the vehicle via the exhaust. We have thus helped make air control systems cleaner and greener.

Air brakes are used as a sure means to halt the movement of trucks and buses by the power of air. Back in

1937, Nabtesco was the first company to develop an air brake in Japan. Our air brakes are used in almost all Japanese-made heavy-duty commercial vehicles. In particular, our wedge brake chambers, which are one of our major products, are outstanding in terms of brake feeling and control and also help improve fuel economy because of their lightweight design.

Moreover, Nabtesco supplies hydraulic clutch master cylinders for automobiles as well as other products that influence the basic performance of automobiles. With a view to making further contributions to the safety and environmental friendliness of transportation services, we are also currently focusing on the global marketing of our product items that have long met the high quality standards set for Japanese automobiles.





In the domestic market, based on dealings with major truck and bus manufacturers, we have a roughly 85% share for air dryers and about a 70% share for wedge brake chambers. In the future, we will establish our overseas production bases mainly in Southeast Asia and India and expand our business to the world market, where we aim to become the No. 1 brake manufacturer in terms of product reliability.

Products

Air Dryers for Commercial Vehicles

This product removes any water or oil in the compressed air to increase the durability and reliability of air control systems. It is used by all Japanese heavy-duty truck manufacturers.



Wedge Brake Chambers for Commercial Vehicles

This product is mounted on the wheels of heavy-duty trucks: it uses air pressure to push the piston to apply



Hydraulic Clutch Master Cylinders for

This product converts the clutch force from the clutch pedal of manual-transmission vehicles into hydraulic pressure and transmits the pressure to the clutch system. It is supplied to automotive manufacturers



Contributing to Safety and Comfort of Passenger and Freight Vessels **Marine Vessel Equipment**

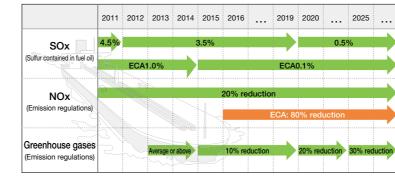


Our Technologies and Well-Trained Staff Bring More Safety, Efficiency, and Eco-Friendliness to Vessels around the World

Motion Control Report

Against the backdrop of soaring fuel prices and ever-stricter environmental regulations, technological innovations have also been fostered in the area of marine vessels in recent years. In particular, due to the emission regulations on nitrogen oxide (NOx) set by the International Maritime Organization (IMO), it is urgently required to increase the efficiency of diesel engines, which provide the main driving force for vessels. Under these circumstances, Nabtesco is focusing on the development of electronic engine control systems. These systems will rotate the diesel engine at a lower speed while flexibly and electronically controlling the amount of fuel to be injected and the opening/closing timing of the exhaust

© Schedule for the implementation of the NOx and other emission regulations set by the IMO (MARPOL Convention)



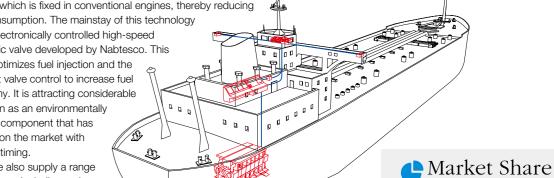
- Note 1 ECA: Emission Control Area, where stricter regulations are imposed on the emissions of air pollutants than in ordinary sea areas. The regulations on SOx are to be implemented in European and North American ECAs, while those on NOx in North American ECAs.
- Note 2 The "0.5%" regulation on SOx will start in 2020 or 2025. The timing will be examined in 2018. (Source: Maritime Bureau, Ministry of Land, Infrastructure, Transport and Tourism)

valves, which is fixed in conventional engines, thereby reducing fuel consumption. The mainstay of this technology is the electronically controlled high-speed hydraulic valve developed by Nabtesco. This valve optimizes fuel injection and the exhaust valve control to increase fuel economy. It is attracting considerable attention as an environmentally friendly component that has arrived on the market with perfect timing.

We also supply a range of systems, including main engine remote control systems for the remote operation of main engines (diesel engines, variable pitch propeller, etc.) from the vessel's

bridge or control room, as well as GAP sensors that monitor the behaviors of the electronically controlled high-speed hydraulic valves. Regarding these devices, we have obtained production licenses from three major manufacturers of low-speed, 2-stroke engines for marine vessels (MAN Diesel & Turbo, WARTSILA Corporation, and Mitsubishi Heavy Industries, Ltd.), thereby solidifying the foundation of this seament of our business.

