

# 2006 Environmental & Social Report



**JTEKT**

Pursuing dreams through skill to bring you valuable technology

# C O N T E N T S

02 — Message from the President

03 — Corporate Philosophy

04 — Company Profile

05 — Corporate Governance

06 — Compliance

## Environmental Performance

### Environmental Management

07 — Environmental Promotion Framework

08 — Activities in Fiscal Year 2005

09 — Environmental Audits

10 — Environmental Accounting

11 — Environmental Education and Awareness

12 — Efforts to Reduce Environmental Risk

### Environmental Design

13 — Efforts at the Development and Design Stages

### Production & Logistics

17 — The Environmental Burden of our Business Activities

19 — Global Warming Prevention Measures

20 — Resource Conservation Activities

21 — Activities to Reduce Waste Products

22 — Managing and Reducing Chemical Substances

23 — Promoting Streamlining in Logistics / Reduction of Water Consumption

## Social Performance

24 — For Our Customers

25 — Relation with Local Communities

26 — Together with Shareholders and Investors

27 — Together with Suppliers

28 — Relationship with Employees

## Activities of Affiliated Companies

31 — Koyo Machine Industries Co., Ltd.

33 — Toyooki Kogyo Co., Ltd.

35 — Koyo Sealing Techno Co., Ltd.

37 — CNK Co., Ltd.

39 — Koyo Thermo Systems Co., Ltd.

41 — Koyo Electronics Industries Co., Ltd.

43 — Daibea Co., Ltd.

45 — Utsunomiya Kiki Co., Ltd.

47 — HOUKO Co., Ltd.

49 — Toyoda Van Moppes Ltd.

## Activities of Overseas Affiliated Companies

51 — JTEKT Automotive Tennessee-Vonore Co.

55 — Koyo Manufacturing (Thailand) Co., Ltd.

## Environmental Data

59 — Environmental Data by Location

### “Environmental & Social Report 2006”

#### : Reporting Period and Organizations Covered

■ Reporting period

FY 2005 (April 2005 to March 2006)

★ This report includes items that took place outside of this period.

■ Scope and organizations covered in this report

Environmental conservation activities carried out by JTEKT Corporation

★ Activities before January 2006 that are covered are those of Koyo Seiko Co., Ltd. and Toyoda Machine Works, Ltd.

★ This report includes the performance of our affiliates as well.

#### Guideline Used as Reference

The Ministry of the Environment's  
“Environmental Report Guideline (2003 edition)”

#### About the Cover

Koyo Seiko and Toyoda Machine Works flow come together to form JTEKT, whose industrial technology changes the environment on a global scale. It is a design that expresses our corporate ideals.

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## Message from the President

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On January 1, 2006, Koyo Seiko Co., Ltd. and Toyoda Machine Works, Ltd. merged to form JTEKT Corporation. This new company is global in nature and possesses basic manufacturing technology cultivated in the bearing and machine tool industries. We are striving to contribute not only to the automobile industry but to industry in general in such fields as steelmaking, aircraft, railways, and power generation and to be a company that has the strong trust of customers and society.

Because the merging of the two companies has led to increased involvement with our customers and local society, we believe that our social responsibility has increased. The corporate philosophy of our new company is "Seeking to contribute to the happiness of people and the abundance of society through product manufacturing that wins the trust of society." We are striving to act with a strong sense of corporate ethics and fulfill our social responsibilities as a corporate citizen trusted by international society.

Regarding environmental conservation, we deeply recognize that environmental protection on a global scale is an important duty of corporations, and through voluntary and proactive environmental conservation activities carried out by the entire JTEKT group, we are working to achieve harmony between humanity, society, and the global environment. Also, in view of the trend toward global warming—a problem affecting everyone in the world—we are striving to improve productivity in our manufacturing operations and develop energy-saving, resource-conserving products such as electric power steering in order to contribute to the creation of a sustainable society.

We will continue to listen to the voices of our shareholders and other concerned parties in order to deepen mutual understanding as we carry out business activities. It is my hope that this environmental / social responsibility report will have a positive effect on enhancing this understanding. I look forward to hearing your frank and honest opinions regarding this report.

September 2006



Global Environmental  
Conservation Committee Chairman  
President

**Kohshi Yoshida**



Director of Environmental  
Management  
Senior Executive Director

**Nobuyoshi Hisada**

# Corporate Philosophy

We deeply recognize that environmental protection on a global scale is an important duty of corporations, and through voluntary and proactive environmental conservation activities, we are working to achieve harmony between humanity, society, and the global environment as well as to contribute to the creation of a sustainable society.

## ■ Corporate Purpose

Seek to contribute to the happiness of people and the abundance of society through product manufacturing that wins the trust of society.

## ■ Management Stance

1. Create new value and provide society with joy and inspiration on a broad scale.
2. Aim to growth in harmony with society through innovative operations on a global basis.
3. Create a bright, energetic corporate atmosphere based on respect for people.
4. Strive toward the realization of safer, more abundant living circumstances.

## ■ Corporate Message

**Value & Technology**  
Seeking our future through skill and delivering value-added technology to the customer

Through the development, manufacture, and sale of a wide variety of products in the fields of steering systems, driveline components, bearings, and machine tools, we are striving to live up to society's trust and secure a position as a respected global corporation that can be counted on and at the same time to contribute to the happiness of humanity and the creation of an abundant society.

## ■ Corporate Activities Standard

1. Follow proper business practices and engage in fair, transparent, and free competition based on a respect for the law.
2. Derive concepts from the market, provide the best in quality, technology and service, and obtain the satisfaction and trust of customers.
3. Carry out global environmental improvement activities proactively and aggressively.
4. Respect the individuality of employees, create workplaces that are motivating to employees and enable them to fulfill their potential, and strive to provide each with abundant living circumstances.
5. Maintain close communication not only with shareholders but also with society and disclose corporate information properly.
6. As a good corporate citizen, aggressively pursue activities that contribute to society.
7. Follow international rules, observe the laws, cultures and customs of countries and regions where we have operations, and seek to contribute to their growth.

As a "Monozukuri (manufacturing) corporation," we seek world-class levels of quality and safety and will continue to pursue new challenges in the future. Society has started to demand more corporate social responsibility. Because of this, the "Corporate Actions / Risk Management Committee" established Employee Conduct Guidelines, a document that sets out guidelines in an easy-to-understand format so that JTEKT's corporate philosophy can be practiced and the ideal state of our company realized.

## ■ Company Name and Logo Concept

The "J" in "JTEKT" stands for "Joint" (i.e. Koyo and Toyoda), "Joy," and "Japan," and the last part is derived from *tekon*, an ancient Greek word for "a person with outstanding skill." The company logo expresses our corporate stance of cutting-edge technology (TEKT) coming from Japan (J) that will soar into the future.

**[Accent on the "E"]**  
The accent across the "E" represents the field of Electronic control technology, the Emotional mindset of pursuing new challenges worldwide with strong R&D capability and seeking aggressively to contribute to Environmental conservation.

**[Color]**  
The black color is "India ink," a traditional color in Japan. The color of the accent is red, indicating the passion with which we will be active on the global stage.

**[What "KT" expresses]**  
The "K" symbolizes Koyo Seiko **Koyo**, and the "T" symbolizes Toyoda Machine Works. **Toyoda**

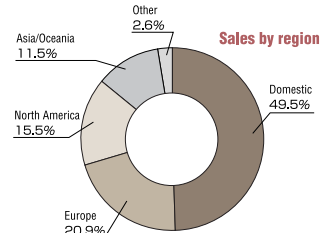
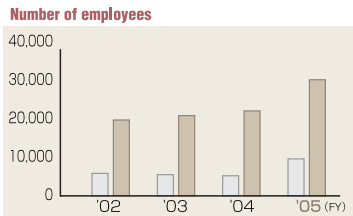
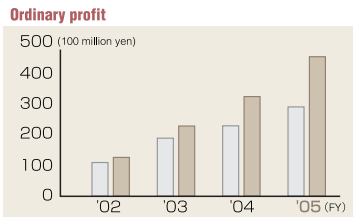
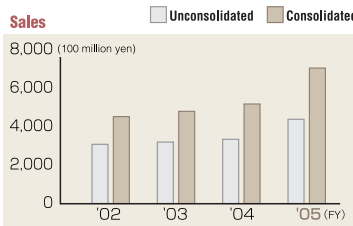
**[What the font style expresses]**  
The bold font expresses a sense of high quality, reliability, stable management, and industry - supporting core technology. The projections at the ends of the letters express intelligence and attention to detail.



