



Our Precision, Your Advantage

Environmental/Social Report

2010

2009.4 ~ 2010.3



Company Overview

Company Name: KYB Corporation

(official corporate name: Kayaba Industry Co., Ltd.)

Founded: Kayaba Research Center, November 19, 1919

Established: Kayaba Manufacturing Co., Ltd. March 10, 1935

Incorporated: November 25, 1948

Head Office: World Trade Center Bldg., 2-4-1, Hamamatsu-cho, Minato-ku,
Tokyo 105-6111, Japan

Chief Representative: President Masao Usui

Capital: ¥19,113,680,000 (As of March 31, 2010)

Plants: Sagami, Kumagaya, Gifu North, Gifu South

Laboratories: Basic Technology R&D Center, Products Technology R&D Center

Affiliated company production bases

Japan

Kayaba System Machinery Co., Ltd. / KYB Kanayama Co., Ltd.

Yanagisawa Seiki MFG Co., Ltd. / KYB Cadac Co., Ltd.

KYB Trondule Co., Ltd. / TAKAKO Industries, Inc.

Overseas

KYB Manufacturing Czech, s.r.o. / KYB Suspensions Europe, S.A.

KYB Steering Spain, S.A. / KYB Advanced Manufacturing Spain, S.A.

KYB Industrial Machinery (Zhenjiang) Ltd.

KYB Hydraulics Industry (Zhenjiang) Ltd. / Wuxi KYB Top Absorber Co., Ltd.

Changzhou KYB Leadrun Vibration Reduction Technology Co., Ltd.

KYB Manufacturing Taiwan Co., Ltd. / KYB (Thailand) Co., Ltd.

KYB Steering (Thailand) Co., Ltd. / KYB Manufacturing Vietnam Co., Ltd.

TAKAKO Vietnam Co., Ltd. / KYB-UMW Malaysia Sdn. Bhd.

KYB-UMW Steering Malaysia Sdn. Bhd. / P.T. Kayaba Indonesia

KYB Manufacturing North America, Inc. / TSW Products Co., Inc.

KYB do Brasil Fabricante de Autopeças Ltda.

Major Products

Hydraulic Products

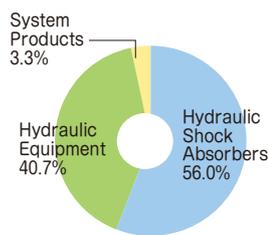
Shock absorbers, suspension systems, front forks, oil-cushion units, stay dampers, oil dampers for railroad, collision dampers, free locks, pumps, motors, cylinders, valves, power steering systems, aircraft landing systems, aircraft pilot systems, aircraft control systems, aircraft emergency systems, electronic control systems

System Products

Concrete mixer trucks, granule carriers, special-purpose vehicles, simulators, hydraulic systems, stage mechanisms, marine equipment, tunnel boring machines, environmental devices, seismic isolation, vibration control and vibration insulation dampers

Sales by Product

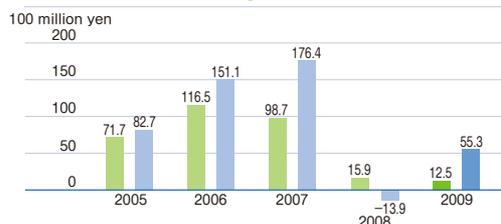
(Fiscal 2009) [Consolidated]



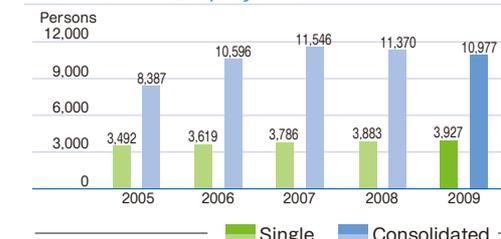
Shift in Sales



Shift in Working Profit



Shift in Employees



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Environmental Report

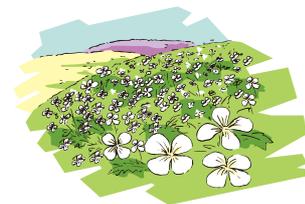
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To Our Stakeholders

The KYB Group contributes to the development of society by deepening the partnership with our stakeholders based on global management with high transparency.

Please allow me to make my greetings for this fiscal 2009 report by first taking this opportunity to thank everyone for their continuous efforts and patronage. The chaos of the world's economy triggered by the financial crises in the latter half of 2008 has also had a major impact on the KYB Group. As countermeasures, we are strengthening activities to reduce final costs and carrying forward structural changes of our business including group reform. In fiscal 2010, we will continue to pursue quality to strengthen the structure of our business. Regardless of the harsh changes of the surrounding environment, we will continue to aim for the development of our company and society by sticking to our corporate spirit.

There are higher expectations and demands of stakeholders toward companies to solve global issues such as insufficient resources, environmental preservation, etc. We are demanded continuous activities to solve these matters.

In research and product development, we focus primarily on reducing future environmental impact. Particularly, these include the development of environmentally-friendly products that aim lighter weight, resource-saving, safety and energy saving, and the development of technologies that reduce the use of substances with environmental load in our products. At the manufacturing sites, we are attempting to realize high-efficiency production and lower environmental impact by carrying forward activities to shorten lead time. We have also been replacing facilities with better energy-saving effects. In consideration of preserving biodiversity of lands, eco-factory features have been incorporated into newly constructed plants such as the application of solar energy and circulation of rain-water under the concept of "blending with nature."

In this age where more social responsibilities are demanded of companies, the KYB Group has been actively implementing social contribution activities that are closely in contact with the local community as a good corporate citizen with priority on complete compliance, strengthening of internal control systems and corporate governance, and quick and appropriate disclosure of information.

I hope this report gives some insight concerning the KYB Group's activities towards CSR for continuous support by our many stakeholders.

Masao Usui,
President

Masao Usui



We are all working as one to support the society and to preserve the earth's environment.

As a true, corporate citizen, the KYB Group has worked steadily to create a foundation of technologies that allows us to provide high-quality products and services that can be used safely and meet the standards of our customers. We have also acknowledged corporate social responsibilities concerning the increasingly serious problems of the earth's environment and have strengthened activities toward environmental preservation to gain the trust from our customers.

During the last fiscal year, we experienced unprecedented changes in the economic environment. Following the recent increase in production, the environment surrounding KYB has also changed in various ways. In order to adapt to such changes, we have raised "eco 10 activities" (activities that reduce wastes) as the slogan for monozukuri. In the past, energy-saving activities were limited to related departments. Launching the "Energy-saving Plant Committee," we are now working towards the goal on a company-wide scale with all employees working as one. We are working to optimize energy and reduce losses of standby power by chronologically reviewing the usage of energy on operation days and non-operation days.

In the social report, we have introduced examples of various activities under the themes of "disaster-area support" and inhouse "education and training." This report as the 2010 edition mainly summarizes the activity reports of fiscal 2009. The same information can also be found on our website. We will continue to make efforts to enrich and improve the contents in the future. Your suggestions and comments concerning our stance towards environmental and social activities are greatly appreciated.

Ken Mizumukai,
Managing Director
Executive Officer for Environment
& Safety

Ken Mizumukai

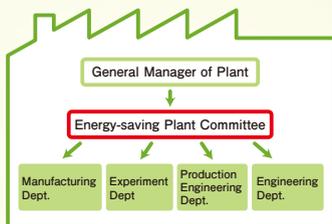


Energy-saving Plant Committee established

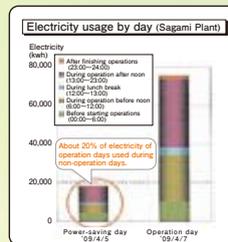
Each plant of KYB has achieved major results through the continuous efforts to save energy. For example, the installation of the cogeneration system has had major energy-saving effects by allowing generation of power using fuel while effectively utilizing heat waste for air-conditioning, steam, etc. We have also switched fuel to natural gas with less CO₂ emissions.