Further, we have launched a conscientious preventive maintenance program. In addition to engineers stationed at our major bases in Japan, Singapore, the Netherlands, China, and South Korea, we also have a global network of service engineers with excellent technical skills to support the safe navigation of vessels 24 hours a day, 365 days a year.



Remote contro system for marine vessels For engine remote control systems for vessels, we

have about a 60% share in the domestic market and around a 40% share in the world market. We have a global service network for the vessel equipment business and are expanding our shares in overseas markets based on our aftersale service business.

Products



Main Engine Remote Control System

his system enables the remote control of the vessel's diesel engine from the ship's bridge and/or control room, and has speed (rpm) and for monitoring the engine status. Equipped with advanced network functions and a liquid crystal display, the system provides excellent operability and expandability.



Electronically controlled high-speed hydraulic valves

Each diesel engine cylinder is equipped with one electronically controlled high-speed hydraulic valve, which electronically controls the timing and amount of fuel injection and the timing at which the exhaust valve opens and closes. The valve contributes to higher fuel economy and is attracting much attention as an environmentally friendly component.



GAP sensors

GAP sensors monitor the behavior of engine fuel injection pumps and exhaust valves. The sensor gives an alarm when an abnormality is detected, thereby increasing the reliability of electronic diesel engine control systems.



For Safer and More Comfortable Air Travel

Aircraft Equipment



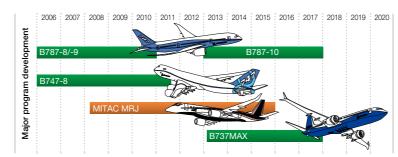
Core Technology to Control the Attitude of Aircraft

■ Motion Control Report

Have you seen components located at the rear side of the main wing in motion from an airplane window? Their movement might have been controlled by Nabtesco's flight control actuation system. A flight control actuation system controls the three-dimensional movements of the aircraft in a precise manner. Specifically, the hydraulically-operated system controls the movements of the elevators to nose up and down the aircraft, the rudders on the airplane tail to yaw the nose to the left and right direction, ailerons to tilt the wings to turn the aircraft, and spoilers to assist the braking effect. You do not see the control system itself in flight, but without it the pilot would not be able to take off and make a landing safely or control the attitude of the aircraft it in the sky. In addition, the lack of this system would also adversely affect the comfort of passengers, thus the system is essential technology for an aircraft.

Nabtesco's flight control actuation system is applied to various aircrafts, i.e. 737, 747-8, 757, 767, and 777, made by The Boeing Company, one of the

ONabtesco continues to develop core aircraft technology.



world's leading aerospace firms, contributing to the maintenance and improvement of the reliability of these aircraft. In particular, our leading-edge fly-by-wire flight control actuation system is adopted for the most reliable 777 aircraft, as well as, for the next-generation of the 737 family, 737 MAX, which is expected to be the bestselling aircraft on the market. These airplanes introduced an innovative technology to transmit information in the form of electrical signals from the cockpit to the hydraulic equipment.

In recognition of our achievements, which include Airplanes from among roughly 21,000 suppliers a stable supply system, advanced quality management, proactive problem-solving attitude, and continuous improvement Nabtesco was named the "Supplier of the Year," by Boeing Commercial Airplanes. In the world of aviation, where safety must come first, we have accumulated the world's best production technologies and expertise, both of which are incorporated into our high voltage electric power distribution units installed for the leadingedge 787, along with other aircraft equipment. We are now accelerating the development of systems for use in stateof-the-art aircrafts of the future. Thus, Nabtesco's technologies are supporting

more and more airplanes around the





For flight control actuation systems, Nabtesco has a nearly 100% share for aircraft made in Japan. For the "fly-by-wire" flight control actuation system technology, Nabtesco has the top share for aircrafts made by Boeing, including the 777, thereby establishing us

in a strong position within the market. the state of the s







Flight Control Actuation System

Nabtesco is the leading Japanese manufacturer of this system, which controls the aircraft's attitude. This system is used to move the surface such as the ailerons on the main wings and elevators on the tail surface. Nabtesco has a solid reputation as a global leader in the commercial aircraft market.



ligh Voltage Electric Power Distribution Unit

The Rack and Panel is an electric power distribution unit for Boeing 787 aircraft that supplies DC power to motors through motor controllers installed in the Rack and Panel. This product has been newly developed for Boeing 787 aircraft requiring more electric power than other existing aircraft, and is equipped with an efficient liquid cooling system for motor controllers and transformers. This product contributes to not only aircraft weight reduction but also improvement of aircraft maintenance by reducing electric wires in the aircraft significantly.