# Company Profile

<b>Company name:</b>	JTEKT Corporation
<b>Head office:</b>	5-8, Minamisemba 3-chome, Chuo-ku, Osaka, 542-8502 Japan
<b>Established:</b>	January 1, 2006 from the merger of Koyo Seiko Co., Ltd. and Toyoda Machine Works, Ltd.
<b>President:</b>	Kohshi Yoshida
<b>Capital:</b>	35,800 million yen (as of March 31, 2006)
<b>Number of employees:</b>	9,882 (as of the end of March 2005: nonconsolidated)
<b>Sales</b>	Year ending March 2006
	724.3 billion yen (consolidated) 427.2 billion yen (nonconsolidated)
<b>Ordinary profit</b>	Year ending March 2006
	46.8 billion yen (consolidated) 28.0 billion yen (nonconsolidated)
<b>Consolidated subsidiaries:</b>	98 (34 in Japan, 64 overseas)

## Sales, Ordinary Profit, and Number of Employees



(Note) JTEKT Corporation started operations on January 1, 2006 with the merger of Koyo Seiko and Toyoda Machine Works. Thus the results shown are the simple sum of Koyo Seiko sales from January through December 2005 and JTEKT sales from January through March 2006. Result through FY'04 are those of Koyo Seiko.

## Domestic Plants

- Kokubu Plant** 24-1 Kokubu Higanjo-cho, Kashiwara, Osaka Pref.
- Kariya Plant** 1-1 Asahi-machi, Kariya 448-8652, Aichi Pref.
- Tokushima Plant** 1 Okuno-Aza-Yamahata, Aizumi-cho, Itano-gun, Tokushima Pref. 771-1294
- Okazaki Plant** 8 Aza-Kiriyama, Ichiba-machi, Okazaki, Aichi Pref.

- Tokyo Plant** 3-5-2 Sakae-machi, Hamura, Tokyo
- Kagawa Plant** 515-1 Umayado, Higashi-kagawa, Kagawa Pref.
- Nara Plant** 333-2 Toichi-cho, Kashihara, Nara Pref.
- Higashi-Kariya Plant** 1-7 Kitajizouyama, Noda-cho, Kariya, Aichi Pref.

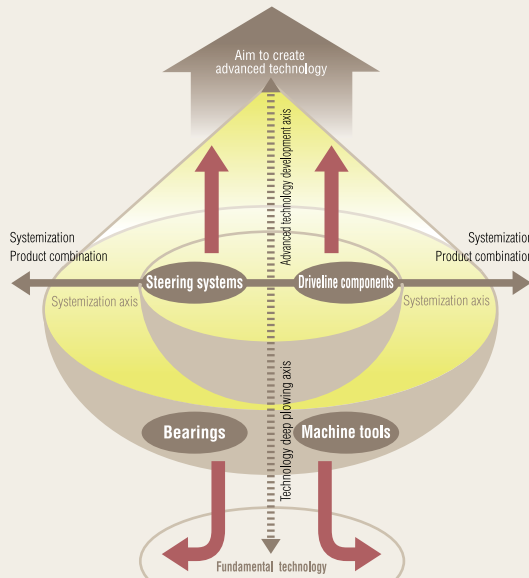
- Toyohashi Plant** 5-61 Akemi-cho, Toyohashi, Aichi Pref.
- Tadomisaki Plant** 1-5-3 Tado-cho, Takahama, Aichi Pref.
- Hanada Plant** 1-10 Aza-Fukayama, Shinfukuji-cho, Okazaki, Aichi Pref.
- Kameyama Plant** 805-18 Aza-sakainoo, Taikouji-cho, Kameyama, Mie Pref.

## Main Products

### Steering systems



### Bearings



### Driveline components

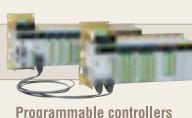


### Machine tools



## Other products

### Mechatronics



### Sensors



### Residential devices



# Corporate Governance

## ■ Fulfilling Social Responsibility

In order to achieve continuous improvement of company value and fulfill CSR expectations as a trusted corporate citizen of the international community, we are endeavoring to attain management transparency for the sake of shareholders and other concerned parties.

## ■ Achieving Rapid Accurate Decision-making

The primary decision-making meetings are the general meeting of shareholders and the board meetings. In addition, to achieve swift decision-making and efficient execution of operation, we have adopted an executive officer system whose role is to focus on operations.

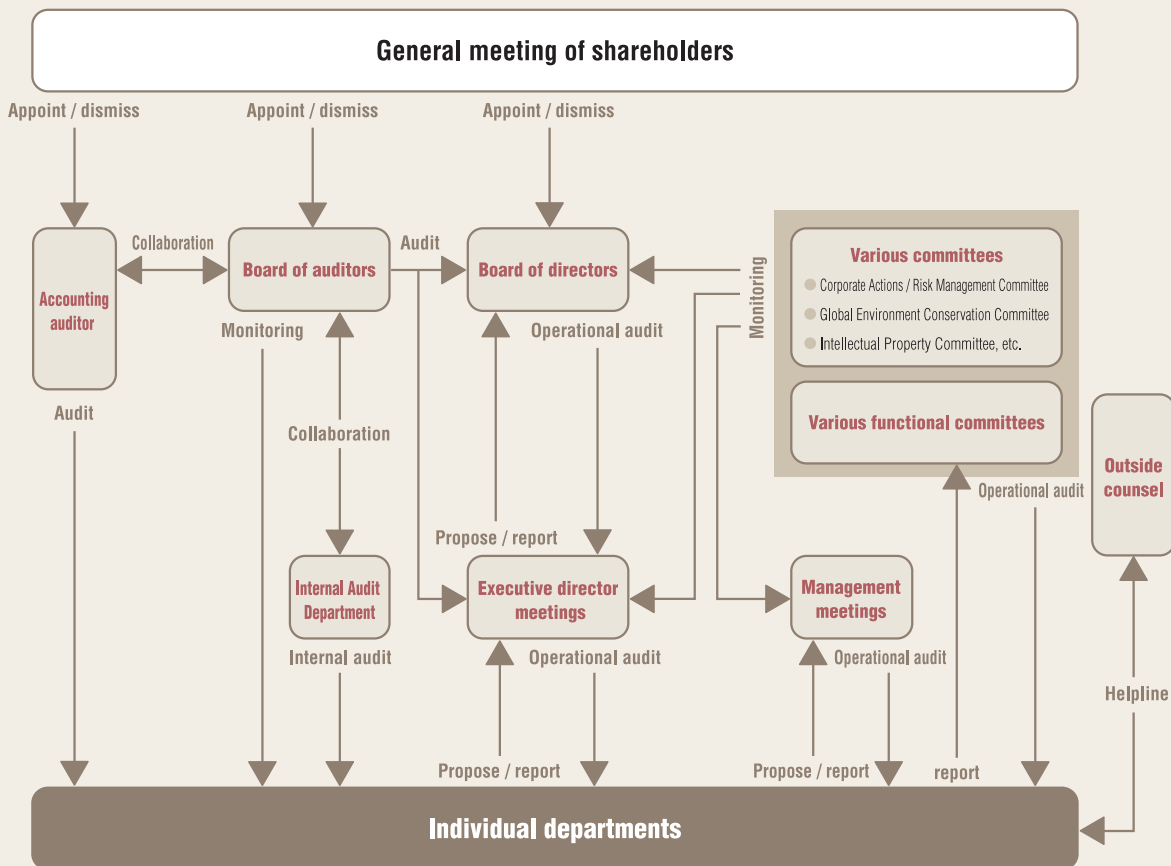
Specialized, full discussions are carried out in the executive director meetings and various committee meetings to enable fast, accurate decision-making. To share information and confirm progress of operations among directors and

managing officers, management committees are held with the participation of directors, auditors and managing officers.

The board of auditors exists as an auditing organization, and external auditors make up three of the five auditors.

An Internal Audit Department has been established to audit internal operations and support the board of auditors.

## ■ Structure of Corporate Governance



# Compliance

We position compliance with laws, corporate ethics, and regulations as a major responsibility of management. Compliance and risk management are invaluable to being a company that has the trust and high expectations of society, and we are continually striving for improvement in these areas.

## ■ Establishment of Corporate Actions / Risk Management Committee

### Establishment of committee

“Corporate Actions / Risk Management Committee” was established in March this year and been discussing various important issues related to compliance and risk management.

## ■ Establishment of “Employee Conduct Guidelines”

### Formation of guidelines

Following discussions by the Corporate Actions / Risk Management Committee, the Employee Conduct Guidelines were established in April this year. This is an easy-to-read collection of policies and principles that guides employees when they face challenges on the job as they strive to implement JTEKT’s corporate philosophy and achieve company goals.

### Content of Employee Conduct Guidelines

- Chapter 1 Guidelines related to employee's relationship with the company
- Chapter 2 Guidelines related to employee's participation in company activities
- Chapter 3 Guidelines related to employee's relationship with society
- Chapter 4 Guidelines related to employee's personal activities

## ■ Receiving assistance regarding corporate ethics

An “Employee Opinion Box” and “Corporate Ethics Helpline” have been set up to enable employee's seek answers to questions and raise issues regarding compliance issues.