To further fulfill our social responsibilities as a good corporate citizen, we newly established the Energy-saving Plant Committee. In the past, energy-saving activities were limited to only the related departments. As shown in the organizational diagram above, these activities are now carried out by the entire plant under the strong leadership of the General Manager.

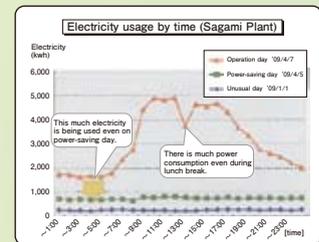
We are working heavily to make improvements by fully washing-out wasteful usage of energy that has been unnoticed up to now. Concerning details of activities, instructions are made by the General Manager of each plant at the committee meeting held each month and effective measures are actively implemented in other departments for an expanded effect. The visualization of energy used, for example, clearly shows where energy is being wasted.



Thorough checking on the wasteful usage of energy



Electricity usage by day



Electricity usage by time

Start of the environmentally-friendly "eco-bus"

The operation of commuter buses running on biodiesel fuel (BDF*) was started by the Sagami Plant from October 2009 under the concept of running environmentally-friendly buses designed with drawings and photos of eco-related themes in the city of Sagami-hara. These eco-buses represent the feelings of many individuals toward the environment.

Drawings and photos submitted by employees of the KYB Group and their family members were selected and converted to a mosaic design as messages from an environmental company. It would be nice if children would see the buses and recognize that it belongs to their father's company or that people would see the efforts of KYB. We hope the awareness and sense of responsibility towards the earth's environment would spread throughout the company, region, nation and world. (Project team that planned the operation of the eco-bus)



Drawings and photos of KYB employees turned into mosaic art

Biodiesel fuel (BDF*)

Diesel fuel that has been manufactured by chemically processing waste oil such as vegetable oil made from rapeseeds and soybeans, and cooking oil to create a composition that closely resembles light diesel oil. At the Sagami Plant, tempura waste oil from the employee cafeteria is converted to BDF as fuel for commuter buses during the morning and evening for a cutback of 2.5 tons of CO₂ emissions per year.

INSIDE

Takeshi Yatsuda

Kumagaya Plant Manufacturing Dept
Production Engineering Sect.
Special purpose Vehicle Div.



Cutback of power consumption during extensive holidays

As a part of the company-wide efforts to create energy-saving plants, we have started an activity to suppress power consumption during extensive holidays at the beginning and end of the year.

We were able to determine in advance that there would be effects of cutting back electricity by turning off 90% of the switches of the plant's substation by listing up facilities that could not be shut down even during extensive holidays, clarifying the facilities that could be shut down if measures were taken, and establishing measures before and after the facilities were shut down. As a result, we were able to cut down consumed power by 51% compared to the previous year. Exposing unnecessary power consumption during non-operation of extensive holidays that were unnoticed up to now has opened new doors of future activities for the prevention of global warming.

Based on the corporate spirit, we aim to become a corporate group that gains the satisfaction of our stakeholders.

Corporate Spirit

By serving technologies and products that make people's lives safe and comfortable, KYB group dedicates to the society.

1. We shall build a corporate culture full of vitality, and hold high goals.
2. We shall value sincerity, cherish nature, care for the environment.
3. We shall constantly pursue creativity, contribute to the prosperity of customers, shareholders, suppliers and society.



Management Vision

1. Human Resource Development
To develop human resources who have a thorough understanding of our policies and strategies and can accomplish our goals with passion.
2. Technology and Product Development
To provide products that gain the admiration, comfort and full satisfaction from our customers throughout the world.
3. Monozukuri (Japanese manufacturing expertise)
To operate plants filled with the creative inspiration of committed Monozukuri, energy and joy of creating products that satisfy our customers.
4. Management
To be always self-aware of our corporate social responsibilities and to pursue efficient group management.



Compliance

At KYB, we believe that "compliance" is not merely the "observation of laws, orders and regulations within the scope of society," but as the "observation of articles of incorporation, inhouse regulations and contracts" as well as the "observation of corporate ethics" in order to promote healthier corporate activities.

1. We are making efforts to establish corporate ethics and to abide by laws/regulations through "Corporate Guideline" that must be observed when executives and employees pursue corporate activities.
2. We are providing compliance training through training by level and training by field including board members.
3. We have established an inhouse reporting system (immediate reporting/complaint box) targeting the entire group. We have also established special windows for reports and consultations with the enforcement of the Whistleblower Protection Act.
4. We have defined a policy concerning the protection of personal information, created inhouse regulations and established an inhouse committee. We have also established a contact window for inquiries concerning personal information from outside the company.

Internal Control System

In order for corporate governance to function effectively, we believe that efforts must be made to maintain the internal control system and strengthen internal control functions to establish credibility of financial reports, heighten the validity of operations and to comply with laws and regulations.

We have resolved the "internal control system basic policy" based on the company act at the board of directors' meeting and have promoted measures such as the establishment of risk management organization, group management organization, inhouse compliance organization, etc.

Furthermore, we have maintained and assessed the internal control concerning financial reports according to the Financial Instruments and Exchange Law to establish credibility of financial reports and to practice appropriate information disclosure.

The KYB Group is implementing activities by establishing a basic policy concerning the environment so that everyone can contribute to environmental preservation activities.

Environmental Policies

Slogan

Protect the Green Earth and Create Products Gentle to the Environment

Basic Environmental Policies

The KYB Group creates products gentle to both people and the earth. As a company that provides power and comfort, we are dedicated to the promotion of environmental activities as an important tool for evaluating management.

- (1) Strive to ensure long-term and sustainable operations throughout the entire KYB Group.
- (2) Work to promote harmony with society and contribute to the global community as a good corporate citizen.
- (3) Clarify every employee's role so that all employees can participate fully.



Activity Plan Related to Environmental Preservation

We are promoting activities on a company-wide scale by defining goals every year according to the "Activity Plan Related to Environmental Preservation."

Activity results of 2009

Compilation range: Sagami Plant, Kumagaya Plant, Gifu North Plant, Gifu South Plant

Activity items		Fiscal 2009 goals	Fiscal 2009 activity results	Activity plan Fiscal 2010 goals
Prevention of global warming	CO ₂ emission volume	78,664 tons-CO ₂ /year or less (10% decrease compared to 2008)	70,441 tons-CO ₂ /year (20% decrease compared to 2008)	83,652 tons- CO ₂ /year
	Energy saving	Energy usage volume (basic unit)	205.9 ℓ/million yen or less (4% decrease compared to 2008)	233.9 ℓ/million yen (9% increase compared to 2008)
Improvement of recycling and recycling rate	Recycling	85% or higher recycling rate	87.5 % recycling rate (1.1% increase compared to 2008)	more than 85%
	Zero emission	3% or less landfilled waste	4.1% landfilled waste	3% or less landfilled waste
Reduction of waste	General waste	516.4 tons/year or less (19% decrease compared to 2008)	445 tons/year (30% decrease compared to 2008)	589 tons/year
	Industrial waste	3,087 tons/year or less (33% decrease compared to 2008)	3,326 tons/year (28% decrease compared to 2008)	4,003 tons/year
	Metal scraps	15,994 tons/year or less (less than 2008)	15,753 tons/year (24% decrease compared to 2008)	18,666 tons/year