Contact: Aerospace Company Tel.: +81-3-5213-1165 Email: aerospace@nabtesco.com 16

Market Share



Powerfully Supporting Excavation, Construction, and Mining All Over the World **Hydraulic Equipment**



Enabling Powerful Yet Exquisite Movement

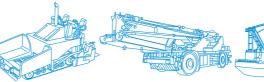
Motion Control Repor

As kids, many of us enjoyed playing with "work vehicles." In particular, hydraulic excavators and cranes that can be moved like human arms and legs seem to be perennial favorites among children. Nabtesco is a leading manufacturer of traveling motors for hydraulic excavators, having a 30% share of the global market. A traveling motor is a unit composed of a reduction gear, hydraulic motor, parking brake, and other components. It rotates the crawler* and wheel to drive the excavator or crane.

Great power is required to drive a vehicle that weighs anything from several tons to more than 100 (such as a large crane). Despite their compact size, Nabtesco's traveling motors are capable of generating tremendous amounts of power in an efficient manner. Their energy-saving performance, durability, and reliability even under extremely challenging conditions have been widely recognized both in Japan and abroad.

We have also led the market in the development of control valves for mini excavators and agricultural machinery by making use of our advanced hydraulic circuit design technology. Each valve, which is composed of 10 or more switching

OProviding high-performance equipment to be used in various work vehicles









Skid steer loader bucket Loading platform of a vehicle transportation vehicle (Horizontal control valve) (General-purpose valve)

(Electromagnetic valve)

valves, controls the machine's arm and bucket operation in an exquisite manner.

Incorporated into Nabtesco's hydraulic equipment is its advanced processing

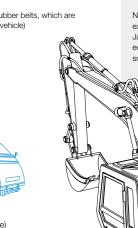
technology is required for the

For example, control valves make it possible to control two cylinders at the same time using a single lever operation for an easy "horizontal lift" movement. The valves thus help improve the operability of construction machinery.

and adjusting technology. Hydraulic motors can generate power as a result of

being developed by the use of high-precision submicron (1/10,000 mm) component cutting technology and expertise in adjusting the relative positions of components in a precise manner. Our technology thus supports the exquisite movement of vehicles that work on construction sites.

Crawler: A vehicle propelled by two metal/rubber belts, which are rotated by driving wheels (tracked vehicle)



Products



Traveling Motor for Crawlers

This series is used as a traveling motor for crawlers and the wheels of excavators, crawler drills, cranes, and aerial work



Control Valve for Mini Excavators

This product is a sectional type multi-control valve developed specially for mini excavators, and is ideal for various needs such as action control of excavators. The series is popular for its compact size, versatility, and strong lineup. It has captured a large

hydraulic excavators Nabtesco's traveling motors for hydraulic excavators are highly appreciated not only in Japan but also in China and other emerging economy countries. We have a lineup of both small and large traveling motors to meet a range of market needs and are aiming to use them to further expand our market share.





The Premium Global Supplier of Automatic and Platform Doors

Automatic Doors and Platform Doors



Providing Pedestrian Flow Solutions over Half a Century

Motion Control Report

Automatic doors provide barrier-free, eco-friendly, comfortable and safe environment to the daily lives of people. Nabtesco operates globally as a premium automatic door supplier for various applications, and is the top supplier in Japan and Switzerland with over 50% and 40% market shares respectively. Our automatic doors are installed in such landmark buildings as Tokyo Skytree in Japan, the new Swisscom Data Center, and the World Financial Center in Hong Kong, among many others. The activity of Nabtesco extends much further than just sales. We provide the entire value



NABCO doors Shanghai World Financial

chain services to our customers extending from manufacturing, sales, installations and after-sale services.