### “Employee Opinion Box”

This is a means by which employees can receive consultation when they are having doubts about the lawfulness of their own activities or other activities being carried out in the company. Messages can be dropped in a box or sent by company e-mail.

### “Helpline”

Employees unable to consult with their supervisor or specialist department for various reasons can utilize a helpline set up for consultation with outside lawyers. The lawyers provide advice and improvement proposals to JTEKT management as required, while keeping the employee's identity anonymous.

### Committee activities

A Risk Management WG” and “a Compliance WG” have been formed and carry out such tasks as implementing companywide the committee's decisions and policy and conducting audits.

### Distribution of “pocket version”

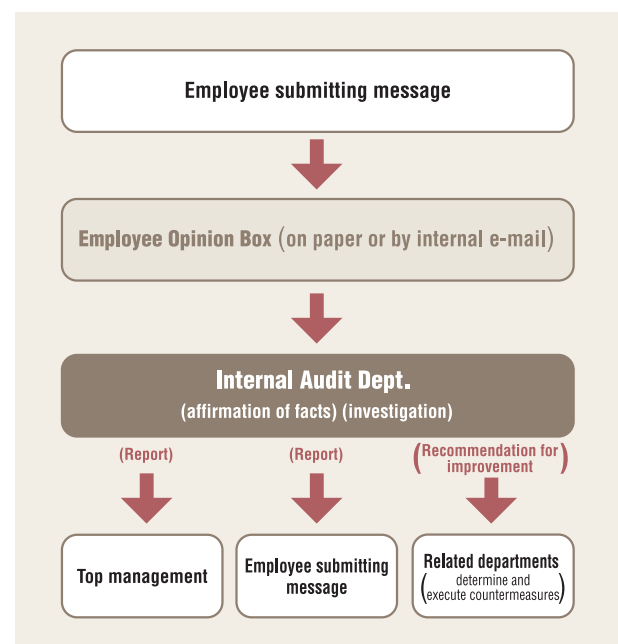
An easily carried “pocket version” of the Employee Conduct Guidelines has been distributed to all employees so that they can refer it handily in everyday life.

### Promoting training on compliance

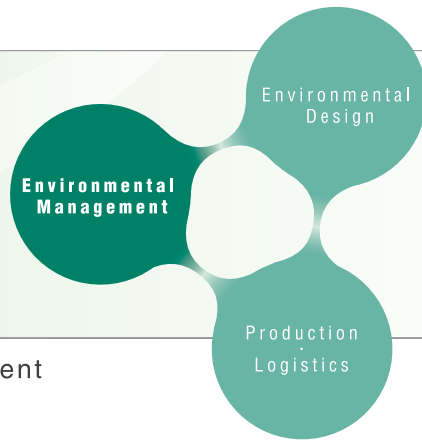
Training sessions have been held at all business sites with the aim of explaining the rational behind of the Corporate Philosophy, Corporate Activity Standards and Employee Conduct Guidelines and gaining acceptance thereof.



Compliance training at the Tokyo Plant



# Environmental Performance



## ■ Environmental Management

# Environmental Promotion Framework

The JTEKT Group regards environmental efforts as a primary management issue, and we are working not only to reduce the burden our production activities place on the environment but also to contribute to the conservation of the global environment through the development of environmentally friendly products. By doing this, we will meet our corporate social responsibilities and promote the realization of a sustainable society.

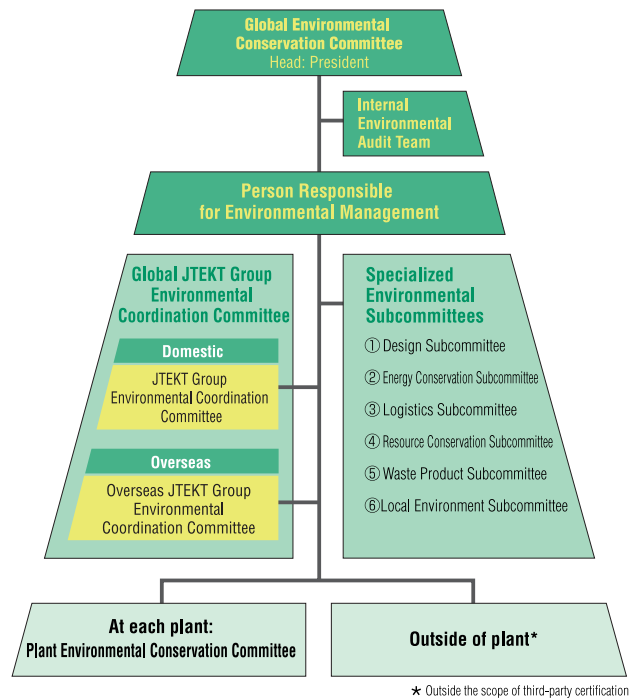
### ■ Centralized Management Framework with the Environmental Conservation Committee at the Center

We have established a Global Environmental Conservation Committee, chaired by our president, which discusses and decides companywide policies, targets, and measures concerning the environment, and periodically follows up on the progress of activities. In addition, to strengthen our Kaizen activities with respect to our various themes, we have established six specialized environmental subcommittees under the Global Environmental Conservation Committee.

Also, we have established a Plant Environmental Conservation Committee at each plant headed by the plant manager. Based on the policies and plans of the Global Environmental Conservation Committee, these committees promote concrete activities by each department and obtain results through these activities.

### ■ Promoting Global Environmental Management

Our group as a whole is promoting environmental conservation activities, and to meet our corporate social responsibilities, we have established a Global JTEKT Group Environmental Coordination Committee that works with affiliated companies. Also, as an effective way to promote environmental management, we are promoting ISO14001 certification. Of the 18 member companies of the JTEKT Group Environmental Coordination Committee, 13 have acquired certification.



## Environmental Policy

Our company has set out a companywide environmental policy in order to achieve harmony between our business activities and the environment, develop products that contribute to preserving the global environment, and extend efforts as a good corporate citizen toward environmental improvement of local communities.

Any person who works inside our plant grounds including external workers are notified of this policy, which we have also released publicly.

There are also some plants that have established environmental policies on their own based on the conditions at their plant and local conditions.

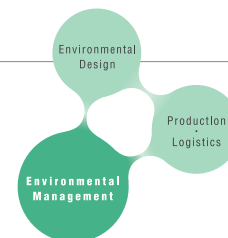
### ■ Environmental Policy

1. Voluntarily and aggressively carry out global environmental conservation activities both in Japan and abroad in all our business activities, products, and services based on a deep awareness that environmental protection on a global scale is an important mission of our company.
2. Maintain an environmental management system that pursues harmony between our business activities and the environment, strive continuously for improvements related to environmental issues, and seek the related cooperation of suppliers of raw materials, etc.
3. Comply with all environmental requirements pertaining to our business activities stipulated in laws, regulations, agreements, etc., and strive aggressively to prevent environmental pollution.
4. Contribute to global energy and resource conservation through accurately grasping technical needs related to global environmental conservation and developing and supplying products that meet such needs.
5. Raise the environmental awareness of all employees and pursue the following as important environmental management objectives in relation to all our business activities, products, and services.

- ① Reduction of CO2 emissions through efficient energy utilization
- ② Reduction of waste
- ③ Reduction of raw and consumable materials
- ④ Reduction of logistics-related CO2 emissions
- ⑤ Thorough implementation of chemical substance control and reduction of substances of environmental concern
- ⑥ Maintaining and improving community environments

6. Maintain an organized environmental conservation structure, clarify environmental conservation activity objectives and targets, conduct periodic reviews, and pursue environmental conservation activities based on the participation of all employees.
7. Maintain an awareness of the community surrounding each business site, maintain good communications with concerned government agencies and local residents, participate in community environmental improvement activities, and publicly disclose information on our environmental management activities as necessary.

Established on January 1, 2006



# Activities in Fiscal Year 2005

## Environmental Action Plan

Our company has established its "Fourth Environmental Action Plan" with a focus on 2010, has set out action policies and concrete targets, and is implementing environmental conservation activities together with its affiliates to contribute to the realization of a recycling society.

For those targets regarding which we achieved our FY 2010 targets in FY 2005, we have challenged ourselves with even more stringent targets.