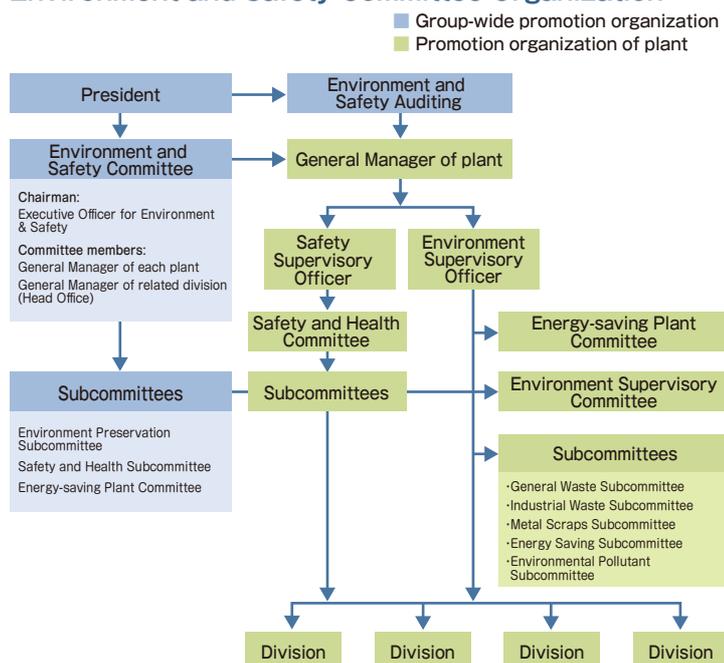


Note: •Discharge generated from our production activities are treated as wastes and categorized into general wastes, industrial wastes and metal scraps.
 •For energy, crude oil equivalent is calculated for electricity and fuel and the total value is displayed as total energy.
 •Basic unit is calculated based on the production shipment.

Environmental Management Organization

The KYB Group has established the "KYB Group Environmental Committee" in July 1992 to promote environmental preservation activities on a group-wide scale. Since then, the Committee has been renamed to the "Environment and Safety Committee" in October 2001 to include safety and health activities. "Environment and Safety Committee meetings" and "environment and safety auditing" are held twice a year, for group-wide unification on the policies and activities concerning environment and safety of each plant. Furthermore, we have been introducing various techniques so that employees can also save energy at home by changing the temperature setting of air-conditioners and using eco-operations through environmental education and implementation of environmental housekeeping books.

Environment and Safety Committee Organization



ISO14001 certification acquisition status

For the systematic development of environmental preservation activities, we have promoted the structuring of an environmental management system. Furthermore, we have been involved in the acquisition of ISO14001 international standard certification to improve the transparency to the outside and to gain trust.

This year, the Sagami Plant received environmental combined screening, renewal screening and environmental upgrade diagnosis.

	Plant name	Certification years	Certification range	2009 judgment
Inhouse plant	Gifu South Plant	2000.2	Products Technology R&D Center, KYB Kawabe, KYB Kabuchi	Periodic & renewal screening ○
	Kumagaya Plant	2000.12		Renewal screening ○
	Sagami Plant	2000.12	Basic Technology R&D Center, Yamato Plant	Renewal screening ○
	Gifu North Plant	2001.2	KYB Kanayama	Renewal screening ○
Affiliated companies	KSM Mie Plant	2000.12		Renewal screening ○
	Yanagisawa Seiki MFG	2004.4		Renewal screening ○
	Takako Industries (Shiga Plant)	2003.2		Periodic screening ○
	KYB Trondule Co.,Ltd.	2008.11	Head Office plant	Renewal screening ○

See about inhouse plants for KYB Kanayama, KYB Kawabe and KYB Kabuchi

Environmental Accounting

In order to quantitatively assess the involvements regarding environmental preservation, environmental costs have been calculated since 2000.

Environmental preservation cost

This report is compiled by using categories of invested amount and cost according to the environmental accounting guidelines indicated by the Ministry of the Environment. Unit: million yen

Category	Description of main activities	Invested amount	Cost
(1) Environmental preservation cost to suppress environmental impact occurring within the area of operation due to main business activities (cost within operation area)	① Pollution prevention cost ○Atmospheric pollution and water pollution prevention activities ○Maintenance and inspection of pollution prevention facilities ○Analysis and measurement of atmosphere and water quality	86.6	140.6
	② Earth's environment preservation cost ○Shift from use of fossil fuel to city gas ○Installation of photovoltaic generation facilities	88.0	23.4
	③ Resource circulation cost ○Recycling of plant wastes ○Reduction of industrial wastes	9.7	160.8
(2) Cost for suppressing environmental impact generated at upstream or downstream from main business activities (upstream/downstream cost)	○Use of urethane mats instead of cardboard	1.0	0
(3) Environmental preservation cost for management activities (management activity cost)	○Maintenance and periodic/renewal screening of ISO14001 ○Environmental training	2.0	85.5
(4) Environmental preservation cost for research and development activities (R&D cost)	○Products that are lighter and with less harmful chemical substances ○Development of environment-friendly products	10.1	195.7
(5) Environmental preservation cost for social activities (social activity cost)	○Afforestation and maintenance of scenery surrounding plant ○Issuing of environmental/social report	9.7	16.9
(6) Cost for handling environmental damage (environmental remediation cost)	○Monitoring and measurement of surrounding underground water	0	0
	Total	207.1	622.9
	Grand total		830.0

Compilation range: Sagami Plant, Kumagaya Plant, Gifu North Plant, Gifu South Plant Target period: April 1, 2009 - March 31, 2010



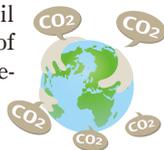
Categories and definitions of environmental preservation cost

[Invested amount] Expense for the purpose of environmental preservation during the target period with effect that continues for a number of terms and cost running for those periods. (Amount acquired during the current term of the depreciable asset)

[Cost] Cost or loss generated from expenditure of finance/service for the purpose of environmental preservation.

Global Warming Prevention Activities

The annual target for CO₂ emissions (22% reduction) was achieved as the amount in fiscal 2007 was 30% less than in fiscal 2007. The annual target for unit energy consumption (1.5% reduction) could not be achieved as the amount was 12% more than in fiscal 2007. We will continue to decrease the amount of CO₂ emissions through steady efforts such as change from the use of fossil fuel to city gas, installation of energy-saving devices, improvement of air-leakage, etc.

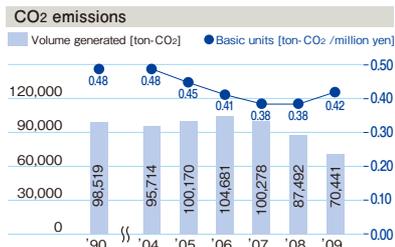


(Main activities of fiscal 2009)

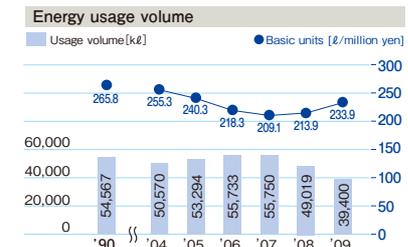
Promotion of energy-saving plant/Shift from use of fossil fuel to city gas/Renewal of aged transformers to amorphous transformers/Promotion of inverter/intermittent operation/Reduction of air pressure and repair of air leaks/Renewal to high-efficiency lighting/Installation of photovoltaic generation facilities/Shift to EcoCute hot-water supply

Reduction target for CO₂ emissions

Reduction target for CO₂ emissions, 17% reduction of total energy usage volume by the end of fiscal 2010 from fiscal 2007 levels