In the field of automatic platform doors for railway stations, Nabtesco is the global pioneer and market leader, and our automatic platform doors are adopted on such major metro lines as the Mass Transit Railway in Hong Kong and Paris Metro, as well as on numerous other lines in Japan and Asia.

In the business we are meeting customers' needs to help create ideal living environments, and are taking a unique position as the world's only manufacturer covering all four of the world's leading automatic door/platform door markets. We will develop and supply more advanced products and services while further expanding our business in the global market.



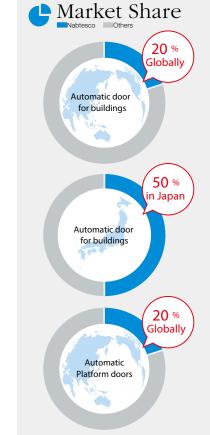


GYRO TECH doors Minneapolis-Saint Paul International Airport GILGEN doors Lötschberg Railroad Tunnel in Swiss Alps



OCountries where Nabtesco's automatic doors have been installed





Products

e provide high-quality, reliable automatic doors, based on state-of-the-art technology. These doors are used at a wide range of facilities, such as office buildings, hospitals, airports, and commercial and industrial facilities.

ILGEN doors: Westside Shopping and Leisure Centre in Switzerland



utomatic Platform Doors

Automatic platform doors are now used worldwide to ensure bassenger safety at railway stations. Demand for these doors is fast expanding over the world. Nabtesco has over 20% share of the global market and is successfully operating in European, Asian and Japanese markets.

LGEN platform doors (bijou®): Paris Metro Lines 1 and 13



atform Screen Doors

on platforms. These doors also contribute to higher air conditioning efficiency, and enable unmanned operation of new transportation systems.

ABCO platform screen doors: Yurikamome (Tokyo Waterfront New Transit Line)



Helping People Live the Life They Want



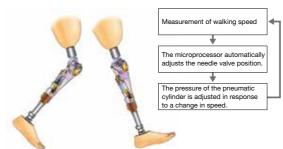
Helping People Stay Mobile through Unique Technologies

Motion Control Report

An important part of enjoying life is having the freedom to do something as simple as taking a walk in your local neighborhood or doing the shopping on your own schedule. At the core of all Nabtesco's technologies is our motion control technology used to support and facilitate movement in a range of different ways. Based on our strong commitment to make contributions in the area of health and welfare through the application of this "moving it. stopping it." technology, we are delivering and proposing products that support safe and comfortable human mobility.

One of our major products in this field is the prosthetic knee joint used to replace original joints lost due to illness or injury. Nabtesco was in fact the first in the world to develop an intelligent prosthetic knee joint controlled by a microprocessor. The microprocessor detects the walking speed, adjusts the pneumatic cylinder, and automatically controls the swing speed of the knee joint, thereby enabling

Microprocessor-controlled intelligent prosthetic knee joint



naturally without any clumsiness or awkwardness. Since their first release in 1993. our knee joints have been used right across the world and are much appreciated by users.

the user to walk

Meanwhile, for our electric wheelchairs designed to reduce the burden on caregivers, we have developed the electric motor assist system, which functions on slopes and lawns, where caregivers would otherwise need to exert more physical effort to control the wheelchair. The system starts with our independently developed grip sensor, which detects a change in the force applied to operate the chair, for example, on an uphill slope. It then signals the motor to automatically assist the caregiver in pushing the wheelchair. Conversely, when the sensor detects an increase in the pull applied to the wheelchair, such as on a downhill slope, it automatically applies the brake. By reducing the workload on caregivers in this way, this world's first assist system provides wheelchair users with greater and more comfortable mobility.

We have also developed the world's first rollator with a speed control system for those who have difficulties in walking without support, applying the technology to use the force generated through rotation for speed control. When the user is walking

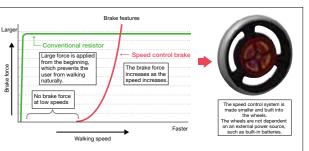
at an ordinary speed with the help of the rollator, the brake remains in neutral. Only in the event of sudden acceleration will the brake be automatically applied to the machine to prevent the user from falling to the ground. The rollator can be used safely even on slopes, which are dangerous for conventional rollators, helping people who cannot walk unsupported to move about safely

To put smiles on the faces of both users and caregivers, Nabtesco will continue to deliver even better products in the health and welfare field, generating new product ideas by listening to user feedback and further sophisticating our unique motion control technology.