### Fourth Environmental Action Plan – Targets for FY 2010

[ 1 ] Enhancement of environmental conservation activities by further reducing environmental impact			
Item	Details	FY 2005 results	FY 2010 targets
Promotion of measures to prevent global warming	<ul style="list-style-type: none"> <li>Total CO<sub>2</sub> output : 10% reduction from 1990 level by the end of FY 2010</li> <li>Unit CO<sub>2</sub> output : 20% reduction* from 1990 level by the end of FY 2010</li> <li>Promoting the further reduction of energy losses (for equipment with high power and energy consumption, etc.)</li> </ul>	277,570 (t-CO <sub>2</sub> ) 47.2 (t/100 million yen)	234,925 (t-CO <sub>2</sub> ) 47.7 (t/100 million yen)
Controlling and further reducing substances of environmental concern	<ul style="list-style-type: none"> <li>Substances subject to PRTR : 60% reduction from FY 1998 level by the end of FY 2010</li> <li>Reduce discharge of paint solvent by improving efficiency of paint use</li> <li>Switch to products with lower ratio of substances subject to PRTR Improve paint adhesion rate</li> </ul>	121(t)	77(t)
Reducing waste and promoting resource conservation	<ul style="list-style-type: none"> <li>Primary materials, by mass : 5% reduction from the FY 2005 level by the end of FY 2010</li> <li>Primary materials, by value : 5% reduction from the FY 2005 level by the end of FY 2010</li> <li>Secondary materials, by value : 5% reduction from the FY 2005 level by the end of FY 2010</li> <li>Zero landfill waste : 99% reduction from the FY 1998 level by the end of FY 2010</li> <li>Incinerated waste : 50% reduction* from the FY 2004 level by the end of FY 2010</li> <li>Unit waste output : 20% reduction* from the FY 2003 level by the end of FY 2010</li> <li>Reduction of machining allowances through near-net-shape technology</li> <li>Improvement of yields</li> <li>Longer die and tool life</li> <li>Reducing and reusing waste oil</li> <li>Measures to control waste at source</li> <li>Reducing material losses</li> <li>Longer machining fluid life</li> <li>Increased recycling of waste</li> </ul>	1,719 (t/million yen) 12.09 (million yen/million yen) 5.89 (million yen/million yen) 47 (t) 2,522 (t) 11.2 (t/100 million yen)	1,633 (t/million yen) 11.49 (million yen/million yen) 5.60 (million yen/million yen) Achieved in FY 2003, zero landfill efforts are continuing. 1,200 (t) 9.7 (t/100 million yen)
Promoting the rationalization of logistics	<ul style="list-style-type: none"> <li>CO<sub>2</sub> output at the transportation stage : CO<sub>2</sub> emissions during transportation shall be at or below FY 1990 level by the end of FY 2010</li> <li>Unit CO<sub>2</sub> output : 46% reduction from the FY 1990 level by FY 2010</li> <li>KAIZEN of transportation methods</li> <li>Expansion of modal shift</li> </ul>	12,420 (t-CO <sub>2</sub> ) 3.54 (t/100 million yen)	14,400 (t-CO <sub>2</sub> ) 2.46 (t/100 million yen)

\*Challenge targets

[ 2 ] Eco-friendly development and design		
Item	Details	FY 2005 results
Efforts in the development and design stage	We have introduced the "Basic environmental efficiency equation" as a common index for reducing environmental impact. By increasing the environmental efficiency, the environmental impact of new products can be decreased Basic environmental efficiency = Performance of the product/Environmental impact of the product $= 1/\sqrt{(W^2+T^2+E^2)}$ W : Mass term, T : Loss term, E : Energy term Increase in environmental efficiency = Environmental efficiency of the new product/Environmental efficiency of the old product	<ul style="list-style-type: none"> <li>Increased environmental efficiency of electric power steering</li> <li>Reduced the weight and increased the efficiency of the electric pump for idling stops</li> <li>Improved fuel efficiency with a coupling for 4WD vehicles</li> <li>Reduced the number of parts and energy consumption of work machinery (GC20M-63)</li> </ul>
Strengthening tie-ups with suppliers	<ul style="list-style-type: none"> <li>Promotion of more green purchasing</li> <li>Creation of eco-friendly Purchasing Guidelines for distribution to suppliers</li> </ul>	Creation of an environmental management system

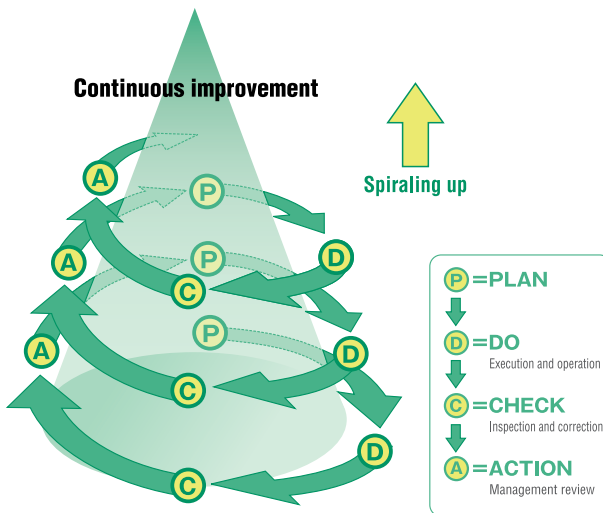
[ 3 ] Expansion of environmental management system in response to consolidated management		
Item	Details	FY 2005 results
Developing structure and improving actions	<ul style="list-style-type: none"> <li>Share basic policy and action guidelines</li> </ul>	Continued activities with domestic group companies

[ 4 ] Participation in social and conservation activities as a corporate citizen		
Item	Details	FY 2005 results
Promoting social contribution activities	<ul style="list-style-type: none"> <li>Participate in environmental conservation activities</li> </ul>	Implementation of clean-up activities around the plant
Developing communication with local communities	<ul style="list-style-type: none"> <li>Coordinate with and provide support for local governments</li> </ul>	Held local discussion meetings
Promoting PR and information disclosure	<ul style="list-style-type: none"> <li>Improve the supply of environmental information via the Internet</li> <li>Improve and keep issuing our environmental reports</li> <li>Promote regional community volunteer activities</li> </ul>	Issued Environmental Report

# Environmental Audits

Based on its Corporate Philosophy and Environmental Policy, our company follows an environmental management system to carry out continuous improvement of environmental conservation efforts by repeating the PDCA (Plan > Do > Check > Action) cycle.

To confirm the effectiveness of this system, our environmental performance, and compliance with laws, we carry out periodic internal and external audits and make corrections as needed so that we can methodically and continuously move forward.



## Environmental Management System Audits

### External Inspections

By means of a companywide environmental management system, our company follows a systematic approach toward environmental conservation.

In March 2006, we received our first external inspection since the merger, and it was determined that our system is functioning effectively.



External inspection – March 2006

There were a few minor nonconformances – one related to operational management and eight observations – and we immediately rectified these problems to prevent reoccurrence.

**Minor nonconformances** ...These are nonconformances that are not considered major.  
**Observations** ...This is not a nonconformance per se but rather an item in the system that may lead to a nonconformance if left unaddressed or that based on objective evidence could stand to be improved.

### Internal Environmental Audits

By having our different affiliates audit each other, we can both achieve high-quality internal audits and horizontally implement good improvements. To continue to improve the level of internal auditing, expand our employees' understanding of our environmental management system, and further enhance our environmental management, we will rely on external auditor training courses to continuously train our internal environmental auditors.

## Obtaining ISO14001 certification

### Domestic affiliates

We have been promoting certification with our primary affiliated companies as well. As of March 2006, 13 out of the 18 companies on the JTEKT Group Environmental Coordination Committee have obtained this certification.

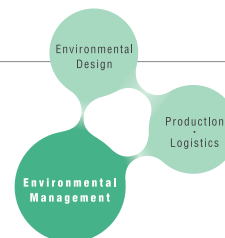
### Certified affiliates

- Koyo Machine Industries Co., Ltd.
- Koyo Sealing Techno Co., Ltd.
- Koyo Thermo Systems Co., Ltd.
- Daibea Co., Ltd.
- HOUKO Co., Ltd.
- Koyo Metal tech Co., Ltd.
- Formics Inc.
- Toyooki kogyo Co., Ltd.
- CNK Co., Ltd.
- Koyo Electronics Industries Co., Ltd.
- Utsunomiya Kiki Co., Ltd.
- Toyota Van Moppes Ltd.
- Toyota-Koki Automotive Torsen Co.

### Overseas affiliates

JTEKT has global operations and believe it important for the entire group to work to conserve the environment. In order to aggressively carry out environmental conservation activities as a consolidated group, we have requested each overseas affiliate to create an environmental management system, and 18 out of the 36 companies in the JTEKT Group Environmental Coordination Committee have acquired certification.