Reduction target for energy usage volume



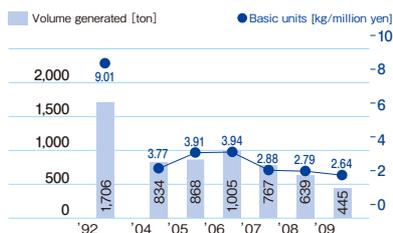
Note: Conversion factor using for calculating CO₂ emission
 *Source of CO₂ emission conversion factor: Japan Automobile Manufacturers Association, Inc.
 Power...0.3817kg-CO₂/kwh, Kerosene oil...2.5308kg-CO₂/ℓ, Diesel oil...2.6468kg-CO₂/ℓ, Bunker A...2.7000kg-CO₂/ℓ, LPG...3.0094kg-CO₂/ℓ, City gas...2.3576kg-CO₂/m³
 *Energy consumption: total electricity and fuel converted to crude oil. Basic units are calculated based on the shipment volume of production. (Basic unit = energy consumption ÷ production/shipment volume)

Waste Reduction Activities

Reduction target for general waste

Reduction of discharge by 23% compared to 2007 by the end of fiscal 2010

The annual target for the amount of waste discharged (33% decrease) was achieved as the amount generated in fiscal 2009 was 445 tons, 42% less than in fiscal 2007.



*Value excluding wood waste from '07 (compiled as industrial waste)
 Note: The waste disposal and treatment ordinance was partially revised such that effective April 2008, wood pallets are treated as industrial wastes (formerly general wastes). Hence, the category of wood wastes was changed and the values revised.

Reduction target for industrial waste

Reduction of discharge by 35% compared to 2007 by the end of fiscal 2010

The annual target for the amount of waste discharged (50% decrease) was not achieved as the amount generated was 3,326 tons, 46% less than in fiscal 2007.



VOICE

Branch Manager
Masashi Sumioka

Sagamihara Branch, Fujimi Sangyo Co., Ltd.



Activities to improve waste recycling

We are contracted to collect and transport industrial wastes and general operation wastes from the Sagami Plant. Working with the Administration Dept. of the plant, we are currently improving the recycling rate by strengthening segregations of general operation wastes as well. We perform daily check on the segregation of waste through patrol at the time wastes are collected and request corrective actions for departments with improper segregation. In order to implement measures at the source of wastes, we visually indicate which departments have what kinds of wastes and how much there are to tie in with waste reduction activities. We would like to continue working together to further reduce wastes in the future.

INSIDE

Takuro Kinomoto

Gifu South Plant, Production Engineering Sect.



Centrifugal oil separator and separated high-density oil

Reducing waste fluids to a tenth

There are a number of alkaline cleaners at the Gifu South Plant and the total amount of cleaning fluid used is about 9000ℓ. The cleaning power deteriorates when oil is mixed with this cleaning fluid. For this reason, cleaning fluid is freshened to maintain cleaning power. This cost amounts to about 500,000 yen per month. To cope with this, we installed a centrifugal oil separator. This device removes oils within the cleaning fluid and the fluid is like new at all times. The installation of this device has eradicated the need to freshen fluid and the amount of waste fluid has dropped to a tenth. Currently, the effects are being improved by maintaining and managing cleaning fluids.

INSIDE

Mitsuhiro Imahori

Gifu North Plant (Seals Center), Production Engineering Sect.



Success in commercializing end materials.

Among the seal packing materials manufactured at the Seals Center, PTFE products (polytetrafluoroethylene resin) are mainly produced by CNC cutting. Until now, chuck end materials were treated as industrial waste. We succeeded this time in establishing a method that commercializes these end materials. As a result, we have been able to cut down the 300kg of materials per month and 140kg of industrial waste for a major reduction of substances with environmental impact. We would like to continue improving processes by taking into consideration environmental issues.

Environmental Preservation Activities of Plants

ISO14001 mark indicates a certified plant of ISO14001.

OSHMS mark indicates a certified plant of the labor safety management system.

Sagami Plant

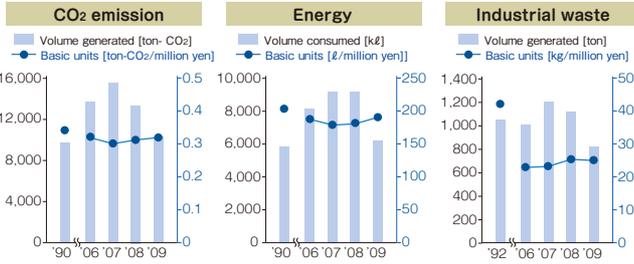
ISO14001
JQA-EM1171

OSHMS
TS05-14-3

- Location: 1-12-1, Asamidai, Minami-ku, Sagami-hara-shi, Kanagawa 252-0328 TEL 042-746-5511
- Beginning of operation: May 1975 ● Floor surface area: 53,951m²
- Main products: hydraulic equipment (pumps, motors, valves), railroad equipment (semi-active/passive dampers), aircraft parts (wheels, brakes), electronic devices (car-mounted controllers)

2009 Topics & Environmental Preservation Activities

- ① Photovoltaic generation facility (capacity: 30KW) was installed on the rooftop of the office building for CO₂ reduction of about 14 tons/year.
- ② Oil separator was installed to process alkaline fluid wastes. The device will reduce industrial wastes by about 78 tons/year.
- ③ Exhaust heat from gas engine power generation is also used for plant air conditioning for a pleasant working environment.



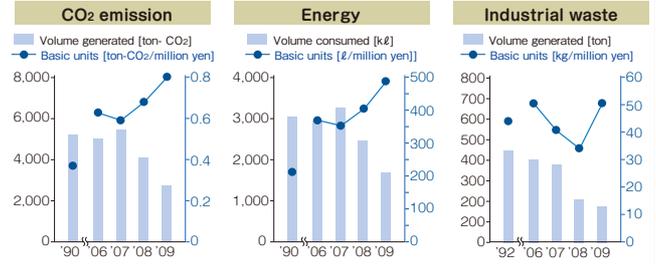
Kumagaya Plant

ISO14001
JQA-EM1152

- Location: 2050, Nagazaike, Fukaya-shi, Saitama 369-1193 TEL 048-583-2341
- Beginning of operation: January 1971 ● Floor surface area: 68,118m²
- Main products: special-purpose vehicle (concrete mixers, granule carriers, pruned branches shredder truck), hydraulic equipment (gear pumps, large-size valves, reduction gears)

2009 Topics & Environmental Preservation Activities

- ① The paint circulation method of the electrodeposition coating facility was reviewed to reduce the power consumption of the circulation pump during non-operation hours.
- ② Wood wastes were made into chips for use as mulching materials on trees within the premises.
- ③ Concrete walls as property lines changed to fence to reduce risk of collapse during an earthquake.



Gifu North Plant

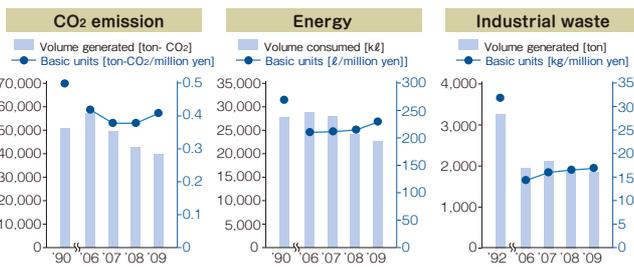
ISO14001
JQA-EM1288

OSHMS
TS04-21-01

- Location: 2548, Dota, Kani-shi, Gifu 509-0298 TEL 0574-26-5111
- Beginning of operation: April 1968 ● Floor surface area: 156,817m²
- Main products: shock absorbers for automobiles, hydraulic equipment for automobiles

2009 Topics & Environmental Preservation Activities

- ① In order to reduce CO₂ emissions, fuel was switched to city gas for the aluminum melting furnace and paint during furnace.
- ② In order to reduce the amount of waste oil generated during change of operating oil for hydraulic testers, the use of long service-life oil was started. The amount of waste oil for fiscal 2009 was reduced by half compared to the previous year.
- ③ Pipe-end materials generated in the manufacturing process were made available for reuse as casting materials by related companies and activity for reducing discharging metal scraps outside the KYB Group was started.