Nabtesco's health and welfare equipment helps reduce the burden on caregivers.



© Features of the rollator with a speed control system



Rroducts



This world-first microprocessorcontrolled prosthetic knee joint helps the user walk freely at his/her own pace, with the microprocessor detecting the user's walking speed and automatically controlling the swing speed of the knee joint.



The grip sensor detects the force being used to operate the wheelchair, and the electric motor assists the caregiver on slopes and pebbled paths. The electric wheelchair thus reduces the burden imposed on





CONPAL is a highly safe rollator and the first in the world with a function where the brake is applied only during sudden acceleration. This feature makes the rollator safe for use even by people who need considerable



wheelchair

Stair lift with a

This wheelchair stair lift is designed to move a person sitting in a wheelchair up and down the stairs. The unique safety design prevents the wheelchair from slipping off the stairs and from falling forward.





Safe, Sanitary & Convenient – Premier Pouch Packaging Systems **Packaging Machines**



Packaging Machines: Meeting Modern Needs through Continuous Technological Evolution

Motion Control Report

It is not easy to package sauces and prepared meals like curries that contain meat and vegetables cut into various shapes. Furthermore, foods containing salt cause metal to deteriorate and are difficult for food plants to treat. Nabtesco's retort pouch food fillers/sealers have gained the trust of food processors as evidenced by our No.1 position in the market for these machines in Japan and in countries around the world.

The secret to winning this trust lies in our advanced technologies along with the wealth of expertise and know-how we have gained through handson experience. These elements are critical in order to provide a packaging machine that can perform a series of processes that may seem simple but in reality are quite difficult, namely, to pick up the bags into which products will be placed at the predefined speed, place each bag at the predefined position and input products containing food products of different shapes. We have also developed highly stable and reliable pouch sealing technologies which are essential to ensure food safety. It is no exaggeration to say that Nabtesco has been leading the establishment of Japan's "retort pouch food culture" through



its outstanding technologies.

Bags with spouts General-purpose packaging machines used for snacks/swee Chemical products (Shampoos, conditioners, and cleaning detergents)

In addition to retort pouch products, Nabtesco's automatic fillers/sealers are used to pack soups, meatballs, prepared meals, alcoholic beverages, and various other foodstuffs as well as pet foods, liquid detergents, shampoos, and chemical products.

Demand for packaging machines for refills has been rapidly expanding in Japan and abroad in response to increased requirements for environmentally responsible alternatives to rigid containers. Increasingly stringent recycling laws are encouraging manufacturers to provide refillable container options. Indeed in some applications, rigid containers are being replaced entirely with packs with spouts. Also, more and more food plants are introducing X-ray and infrared camera testing equipment to ensure food safety. In response to these trends, we are constantly working to innovate and develop more advanced technologies.

We are providing our technologies in the field of packaging machines beyond national borders, delivering fillers and sealers to customers in Europe, the United States, and China, thus steadily achieving results outside Japan.

© Expanded and more advanced use of fillers and sealers for a wider range of items Measuring equipment Salt and suga Retort/Prepared meals Vacuum packing machine





rotary packaging machine, integrating pouch filling and sealing processes way back in 1970, and has since been supplying a range of packaging machines to various industries. At present, we have a roughly 85% share of the domestic market and a 50% share of the global market for automatic fillers and sealers for retort pouch foods.

Products

Super High-Speed Automatic Filler/Sealer

A high-speed automatic continuous motion filler/sealer that delivers high performance in a compact space. This equipment is not only used for retort pouch foods but also for soups, sauces, and other food products as well as for refills for liquid detergents. It contributes to reducing the costs of mass production.