# Environmental Accounting

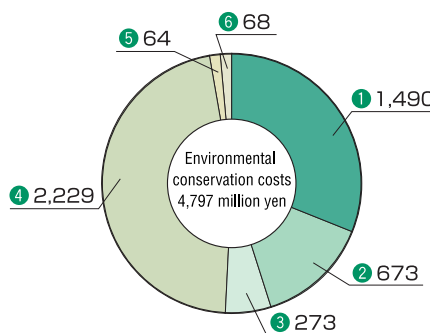
In order to understand the costs and effectiveness of our environmental conservation efforts and continue to effectively and efficiently enact environmental conservation measures, we carry out accounting of our investment and costs in accordance with the “Environmental Report Guideline (2003 edition)” issued by the Ministry of the Environment. We also proactively release our accounting results so that everyone can better understand our environmental conservation activities.

## Cost of Environmental Conservation

(Unit : million yen)

Category	Description	Investment	Cost
<b>① Business area cost</b>			
① Pollution control	● Improvement of wastewater channels	394	343
	● Maintenance and management costs for wastewater treatment equipment		
② Global environmental protection	● Maintenance and management costs for dust collection equipment	9	47
	● Cost of energy conservation measures		
③ Resource recycling	● Investment and maintenance costs for waste reduction	58	639
	● Cost of waste disposal, recycling, etc.		
<b>② Upstream and downstream cost</b>			
③ Management activity cost	● Green purchasing costs	-	673
	● Expenses for industry groups, etc.		
④ Research & development cost	● Cost of education and awareness-development activities	1	272
	● Cost of maintaining and managing ISO14001 certification		
⑤ Social activity cost	● Environmental monitoring and measurement cost	558	1,671
	● Development cost of eco-friendly products		
⑥ Environmental damage cost	● Cost for environmental information disclosure	-	64
	● Cost of greening etc.		
⑥ Environmental damage cost	● Pollution load levy (Tokyo and Tokushima)	64	4
	● Cost of groundwater and soil purification		

## Breakdown of environmental conservation costs



Subtotal	Investment 1,084	Cost 3,713
Total	4,797	

## Economic Effect of Environmental Conservation Measures

(Unit : million yen)

	Details of effect	Economic effect
Profit	Recycling of waste products generated by our primary business activities and business profit from the recycling of used products, etc.	925
	Reduction in energy cost from energy conservation measures	327
Cost reductions	Reduced waste disposal costs from resource conservation and recycling	164
	<b>Total</b>	<b>1,416</b>

The economic effect brought about by environmental conservation measures does not include factors such as “contribution to VA of products,” “avoidance of environmental risk,” and “improvement to corporate image.”

Figures only include calculable items such as energy-saving effect, etc.

### Calculation range: JTEKT Corporation only

(Head offices and branches, Logistics Center, R&D Dept., and all plants)

Figures before Jan. 1, 2006 are the sum of figures for Koyo Seiko Co., Ltd. and Toyoda Machine Works, Ltd.

### Accounting period: FY 2004 (April 2004 to March 2005)

Cost depreciation is not included.

Costs with combined expenditure purposes are shown.

## Environmental accounting results for FY 2005

The environmental conservation cost for FY 2005 is 1,080 million yen, and expenses were 3,710 million yen for a total of 4,800 million yen. This is an increase of 250 million yen from the sum of the separate FY 2004 accounting results for Koyo Seiko Co., Ltd. and Toyoda Machine Works, Ltd.

The economic results accompanying our environmental conservation measures are 1,420 million yen. The sale of metal scrap and the sale of solidified grinding swarf contributed greatly to this figure.

# Environmental Education and Awareness

## Education, Training, and Awareness-Development Activities

### ■ Environmental education and training activities

In order for each employee to have a high level of consciousness with respect to the environment, we carry out a variety of education and training programs on an ongoing basis. For example, during our June environmental month, we held "Environmental self-awareness sessions" at each plant where we introduced our environmental efforts and educated employees on the environmental rules they must follow. We carry out on-site inspections of industrial waste disposal and processing companies to ensure that the industrial waste we produce is being disposed of appropriately.

In addition, we are carrying out training to develop our own internal auditors.



Environmental self-awareness sessions (Toyohashi Plant)



Plant tour during internal auditor training session (Kokubu Plant)

### ■ Emergency training

In order to minimize environmental risks, emergency training is required on a regular basis.

Our company identifies emergency situations that could occur as a result of fires, explosions, earthquakes, typhoons, and the release of hazardous substances, and based on the emergency communication network and the roles of each department, all employees participate periodically in training as well as the inspection of environmental conservation equipment.



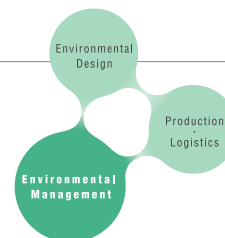
Emergency training (Tokushima Plant)



Emergency training (Kameyama Plant)



Inspection of environmental conservation equipment (Higashi-Kariya Plant)



# Efforts to Reduce Environmental Risk

In order to reduce environmental risk, our company has incorporated activities into its environmental management system such as measures to proactively prevent accidents that lead to environmental pollution and education and training on what to do in the event of an accident.

To eliminate actions that violate the law and have a negative impact on the global environment and to eliminate abnormalities and complaints, we will work to identify close calls\* as well as share and disclose information to reduce our risk even further.

## Compliance Status for Environmental Laws and Regulations

We have set voluntary standards for plant wastewater and atmospheric emissions that are even more stringent than those set out by law. In FY2005, we had no breaches of environmental laws or regulations, nor did we have any penalties or fines, and there were no legal actions brought against us.

## Environmental Accidents and Complaints

We did have an environmental accident in October 2005 when oil on the surface of unused equipment was washed off by the rain and went through the rainwater ditch outside a plant.

We immediately carried out emergency measures using the oil-absorbing mats and sandbags that we had prepared, and we recovered all of the oil in the rainwater ditch.

To rectify this situation, we created a management system to adequately manage unused equipment and installed an oil-water separation device on the rainwater ditch to prevent the recurrence of this type of accident.



Oil-water separation device

There were three complaints related to noise and dust from construction, and we took measures to address these complaints and also implemented these measures at our other plants.

In addition to continuous improvement, we will continue to disseminate information related to close calls\* in order to prevent these accidents from happening.

\*Close calls: Incidents that have a minor environmental effect inside plant grounds.

## Appropriate Storage and Management of Devices Containing PCBs

As of the end of March 2006, a total of XX devices containing PCBs (polychlorinated biphenyls) used as insulating oil are being managed at the Kokubu, Kariya, Tokushima, Okazaki, Tokyo, and Higashi-Kariya plants, and their status is reported periodically to the appropriate authorities.

We plan to have the PCB processing facility belonging to Japan Environmental Safety Corporation take our capacitors in sequence and render them harmless.

## On-site checks of Industrial Waste Processing/Collection Contractors

We implement a yearly on-site check of all waste processing and waste collection contractors to ensure that the waste we give them is being handled appropriately.



On-site check of incineration facility (July 2005)

## Response for VOC-emitting Facilities

Because of amendments to the Air Pollution Control Law, facilities emitting VOCs (volatile organic compounds) such as painting facilities, etc. became regulated for the first time in April 2006. We have measured the VOC concentrations from applicable equipment and reported these results to the appropriate authorities.

VOC concentrations in our emissions are vastly less than the standard, but we will work to further decrease our emissions through the management of chemical substances and activities to reduce these substances.

### VOC concentration measurement results

Unit: ppmC

Plant	VOC concentration	Standard
Kariya	15	700
Okazaki	15	
Higashi-kariya	97	

# Efforts at the Development and Design Stages

In its Environmental Policy, JTEKT has committed to contributing to energy conservation and resource conservation by developing and providing environmentally friendly products. To quantitatively evaluate the degree to which the products we develop reduce the burden on the environment, we devised a "basic environmental efficiency equation" as an index.

Environmental efficiency is a value calculated from the degree of weight reduction, compactness, energy savings, etc., and "environmental burden" is the inverse of this value. For instance, if environmental efficiency\* is 1.25, the decrease in environmental burden is determined by the following equation to be 20%.

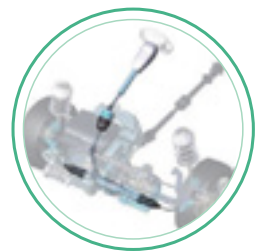
$$(1 - \frac{1}{1.25}) \times 100 = 20\%$$

\*Basic environmental efficiency equation

Product performance / Product environmental burden =  $1 / \sqrt{W^2 + T^2 + E^2}$ ,  
 W: Mass item, T: Loss item, E: Energy item

## Steering Systems

Of the many parts that make up an automobile, the steering system must be particularly reliable. The electric power steering systems we developed enable better fuel economy and are more compact than conventional systems, thus contributing to the conservation of the global environment.