Gifu South Plant

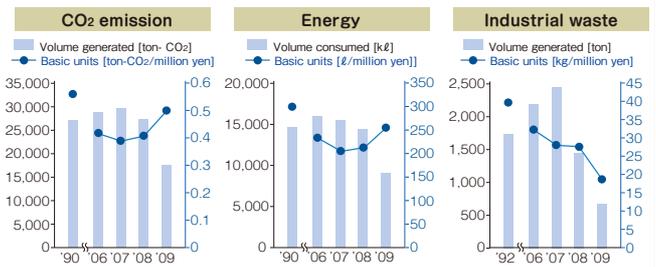
ISO14001
JQA-EM0700

OSHMS
TS06-21-4

- Location: 505, Dota, Kani-shi, Gifu 509-0297 TEL 0574-26-1111
- Beginning of operation: July 1943 ● Floor surface area: 108,010m²
- Main products: front forks for motorcycles, hydraulic equipment (cylinders, valves)

2009 Topics & Environmental Preservation Activities

- ① Centrifugal oil separator was installed as an activity for reducing industrial wastes. The device removes oils within cleaning fluid so that the fluid is like new at all times. The device has eradicated the need to freshen the fluid and the amount of waste fluid has dropped to a tenth.
- ② Cut-waste compressor was installed. This device compresses cut wastes to a circular board of 8cm in diameter while squeezing out cutting oil at the same time. After the installation, the amount of cutting oil replenished dropped to less than a fifth of the original amount and the number of transportations carrying cut wastes also dropped drastically. Further efforts are being made to improve the operation efficiency.



INSIDE

Takashi Shirouchi

Gifu South Plant,
Production Engineering Sect.

Installation of cut-waste compressor



At the Gifu South Plant, there are machines that use large volumes of cutting oil. Cutting oil must be continuously replenished as it is discharged by adhering to cut wastes. The installation of this device was decided since the replenished volume can reach 2000ℓ/month and the cost can be about 1 million yen per month. This device compresses cut wastes to a circular board of 8cm in diameter while squeezing out cutting oil at the same time. After the installation, the amount of cutting oil replenished dropped to less than a fifth of the original amount and the number of transportations carrying cut wastes also dropped drastically. The device is currently being installed in other lines for the effective utilization of resources.

INSIDE

Ryuji Sakata
Ryo Muramatsu

Gifu North Plant,
Developmental Experiment Dept.

Reduction of waste oil by using longer service-life operating oil for hydraulic testers



Muramatsu (left), Sakata (right)

In order to reduce the amount of waste oil generated during change of operating oil for hydraulic testers, the use of long service-life oil was started. Before this change, there was the need to grasp the service life of operating oil, and check changes in performance and malfunctions of the testers. Detailed changes were observed for an extensive period. As a result, twice the service life compared to conventional operating oil was confirmed and the new operating oil was used for all testers. This allowed less need to change oil and the amount of waste oil for fiscal 2009 dropped by half compared to the previous year at 7800ℓ and we were also able to save 3% in power consumption. In the future, we would like to examine the reuse of operating oil to aim at 0 waste oil for further consideration of the environment.

Environmentally Friendly Product Development

Rare metal recycling

Drum mixer

Currently, various rare metals are being used in compact electronic devices such as cellular phones and personal computers. These products that become unneeded, however, are disposed of as generate waste and are not reused. There is a growing anticipation for the recovery of these rare metals.

To simply describe the recovery work of rare metals, collected compact electronic devices are shredded to tiny bits, added with chemicals in each process for chemical separation and each type of rare metal is then extracted.



Drum mixer used to extract rare metals

During this work, a drum mixer is used in each process of chemical mixing and cleaning. The drum mixer was adopted due to its simple and rigid structure, and little power consumption. The material of the drum is selected according to the characteristics of each chemical especially for the recovery of rare metals.

Technologies that support riding comfort and high efficiency

KEEPS: Electronically-controlled vane pump for power steering

During this age where the entire world is focusing on the environment, there is also rapid change in steering to energy-saving products. As a part of such age, we developed KEEPS that realizes both the steering feel that can only be realized by hydraulics and energy-saving features. This pump has been adopted by a major automobile manufacturer in Europe and the production has started at a plant in Spain from November 2009.



This pump is expected to be adopted in energy-saving steering systems such as large-size vehicles, SUV's and trucks that are difficult in applying EPS.

acclaimed highly by specialists and general public at test drives for its superb riding comfort and handling.



CVT vane pump for light and compact vehicles

Our CVT vane pump for light vehicles was adopted by a major CVT manufacturer and mass production was started in September 2009. This is a new product for light and compact vehicles that improves the existing CVT pump structure superior in efficiency, silence and reliability that has been designed for medium-size vehicles and sold more than 4.5 million units.

The cover section of this product has been changed from the cast-iron design to aluminum die-cast for 32% lighter weight for major contribution to energy saving and lighter weight of the CVT unit.



Electronically controlled power steering system

This is a steering system equipped with an electronically-controlled assist motor instead of a hydraulic actuator to reduce needed steering power.



The assist power of the motor is controlled according to the steering power of the driver to realize optimal steering with the needed amount of assistance at the needed time.

This is a product newly developed for vehicles with medium to large engine displacement. While there is growing concern related to environmental issues, the use of EPS will increase for medium to large-size vehicles in the future and the widespread of EPS is expected to accelerate even further.

Mass production of HARMOFREQ (Frequency dependent shock absorber)

A shock absorber that changes damping force according to the input vibration frequency was developed.

The compact structure, when compared to conventional products, and the simple mechanism of the shock absorber have made it a groundbreaking product that realizes both stable operability and luxurious riding comfort. Mass production began in October 2009 and the product has been

KYB makes presentation at the WTC IV Technical Exhibition

<at Kyoto International Conference Center / the 4th World Tribology Congress>

The World Tribology Congress is the largest event in the field of tribology that gathers engineers and researchers once every 4 years from around the world. The event was held for the first time in Asia in September 2009. At the technology exhibition, we introduced a front fork coated with DLC (Diamond-Like Carbon). DLC coating is a surface-treatment technology superior in low friction, bake tolerance and wear tolerance, and is one of the most talked about technologies in the field of tribology. With such features as energy-saving (low friction), longer service life (low wear), and lighter and more compact design (high-pressure design and use of light-weight materials), the technology is expected to be used widely in environmentally-friendly products. At KYB, we have adopted this self-manufacturing technology in products from the early stages. We will continue to make great contributions to the protection of the environment such as the cutback of substances with environmental impact using ecologically friendly carbon.



We are devoted in tackling issues to reduce environmental impact along with products that are safe and worry-free by considering the product cycle and stages where products are used at the time of development/design.