High-Speed Automatic Filler/Sealer

This ten-process rotary filler/sealer can be used to pack a range of foods, including not only liquids but also products containing both liquid and solid substances. Moreover, this machine allows the filling and sealing of two bags at the same time, which means that it has the production capacity equivalent to that of two conventional machines, while requiring the floor space and support equipment for one machine. Further, a range of test equipment can be mounted on the machine. The filler/sealer also supports

Contact: Toyo Jidoki Co., Ltd. Tel.: +81-3-5447-2396 http://www.tyj.co.jp 24

Manufacturing Network to Achieve "Local Production for Local Consumption" Production at facilities close to markets

Nabtesco supplies products not only to the domestic market but also to markets across the globe. It has established a manufacturing network to achieve "local production for local consumption." This means we manufacture products that support our way of life at facilities located close to markets. These products are delivered to their respective destinations through our sales bases.



Konan Plant: Automatic doors

Kobe Plant:



Railroad vehicle equipment





Automatic doors



Hydraulic equipment









<Major Production Bases outside Japan>

- 1 Italy: Nabtesco Oclap S.r.l.
- 2 Switzerland: Gilgen Door Systems AG
- 3 United Kingdom: Gilgen Door Systems UK Limited
- 4 Beijing: NABCO Auto Door (Beijing) Co., Ltd.
- **5 Dalian:** Dalian Toyo Jidoki Co., Ltd.

- 7 Shanghai: Nabtesco Marine Machinery (Shanghai) Co., Ltd. 12 Thailand: Nabtesco Power Control (Thailand) Co., Ltd.
- 3 Changzhou: Changzhou Kusaka Nabtesco Precision Machinery Co., Ltd. 13 Busan: Nabtesco Marinetec Co., Ltd.
- Ochangzhou: Jiangsu Nabtesco KTK Railroad Products Co., Ltd.
 Washington: Nabtesco Aerospace, Inc.
- 10 Changzhou: Jiangsu Nabtesco Hydraulic Co., Ltd. 15 Wisconsin: NABCO Entrances, Inc.
- 6 Shanghai: Shanghai Nabtesco Hydraulic Co., Ltd. 1 Thailand: Nabtesco Automotive Products (Thailand) Co., Ltd.

^{*} For other domestic and overseas Group companies, please refer to the attachment.

Nabtesco Corporate Data

Corporate Profile

Company Name Nabtesco Corporation Established 29th September 2003

Address JA kyosai Bldg., 7-9, Hirakawacho 2-chome,

Chiyoda-ku, Tokyo 102-0093, Japan

TEL: +81-3-5213-1133 FAX: +81-3-5213-1171

Capital 10 billion ven

Number of Shares Outstanding 128,265,799 (As of March 2014)

Employees Non-consolidated: 2,092 (As of March 2014)

consolidated: 5,344 (As of March 2014)

Kazuaki KOTANI

Hirovuki AOI

Directors

Representative Director, President & CEO

Representative Director, Yosuke MISHIRO Senior Managing Executive Officer

Representative Director Tsutomu SAKAMOTO

Managing Executive Officer Director

Managing Executive Officer

Nobutaka OSADA Managing Executive Officer

Director

Director

Kenichi NAKAMURA Managing Executive Officer

Director

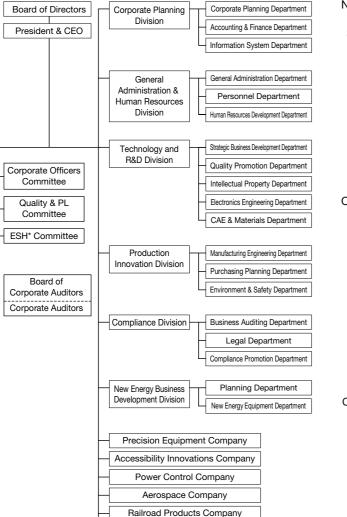
Hiroaki SAKAI Managing Executive Officer

Toshio YOSHIKAWA **Executive Officer Outside Director** Nobuvoshi YAMANAKA

Yutaka FUJIWARA **Outside Director** Nobuhiko TAKAHASHI Corporate Auditor Corporate Auditor Masao IMAMURA Tetsuva ISHIMARU Outside Corporate Auditor

Outside Corporate Auditor Masahiko YAMADA Outside Corporate Auditor Hiroshi MITANI

Management Structure (Non-consolidated

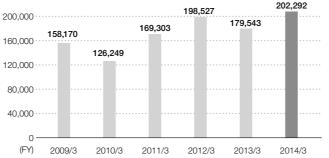


Marine Control Systems Company

* (Environment, Safety and Health)

Business Performance Data (Consolidated)

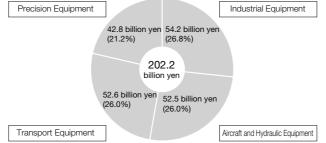
Net Sales (Million Yen)



Operating Income (Million Yen)



Composition of Sales (Fiscal 2013)



List of Group Companies

Domestic

Tovo Jidoki Co., Ltd.