### Column-assist type electric power steering

Weight-reducing items were incorporated, resulting in improved efficiency over conventional designs

FY 2005 efforts

#### Aim of development

- Integrated aluminum gear housing (weight reduction)
- Reducing the thick ribs of the aluminum gear housing (weight reduction)

#### Effect

- Mass :9% reduction
- Torque reduction :9% reduction
- Energy consumption :83% reduction

Increase in environmental efficiency: **1.25**



### Pinion-assist type electric power steering

Smaller size items were incorporated, resulting in improved efficiency over conventional designs

FY 2005 efforts

#### Aim of development

- Integrated controller (smaller size, weight reduction)
- Thinner aluminum housing (weight reduction)
- Change to a brushless motor (smaller size, higher output)

#### Effect

- Mass :36% reduction
- Torque reduction :5% reduction
- Energy consumption :83% reduction

Increase in environmental efficiency: **1.33**



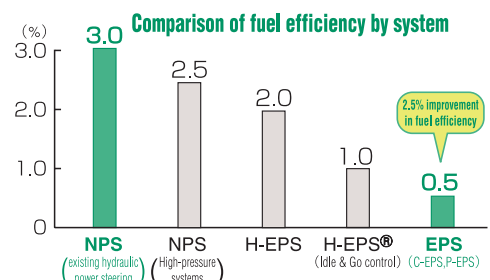
#### The advantages of electric power steering over hydraulic power steering

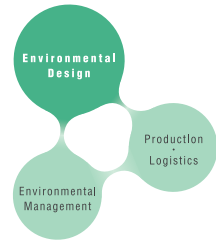
- Energy savings ..... 1/6 the energy consumption of hydraulic power steering
- Environmental advantage ..... Doesn't need oil
- Steering feeling ..... Can be controlled using controller

#### Types of electric power steering and their energy savings

Percentage of a vehicle's fuel consumption attributable to current hydraulic power steering systems

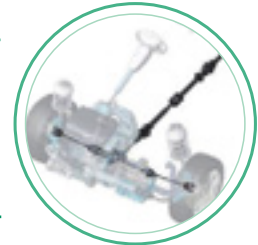
➔ **3%**





## Drive systems

Vehicles increasingly are being required to have reduced impact on global warming and atmospheric pollution. Regarding our driveline components, we use sophisticated forming and machining technologies as well as electronic control technologies to create smaller and lighter products and reduce energy consumption so that automobile fuel consumption can be reduced. In this way we are contributing to the protection of the global environment.



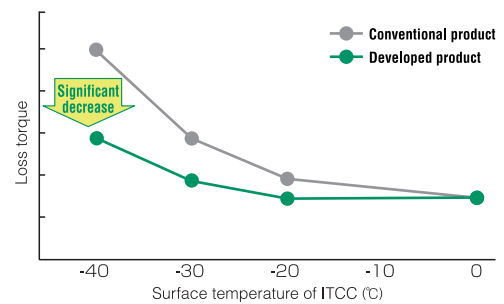
### ITCC® for higher fuel economy at lower temperatures (4WD coupling)

For the ITCC® electronic control coupling, we developed a special fluid with viscosity that has minimal temperature dependence, resulting in a 0.4% decrease in vehicle fuel consumption particularly at low temperatures.

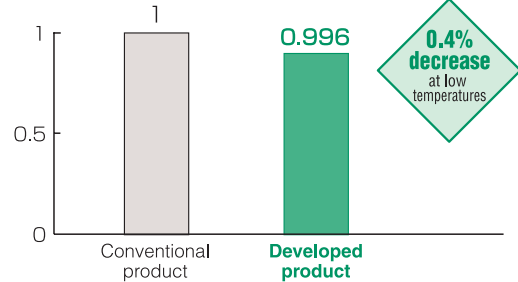
- Increased fuel economy by adopting a special fluid with viscosity that has minimal temperature dependence



Increase in environmental efficiency: **1.14**



### Vehicle fuel economy



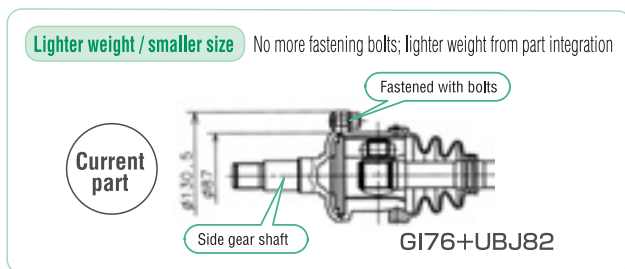
### Lighter and smaller passenger vehicle CVJ (Constant Velocity Joint)

We have developed the new GI/UF series for use on the rear wheels of high-performance 4WD passenger vehicles, thus contributing to improved vehicle fuel economy.

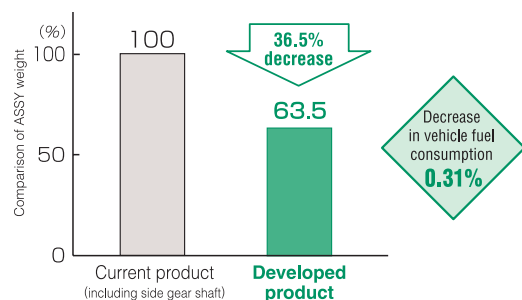
#### Structure and characteristics

- By integrating it with the side gear shaft, it was made lighter. It was also reduced in size for ITCC® compatibility.

Increase in environmental efficiency: **1.12**



#### Effect





# Efforts at the Development and Design Stages

## Bearings

As industry develops further, the performance required of bearings in terms of product life, light weightness, and high-speed rotation is becoming even more advanced and diversified. Our company contributes to global environmental conservation by increasing the efficiency and reducing the weight of bearings required by the automotive, semiconductor, steelmaking equipment, home appliance, and space industries.



### Electric pump for idling stops

- Significant weight reduction and increased compactness through the integration of the motor, pump, and controller into a single unit
- Increased efficiency through the adoption of a brushless, sensorless motor and the optimization of the pump.

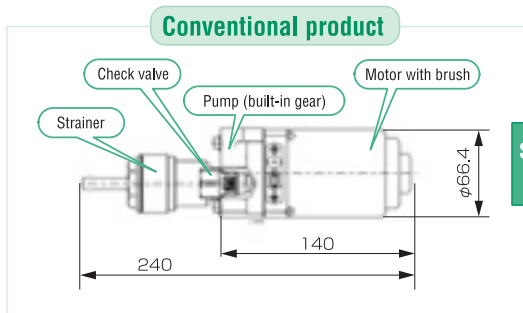
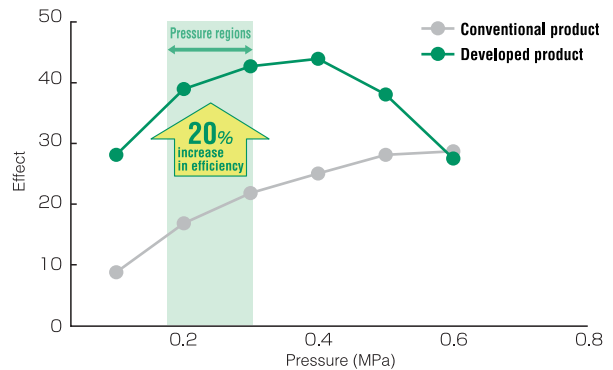
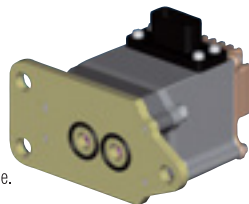
Increase in environmental efficiency: **1.39**

#### Aims of development

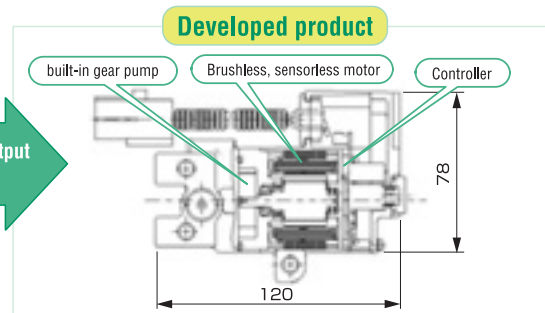
- Improved installability through decreased weight and increased compactness.
- Increased efficiency.

#### Effect

- Compared to the conventional product, which was 1930g, this newly developed product is 890g — a 53% reduction in weight.
- 20% efficiency increase in the usage pressure range.



Same motor output (30W)



### “2005 Japanese Society of Tribologists Award“ received for ultra-low torque high-performance tapered roller bearing (LFT-III\*)

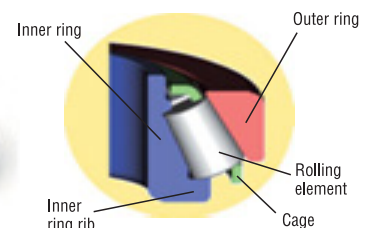
Our company received the “2005 Japanese Society of Tribologists Award“ for the ultra-low torque high-performance tapered roller bearing (LFT-III).