Technologies that are kind to people, and bring safety and comfort

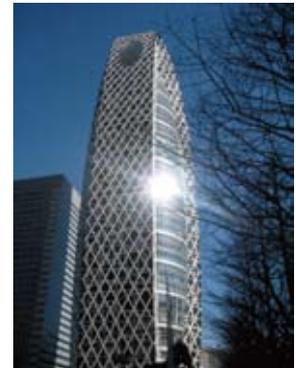
Environmental measures and oil dampers

1. Establishing interior comfort using oil dampers

Since oil dampers are mechanical devices, they: 1) have little temperature dependency, 2) are compact yet with a large capacity, 3) are applicable in all sorts of performances, and 4) can be used to absorb a wide variety of vibrations ranging from small vibrations to large earthquakes. Due to such characteristics, they have been used in many buildings as the trump card of earthquake measures. Further using these characteristics, there have recently been many cases using oil dampers as environmental measures. Oil dampers are now being applied to suppress environmental vibrations caused by wind as they are effective even in minute vibrations. Swinging of buildings caused by wind causes anxiety and discomfort much like when one is seasick. Although we have products called active mass dampers (AMD) and tuned mass dampers (TMD) to cope with these unpleasant shaking caused by wind, majority of the shaking caused by wind can be suppressed with vibration-control oil dampers by improving the damping characteristics of minute vibrations. In this case, the accuracy must be improved by taking into consideration the inline orifice characteristics and frictional characteristics during the performance design other than the design of valves. Fig. 1 shows a comparative example of analysis/experiment of oil dampers installed in a 150m class high-rise building. The result of the analysis and experiment match very well and shows that the oil dampers are functioning effectively even with minute vibrations of 0.1mm or less.



Symbol Tower in Takamatsu



Tokyo Mode Gakuen and 110 units of 2000kN vibration control oil dampers

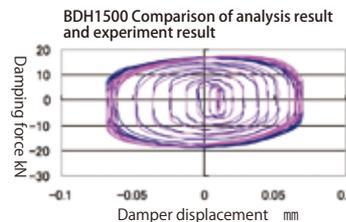
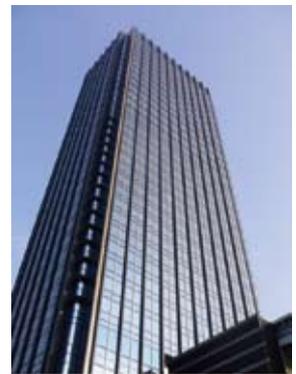


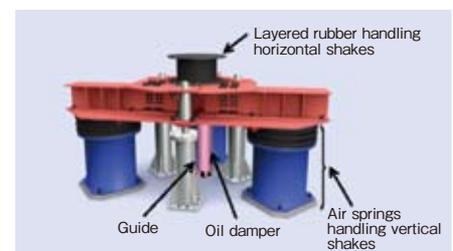
Fig. 1 Minute vibration characteristics



Planned building in 2-chome, Koraku

2. 3D seismic isolation

Seismic isolators divert tremors caused by earthquakes using layered rubber and oil dampers and prevent building from shaking. The device was put into actual practice from around 1980 and is currently used widely from hospitals to public buildings. Compared to the conventional 2D seismic isolators that isolates only in the horizontal direction, we have jointly-developed a 3D seismic isolator that can also isolate in the vertical direction with Kozo Keikaku Engineering Inc. and Shimizu Corporation. The first building adopting this device is being constructed in Asagaya, Suginami-ku, Tokyo



Mechanism of the shoe section of the 3D seismic isolator

Riding comfort and high-efficiency technologies

<<< Won the Japanese Patent Office Commissioner Award >>>

Semi-active system with improved riding comfort installed in all cars of the Shinkansen N700 series

The high-performance CPU of the semi-active control device now allows fine control and reduced vibrations and internal noise. This system installed in all cars of the N700 provides even more pleasant riding comfort and realizes a safe and worry-free trip. Use of the Tokaido Shinkansen N700 with high transportation efficiency by people seeking pleasant transportation space will also lead to ecological activities.

Received the Japanese Patent Office Commissioner Award during the 2009 National Commendation for Invention.



Social Support Activities

Monetary donations to earthquake victims (Indonesia)

An earthquake of magnitude 7.6 struck the offshore of Padang in Sumatra, Indonesia on September 30, 2009. The earthquake caused major disaster in the city of Padang on the west of Sumatra near the earthquake center, resulting in many of the building totally or partially collapsing and deaths of 1,195 people (11 family homes of P.T. KYBI employees were also damaged). P.T. KYBI made monetary donations totaling about 100 million rupiah (about 1 million yen) for local victims directly to the local schools via Astra Otoparts, a local partner.



Family home of employee that was victimized

Disaster support in the Republic of Haiti

Fund-raising activities were also held on a company-wide scale for the major earthquake that hit the Republic of Haiti on January 12. In the same way as storm disaster relief, the collected funds were given to the local community as monetary donation through the Japanese Red Cross Society.



We sincerely hope for the early recovery of these disaster areas.

VOICE

Fukaya Kawamotokita Elementary class 3-1

Local elementary school students tour the Kumagaya Plant on November 17



We received many pleasant letters:

"I was excited when I entered the plant but was surprised to see so many machines I've never seen."

"I now know how concrete mixer trucks are made."

"I didn't know concrete mixer trucks are not just delivered all over Japan but foreign countries as well."

"It was surprising to see the machine move and lift 1.5 tons."

Supporting 9 chair ski athletes at the Vancouver Paralympics

The event on February 16 was full of excitement as the group of 95 individuals was sent off. The former Prime Minister Hatoyama also came to give words of encouragement to the supporting athletes. The Japanese athletes met our expectations and did extremely well by bringing home the gold medal and bronze medal in the alpine ski (chair ski) competition. We will continue to support their activities.



Words of encouragement by the former Prime Minister Hatoyama

INSIDE

Kazuo Hosokawa

General Affairs Dept.

16,854 stamps collected

Since September 2008, we have been collecting used stamps to send to nursing homes. Many cooperated after becoming aware that even used stamps have value. Some even collected them at homes and many stamps were sent from plants and affiliated companies. The activity that was started by the Head Office and Sales is now becoming a company-wide effort.



We collected 16,854 stamps in fiscal 2009. Used stamps have very little value but they are sold in the world market as operating funds of these facilities.

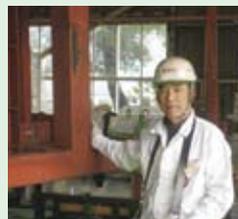
INSIDE

Toshihiro Matsuda

Kayaba System Machinery Co., Ltd. Mie Plant

Complete safety of crane and sling operations

The products that are manufactured at our workplace are made from aluminum, stainless steel and steel and vary widely in shapes as well. Weight and balance also vary and we take special caution when inverting the products. A single mistake can lead to serious accidents or damage to a valuable product. In order to prevent accidents, we carefully select and

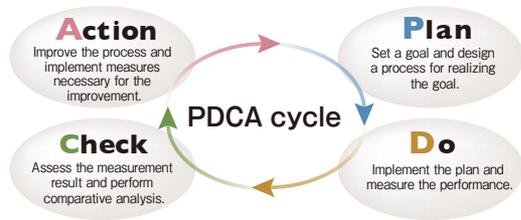


check hanging devices, hold thorough meetings with cooperating workers in advance, grasp the details of work and predict any danger. Although there have not been any accidents in my extensive career, there were many close encounters and startling moments caused by habituation. Taking this award as an opportunity, I would like to fully inform junior coworkers on the safety during sling and crane operations to create a workplace that is free of injury, energetic and motivating.