18-6. Takanawa 2-chome, Minato-ku, Tokyo 108-0074, Japan

Nabtesco Automotive Corporation

JA kyosai Bldg., 7-9, Hirakawacho 2-chome, Chiyoda-ku, Tokyo 102-0093, Japan

Nabtesco Service Co., Ltd.

Higashi Gotanda Square, 10-2, Higashi Gotanda 2-chome, Shinagawa-ku, Tokyo, 141-0022,

Diavac Limited

495 Owadashinden, Yachiyo, Chiba 276-0046, Japan

TEL: +81-47-459-5311 FAX: +81-47-459-3628

CMET Inc.

5-5, Shinyokohama 2-chome, Kohoku-ku, Yokohama, Kanagawa 222-0033, Japan

T.S. Mechatech Co., Ltd.

1414, Tarui-cho, Fuwa-gun, Gifu 503-2121, Japan

NABCO DOOR Ltd.

12-22, Nishihonmachi 1-chome, Nishi-ku, Osaka, 550-0005, Japan

NABTEC Co., Ltd.

3-3, Takatsukadai 7-chome, Nishi-ku, Kobe, Hyogo 651-2271, Japan

TS Precision Co., Ltd.

2-36 Hinode-cho, Iwakuni, Yamaguchi 740-0014, Japan

Shikoku Marine Customer Service Co., Ltd.

3-43, Kitatoryucho 1-chome, Imabari, Ehime 794-0803, Japan

Overseas

Nabtesco Aerospace Singapore Pte. Ltd.

102E Pasir Panjang Road, #05-03, Citilink Industrial Complex, Singapore 118529

TEL: +65-9169-0731 FAX: +65-6225-7393

Nabtesco Marine Service Singapore Pte Ltd

102E Pasir Paniang Road, #05-03, Citilink Industrial Complex, Singapore 118529

Nabtesco Automotive Products (Thailand) Co., Ltd.

41/37Block D6 Moo 6 Soi Pluchareon Bangna-Trad Rd, 16.5 km Bang-Chaloang Bang-plee, Samutprakarn 10540, Thailand

TEL: +66-2337-0139~0142 FAX: +66-2337-0143

Nabtesco Power Control (Thailand) Co., Ltd.

700/905 Moo.5, Amatanakorn Industrial Estate, Tambol Nongkakha, Amphur Panthong, Chonburi 20160 Thailand

Nabtesco Marinetec Co., Ltd.

27, Gupyong-Ro, Saha-Gu, Busan, 604-817, Korea

Taiwan Nabtesco Service Co., Ltd.

4F. No.105, Sec.2, Hangzhou S.Rd., Da' an Dist., Taipei City 10643, Taiwan

Dalian Toyo Jidoki Co., Ltd.

Bldg. No.11, No.99 Huaihe Zhong Road, Jingang Industry Park, Dalian development Zone, 116620, China

Gilgen Nabtesco (Hong Kong) Limited

Room 2304-2306, 23/F Park-in Commercial Centre

56 Dundas Street, Mongkok, Kowloon, Hong Kong

TEL: +852-3580-7708. +852-2243-4477 FAX: +852-3741-0919

Nabtesco Railroad Products (Beijing) Co., Ltd.

A-2, Bodaxing Industrial Zone, 24-Hao, Kechuang 3 jie, Eastern Section, Beijing Economic and Technological Development Zone,

Yizhuang, Beijing 100023, China

NABCO Auto Door (Beijing) Co., Ltd.

2F No.15 Jingsheng nan si jie, Liondo International Industrial City,

Tong Zhou District, Beijing 101102, China

Shanghai Nabtesco Business Management Co., Ltd.

1705 Room, Hong Jia Tower, No.388 Fu Shan Road, Pudong New Area, Shanghai 200122, China

Shanghai Nabtesco Hydraulic Co., Ltd.