The LFT-III has 80% less rotational torque than standard mass-produced tapered roller bearings and has both long life and high rigidity. In addition, we achieved a smaller size and 40% less weight than the conventional product. As a result, when this product is used in the differential gear of an automobile, there is a 2% increase in fuel efficiency (by our trial calculations), resulting in a significant decrease in CO<sub>2</sub> emissions.

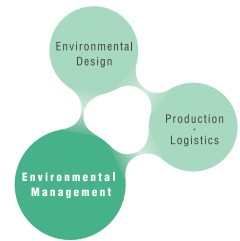
This award was for the environmental category, and it is a glowing recognition of our economic and social contributions toward protection of the global environment.



\*LFT-III: Low Friction Torque 3rd Generation







## Machine Tools

We are developing machine tools while recognizing the importance of reducing energy consumption and conserving resources. We carry out product assessment evaluating the effect of the product on the environment at every stage from manufacturing to disposal so that we can provide products with a low environmental burden to our customers.

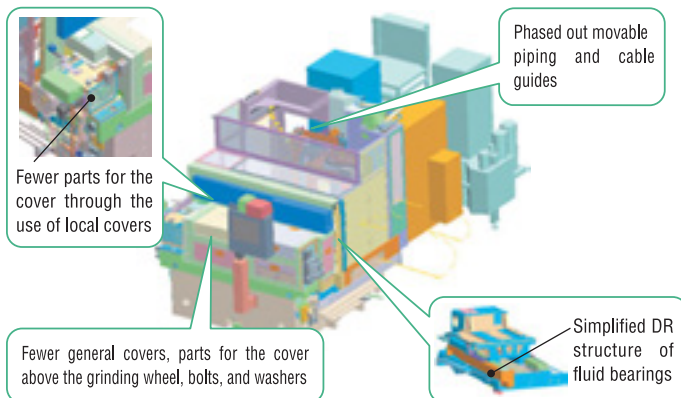


### Energy reductions through fewer parts [GC20M-63]

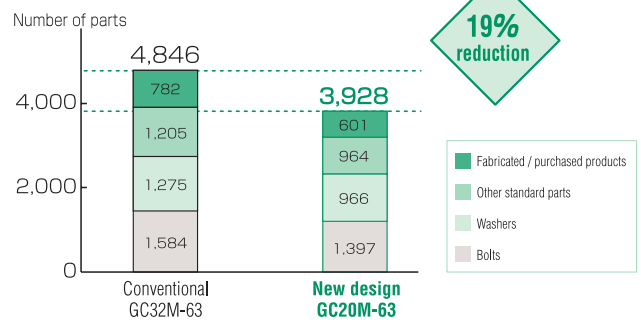
**Aims:** Reduce the number of parts through an optimized design created with 3D-CAD  
Save resources (energy and resource savings during parts manufacturing)

Increase in environmental efficiency:  
**1.45**

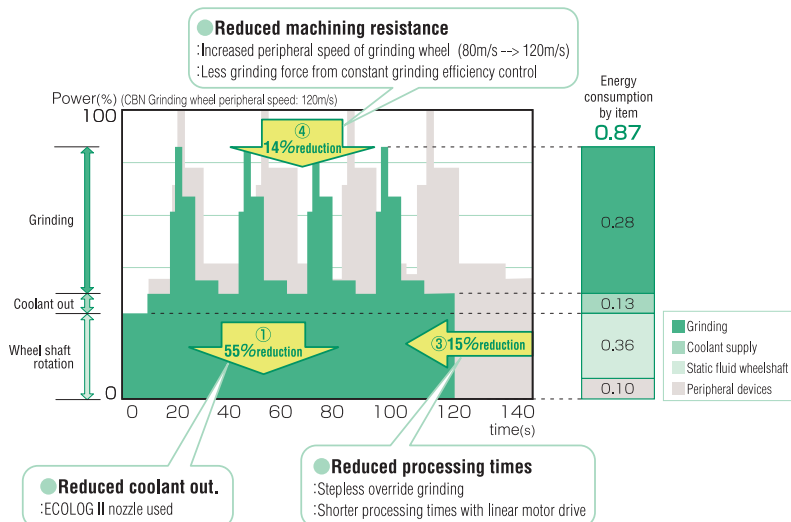
#### Optimized design carried out with 3D-CAD



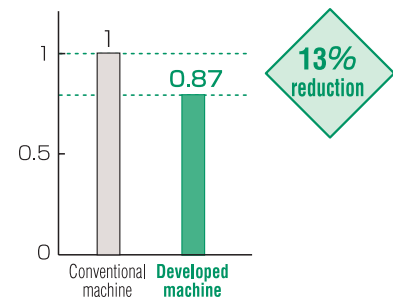
#### Effect Fewer parts



### Energy Reductions through Energy Savings from Peripheral Devices and from Shorter Processing Times [GC20M-63]



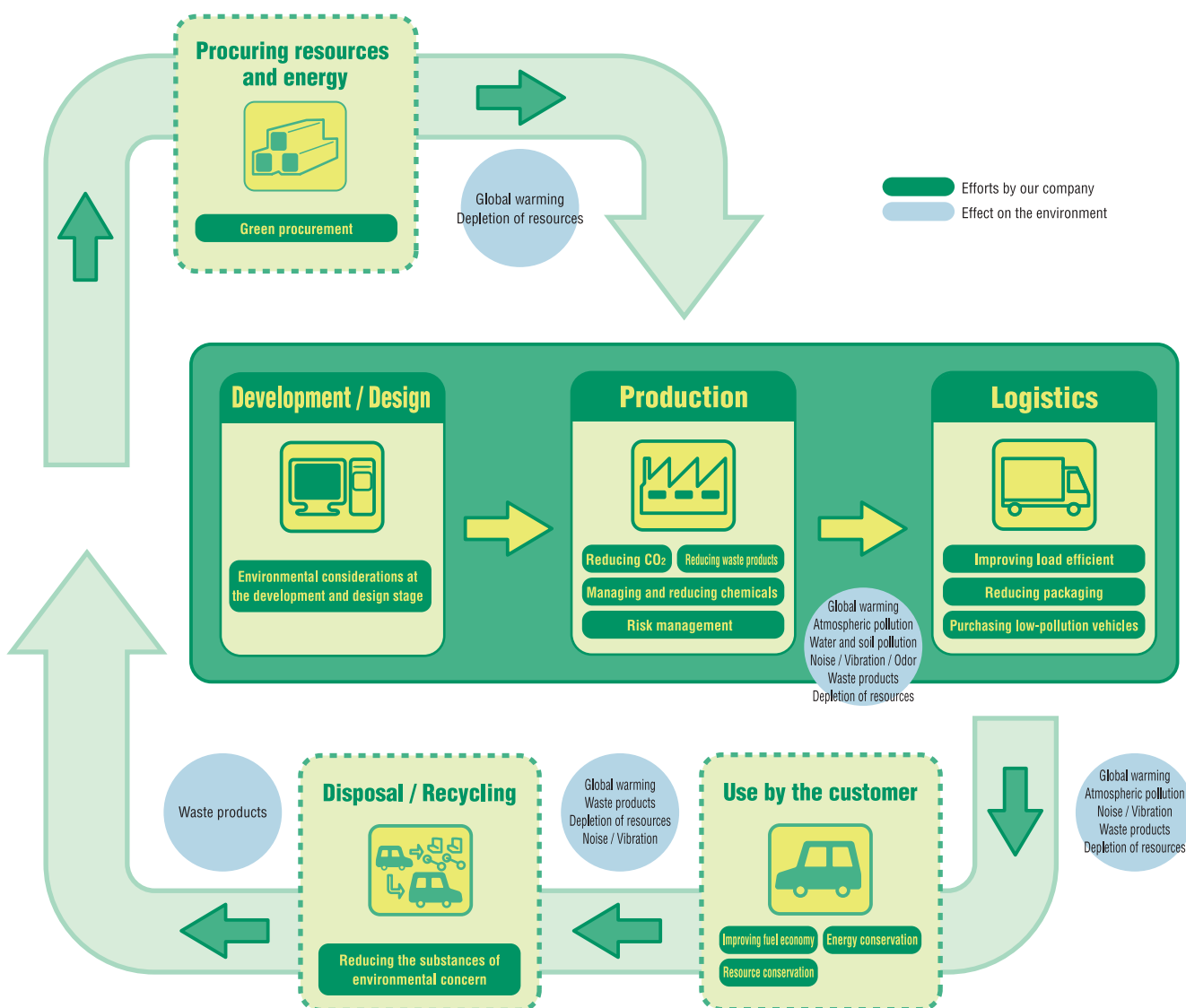
#### Energy consumed per machined object

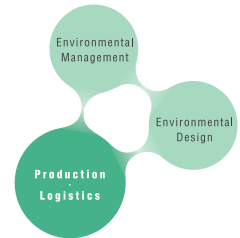


# Environmental Burden of our Business Activities

Our company manufactures a wide variety of parts including various automotive parts, bearings, machine tools, and mechatronic products. The life of a product includes many stages from procuring resources to production to use by the customer all the way to recycling/disposal. It is important to reduce the burden on the environment at every stage.