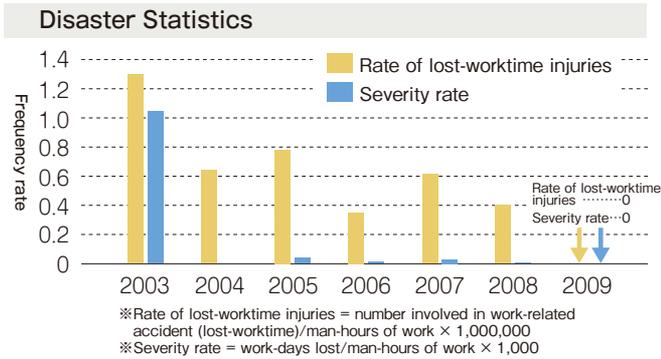
Safety and Health Activities

Occupational Safety & Health Management System (OSHMS)

We have started a company-wide implementation of OSHMS from 2003 to prevent occupational accidents and to improve the occupational safety and health standards. OSHMS reduces risks at the workplace by repeatedly implementing the PDCA cycle based on the assessment of factors that are dangerous or harmful. In other words, we aim to improve the safety and health standards of the workplace by reducing risks. This management method to further reduce risks from the conventional safety management is being actively practiced by many offices.



At KYB, the frequency of accidents has increased heavily from 2002 to 2003. Taking into consideration the severity of circumstances, we have decided to implement OSHMS (Occupational Safety & Health Management System) in 2003 for the start activities at all plants. As a result, both the frequency rate and severity rate have started to drop from 2004. We will continue to make efforts by aiming an accident-free workplace.



Acquisition of OHSAS 18001:2007 certification

KMSB (Malaysia)

KYB-UMW Malaysia Sdn Bhd established an Occupational Safety, Health and Environment Management System with the aim to eliminate or minimize the risk to employees and other parties who are exposed to OSHE risks during operation. With the commitment and cooperation from all KYB-UMW Malaysia Sdn Bhd staff members, we have finally acquired the OHSAS 18001:2007 certification on December 2009. Now that this certification is acquired, we will aim for better occupational safety, health and environmental throughout the company.



Members of the OSHEMS Committee

INSIDE

Ms. PRAPATSARA

Safety and health administrator at KST (Thailand)



For a safe and pleasant workplace

The plant is patrolled every day so that all employees are able to work in safe and healthy environment.

Priority items are:

1. About establishing safety of employees
 - ① Inspect fire extinguishers and emergency lights to make sure safety devices are working properly in the case of an accident
 - ② Make sure employees are wearing protective gear such as goggles, safety shoes, etc.
 - ③ Check for any damaged electrical appliances
2. Check concerning pleasant working environment of employees
 - ① Status of lighting fixtures
 - ② Room temperature (especially the fan speed of air conditioners)

Other than the above, detailed inspections are made based on the safety check sheet. Such inspections are made to prevent in advance labor-related accidents and to improve the working environment. We are also improving safety and health management through review based on the results of the daily patrol.

INSIDE

Nurse Kanako Tasaki

Personnel Administration Div.

Mental health All employee interview After the 3rd interview

Although each interview is only about 30 minutes, I wish for employees to familiarize themselves in terms of both mental and physical for the management of their own health. It is extremely important to look back and see how one spent his/her time when feeling good or bad. Your own experiences can be a good reference for controlling future stress. The questionnaire filled in by employees not only measure the degree of individual stress but are used to compare to stress level among departments. More consultations are being received now that employees are more familiar about the consultation windows of persons in charge. I hope to contribute to a better and more energetic workplace for each individual.



Environmental Preservation and Safety Activities of Overseas Production Plants

Overseas sites are also actively involved in the acquisition of ISO 14001 certification, environmental preservation, waste reduction and safety measures just like the plants in Japan.

KMCZ (Czech Republic)

Establishing safety of employees for the line handling chromic acids

In order to secure the safety of employees from splattering of chromic solutions for the line handling chromic acid, a special transparent cover covering the pipes and pump were adopted. Furthermore, 2 sensors were added to quickly find leakage of chrome onto the upper plastic cover. This safety measure is highly effective and has no impact on the productivity or quality.



Special transparent cover

KMT (Taiwan)

Energy saving at substation

Since the capacity of the current substation is insufficient, the supply of power falls below the demand. As a result, the power factor (electricity that becomes energy for the input power) was low at 88%.

A condenser and power meter were added to improve the power factor to 99% and cutback on losses.



Power meter



Condenser



Primary-side active power: 99%

KIMZ (China)

Safety inspections that do not miss even the finest details

I am Lilv of the Safety Group of General Affairs Department. As a safety employee of the company, I inspect dangerous areas within the plant on a daily basis. Using my experience as the Group Leader of the Manufacturing Department, I take special care in maintaining the safety of on-site workers especially in areas where fire and electricity are used.



Safety inspection

Daily water-quality inspection of wastewater

In terms of the environment, the quality of wastewater is inspected daily. Data is taken everyday to observe trends and prevent water exceeding the standard value from being discharged to the outside. Inhouse-treated wastewater is discharged through a breeding pond of goldfish. In terms of safety, company-wide safety inspection participated by all the department leaders under G.M. and the Safety Group of the General Affairs Department is held

monthly. There are 70 to 80 items indicated every month and the department responsible must take measures by the end of the month and the results are checked by the indicating persons themselves.



Treatment water is discharged through a breeding pond of goldfish



Monthly safety inspection

TVC (Takako Vietnam)

Use of fluorescent lighting with little power consumption in productin lines

In the past, mercury lamps were used for the lighting of the manufacturing site. Although mercury lamps have a longer service life compared to fluorescent lighting, they consume about 10 times more of electricity. Furthermore, mercury lamps take time to brighten once the switch is



Before: Mercury lamp



After: Fluorescent lighting



Kim Dung, Takako Vietnam Plant

Acquisition Status of ISO 14001 Certification

Plant		Registered on	Plant		Registered on
Overseas bases	KSS(Spain)	Jun 2001	Overseas bases	PT.KYBI(Indonesia)	Nov 2004
	KYBSE(Spain)	Dec 2001		KMSB(Malaysia)	Apr 2005
	KMT(Taiwan)	Aug 2001		KBFA(Brazil)	Mar 2007
	KYBT(Thailand)	Jul 2003		KIMZ(China)	Jun 2009
	KMNA(U.S.A.)	May 2002		TVC(Vietnam)	Jan 2007
	KST(Thailand)	Aug 2003		KMCZ(Czech)	Aug 2009

Europe



(KMCZ)

1. KYB Manufacturing Czech, s.r.o.

Location: Pardubice, Czech Republic
Main products: shock absorbers, etc.



(KYBSE)

2. KYB Suspensions Europe, S.A.

Location: Navarra, Spain
Main products: shock absorbers, etc.



(KSS)

3. KYB Steering Spain, S.A.

Location: Navarra, Spain
Main products: vane pumps, etc.



(KAMS)

4. KYB Advanced Manufacturing Spain, S.A.

Location: Navarra, Spain
Main products: shock absorbers for automobiles, manufacturing and sales of struts and suspension systems

Asia



(KIMZ)

5. KYB Industrial Machinery (Zhenjiang) Ltd.

Location: Jiangsu, China
Main products: shock absorbers, etc



(KHIZ)

6. KYB Hydraulics Industry (Zhenjiang) Ltd.

Location: Jiangsu, China
Main products: hydraulic cylinders, etc.

turned on and cannot be turned off during break hours.

Fluorescent lighting with little power consumption was then installed in the production lines and switches to turn on and off lights were installed for each line so that lights can be turned off during breaks and for lines that are not operating. As a result, the monthly cost of electricity for lighting dropped by 30%.