No.905 East Rong Le Road, Songjiang District Shanghai 201613, China

TEL: +86-21-5774-1831 FAX: +86-21-5774-1347

Shanghai Nabtesco Hydraulic Equipment Trading Co., Ltd

1704 Room, Hong Jia Tower, No.388 Fu Shan Road, Pudong New

Area, Shanghai 200122, China

TEL: +86-21-2077-3080 FAX: +86-21-5093-2195

Nabtesco Marine Machinery (Shanghai) Co., Ltd. Building No. 5, Lane 777, Fengxian Country, Shanghai, 201400, China

Nabtesco Marine Control Systems (Shanghai) Co., Ltd.

1703 Room, Hong Jia Tower, No.388 Fu Shan Road, Pudong New

Area, Shanghai 200122, China

Gilgen Door Systems (Suzhou) Co., Ltd.

Block No.28, Unit A, Suzhou Industrial Square, 428 Xinglong Street,

Jiangsu 215126, China

Changzhou Nabtesco Kusaka Precision Machinery Co., Ltd.

No.6, Logrui Road, South Part of Wujin Hi-tech Industrial Development Zone, Changzhou, Jiangsu 213164, China

Jiangsu Nabtesco KTK Railroad Products Co., Ltd.

No.19 FengXi Road, Wujin Hi-Tech Industrial Zone, Jiangsu 213164, China

Jiangsu Nabtesco Hydraulic Co., Ltd.

No.116 West Wujin Avenue, Wujin High-Tech Industrial Zone,

Changzhou, Jiangsu 213166, China

TEL: +86-519-8168-7550 FAX: +86-519-8168-7566

North America

Nabtesco Motion Control, Inc.

23976 Freeway Park Drive Farmington Hills, MI 48335, U.S.A.

TEL: +1-248-553-3020 FAX: +1-248-553-3070

Nabtesco Aerospace, Inc.

12413 Willows Rd. N.E. Kirkland, WA, 98034, U.S.A. TEL: +1-425-602-8400 FAX: +1-425-602-8408

NABCO Entrances, Inc.

S82, W18717, Gemini Drive, Muskego, WI 53150 U.S.A.

Nabtesco USA, Inc.

Wilmington, New Catel, DE 19805 U.S.A.

Nabco Entrances of Western Canada Inc.

62 Ave SE, Bay #246, Calgary, AB T2H 2E6 Canada

TEL: +1-403-294-9331 FAX: +1-403-294-9338 Porta Sevice Inc.

595, blvd Pierre-Bertrand, unit 105, Quebec (Quebec) G1M 3T8 Canada

TOYO JIDOKI AMERICA CORPORATION

650 Dekora Woods Blvd, Saukville, WI 53080, U.S.A.

Europe

Nabtesco Oclap S.r.l. Via Della Rimembranza 13, 10060 Piscina (TO), Italy

Nabtesco Precision Europe GmbH

Tiefenbroicher Weg 15, 40472 Duesseldorf, Germany TEL; +49 (0) 211 173790 FAX; +49 (0) 211 364677

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Brouwerstraat 34, 2984 AR Ridderkerk, The Netherlands

Nabtesco Aerospace Europe GmbH

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TEL: +49 (0) 211 179328-00 FAX: +49 (0) 211 364677

Gilgen Door Systems AG Freiburgstrasse 34, CH-3150 Schwarzenburg, Switzerland

Gilgen Door Systems UK Limited

Crow House, Crow Arch Lane, Ringwood, Hampshire, BH24 1PD, United Kingdom

Gilgen Door Systems Germany GmbH

Münchener Str.22 DE-64521 Gross-Gerau, Germany TEL: +49-6152-925-260 FAX: +49-6152-925-270

Gilgen Door Systems France S.A.S.

Immeuble AMPERE, 21 rue Alexis de Tocqueville, SILIC 5, FR-92182 ANTONY CEDEX, France

Gilgen Door Systems Austria GmbH

Concorde Business Park 1 / E / 1 / 4 AT- 2320 Schwechat, Austria

Gilgen Door Systems Italy srl

Via della Fisica, 4 IT-40068 San Lazzaro Di Savena (BO), Italy

TEL: +39-051-704945 FAX: +39-051-6325099