Currently, we are actively carrying forward energy-saving activities that lower the pressure of air compressors.

KYBT (Thailand)

Energy saving/CO2 reduction

The plating lines C and D of KYBT's rod plant were each connected directly with a cooling tower. Due to the spare capacity, the piping was changed so that 1 cooling tower supplies to 2 plating devices. As a result, one of the cooling towers was stopped. By limiting the operation to a single cooling tower, we established a plan to reduce the amount of water and electricity used, and the amount of CO2 discharged. We are now able to save energy and cutback on CO2 emissions by 50%.



KMSB (Malaysia)

Employee safety training

Safety is clearly a vital element for all industries. When

it comes to safety, there is simply no room for compromise and because of that KYB-UMW Malaysia Sdn Bhd provides their employees with knowledge of fire hazard and basic first aid. These trainings also include practical training to the employees.

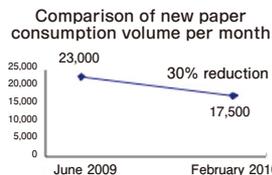


Fire fighting First aid training CPR training

KBFA (Brazil)

Printing on used paper for internal documents

KBFA has adopted several activities to optimize resources and minimize environment impacts. One of them was started in June 2009 by the IT and Environment staff. Basically, it suggested that internal documents be printed or copied on used paper. In order to carry out this task, specific printers and copying machine were only supplied with used paper. As a result, more employees became aware of environment preservation, and we were able to cutback on the consumption of new paper by 30%.



Valdecir Nazarkevics, Environmental Safety Fernando Azevedo, IT staff

Front side of used copy paper (Marked with an "X")



(KWT)

7. Wuxi KYB Top Absorber Co., Ltd.

Location: Jiangsu, China
Main products: manufacturing, sales, and repair of front forks for motorcycles, rear cushion units, and their structural components



(KLRC)

8. Changzhou KYB Leadrun Vibration Reduction Technology Co., Ltd.

Location: Jiangsu, China
Main products: manufacturing, sales and servicing of railroad devices such as railroad car dampers (axis, horizontal movement), yaw, between cars), leveling valves, differential pressure regulating valve, etc.



(KMT)

9. KYB Manufacturing Taiwan Co., Ltd.

Location: Taoyuan, Taiwan
Main products: shock absorbers, front forks, etc.



(KYBT)

10. KYB (Thailand) Co., Ltd.

Location: Chonburi, Thailand
Main products: shock absorbers, front forks, etc.



(KST)

11. KYB Steering (Thailand) Co., Ltd.

Location: Chonburi, Thailand
Main products: vane pumps, etc.



(KMOV)

12. KYB Manufacturing Vietnam Co., Ltd.

Location: Hanoi, Vietnam
Main products: front forks, etc.



(TVC)

13. TAKAKO Vietnam Co., Ltd.

Location: Ho Chi Minh, Vietnam
Main products: hydraulic device parts, etc.



(KMSB) (KMSB)

14. KYB-UMW Malaysia Sdn. Bhd. KYB-UMW Steering Malaysia Sdn. Bhd.

Location: Selangor, Malaysia
Main products: rear cushions, front forks, shock absorbers, vane pumps, etc.



(P.T.KYBI)

15. P.T. Kayaba Indonesia

Location: Bekasi, Indonesia
Main products: front forks, rear cushions, shock absorbers



(KMNA)

16. KYB Manufacturing North America, Inc.

Location: Indiana, U.S.A.
Main products: shock absorbers, etc.



(TSW)

17. TSW products Co., Inc.

Location: Kansas, U.S.A.
Main products: hydraulic device parts, etc.

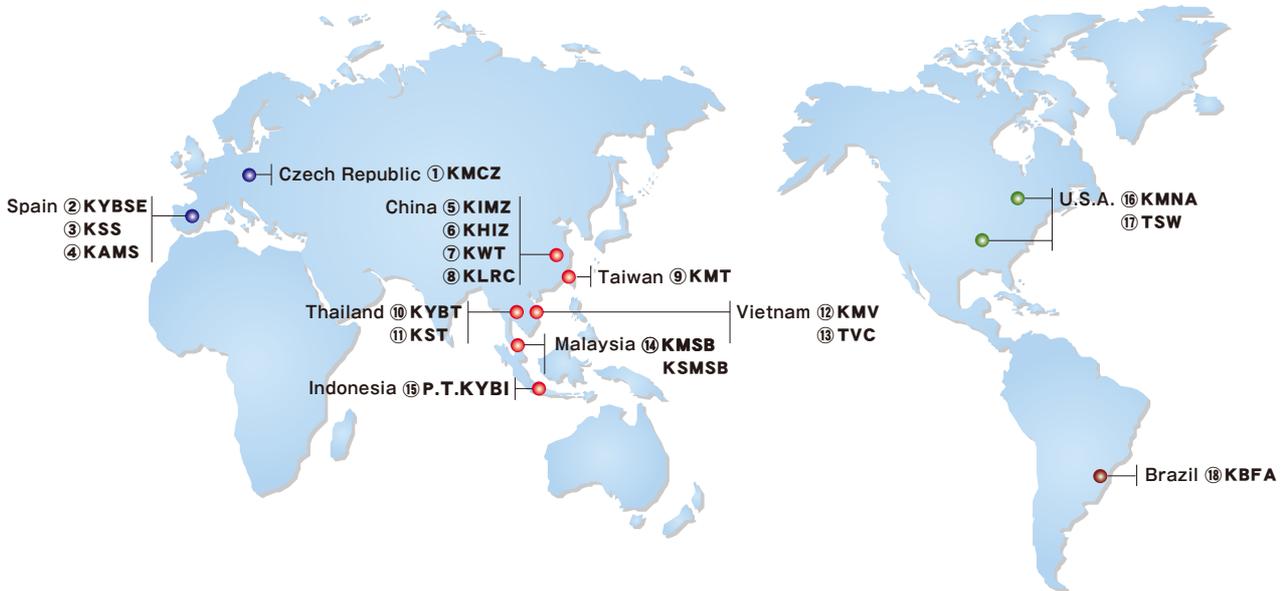


(KBFA)

18. KYB do Brasil Fabricante de Autopeças Ltda.

Location: Parana, Brazil
Main products: shock absorbers, etc.

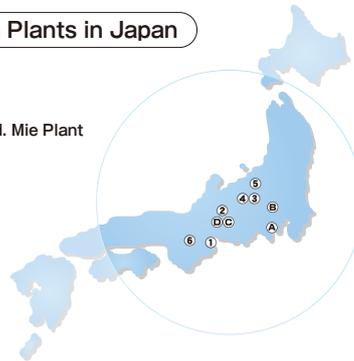
Overseas Production Plants



Production Plants in Japan

- Ⓐ Sagami Plant
- Ⓑ Kumagaya Plant
- Ⓒ Gifu North Plant
- Ⓓ Gifu South Plant

- Affiliated companies
- ① Kayaba System Machinery Co.,Ltd. Mie Plant
 - ② KYB Kanayama Co.,Ltd.
 - ③ Yanagisawa Seiki MFG Co.,Ltd.
 - ④ KYB Cadac Co.,Ltd.
 - ⑤ KYB Trondule Co.,Ltd.
 - ⑥ TAKAKO Industries, Inc.



KYB

Our Precision, Your Advantage



www.kyb.co.jp

Visit our website for more information including the Environmental/Social Report.

Please direct inquiries regarding our "involvements concerning the environment" to the Environment & Safety Control Department
KYB Corporation TEL: +81 (3) 3435-6465 FAX: +81 (3) 3436-6759

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