Our company is acting to gain an understanding of the resource and energy inputs and the output of substances of environmental concern and we are acting to reduce the burden on the environment in a comprehensive manner.





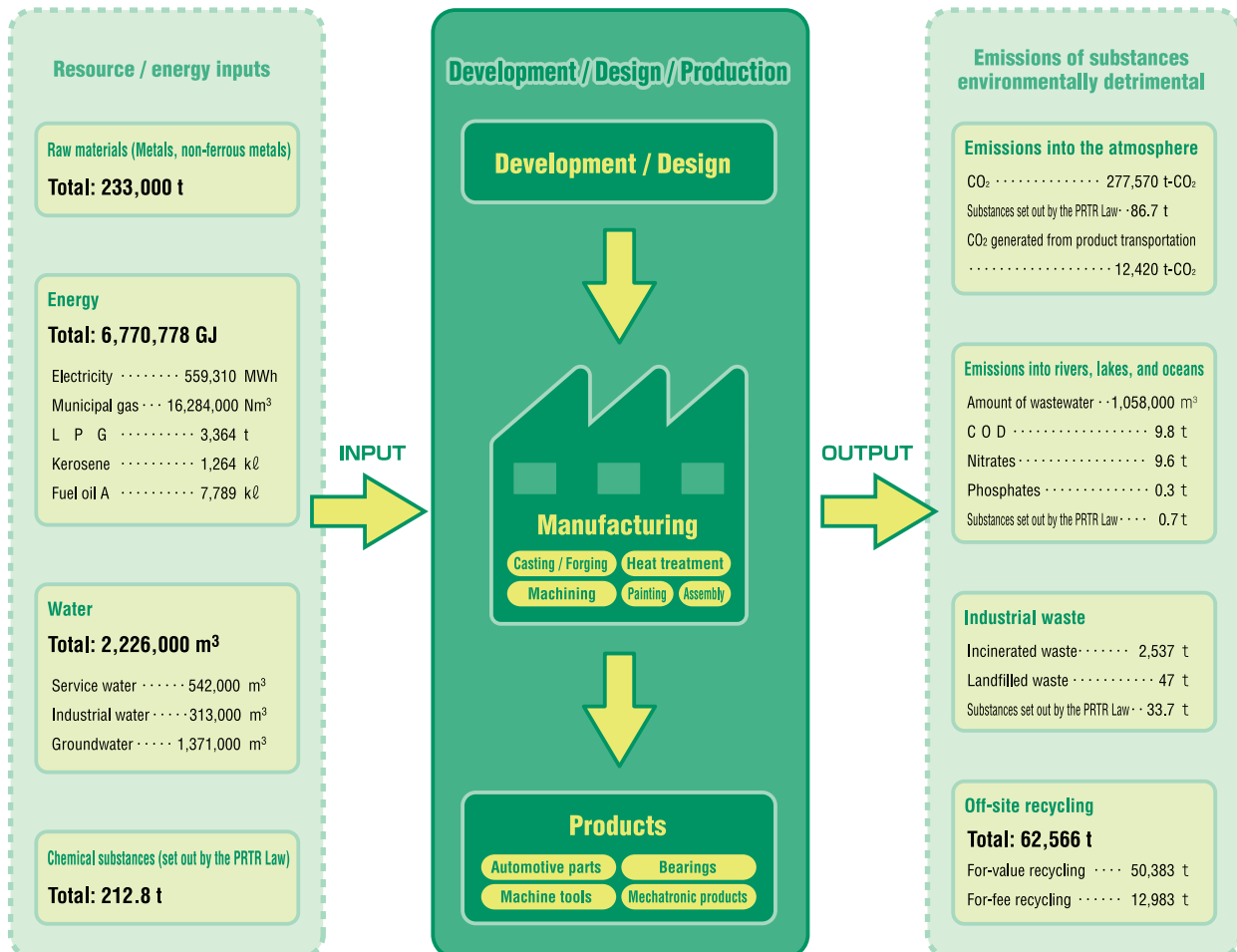
## Resource inputs and emissions into the environment

The figures below shows the total resource and energy inputs and total emissions of various environmentally detrimental substances .

Our company recognizes that reducing the burden on the environment at the

recycling/disposal stage after the part has fulfilled its role is very important, and we are working to develop and design environmentally friendly products.

Also, we recognize that emissions such as those from the consumption of energy for casting, machining, and heat treatment at our various plants as well as emissions from each process and the chemicals consumed by our painting process all have a significant effect on the global environment, and we are methodically acting to reduce these various substances.



GJ ..... Gigajoule (unit of heat) G = 10<sup>9</sup>

PRTR Law .... This is an abbreviation for "Pollutant Release and Transfer Register" and is a system in which the release and transfer of chemical substances into the environment is reported to the authorities, who then publicize this information.

NOx ..... Nitrogen oxides

SOx ..... Sulfur oxides

COD ..... Chemical Oxygen Demand (an index that indicates water pollution)

# Global Warming Prevention Measures

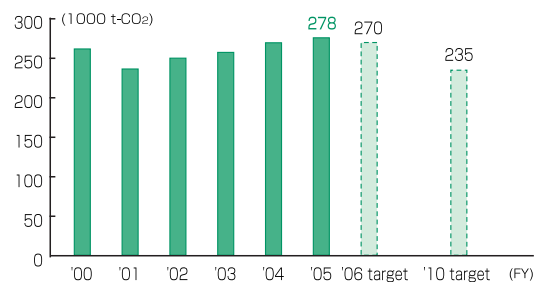
Preventing global warming is an important environmental issue for our company, and we are promoting initiatives to increase the energy efficiency of our existing equipment, introducing in-house power generation equipment, and reducing our CO<sub>2</sub> output.

Our production volumes increased in FY 2005, and although we worked to significantly reduce our unit amounts, total CO<sub>2</sub> output increased by 3%. We will intensify our activities for the overall reduction target for 2010.

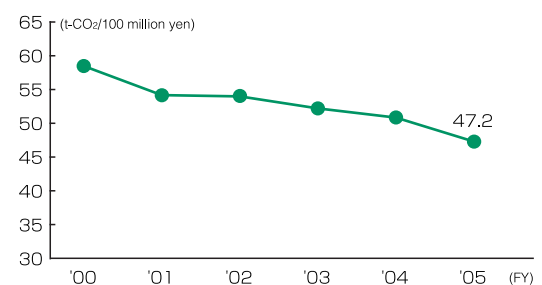
## Primary activities

- ① Improvement of heat-treatment process
  - Developed high-speed carburizing furnace
  - Switched the continuous heating furnace pre-heat zone to gas
- ② Improvement of production/peripheral equipment
  - Introduced high-efficiency transformer
  - Introduced high-efficiency compressor
  - Introduced high-efficiency compressed-air dehumidifier
  - Installed high-efficiency fluorescent lighting
- ③ Energy conservation expansion activities through the integration of low-load lines
- ④ Efficient operation of in-house power generation equipment
- ⑤ CO<sub>2</sub> reductions through change to energy source (fuel oil A → utility gas)
- ⑥ Renewal of energy conservation activities at every workplace
- ⑦ Environmental considerations in newly built plants
  - Stratified air conditioning throughout plant as well as individual air-conditioners for workers
  - Use of natural light
  - Increased airtightness and insulation

### ■ Changes in total CO<sub>2</sub> output

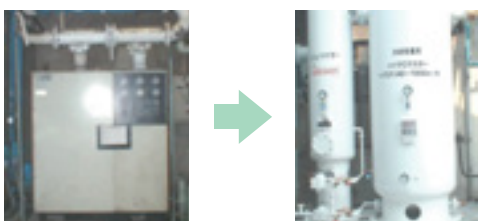


### ■ Changes in unit output [CO<sub>2</sub> output (t-CO<sub>2</sub>) / total sales (100 million yen)]



## ■ Examples of improvement

Installation of compressed-air dehumidifier (Hygro-master) [Kokubu Plant]



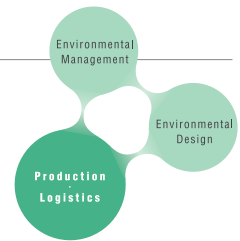
Before improvement (refrigerant cooler)      After improvement (water-cooled)

- Power savings: 3,949 thousand yen/year
- CO<sub>2</sub> reduction: 137t/year
- No ozone-depleting substances
- R-22 (refrigerant) → water

High-efficiency fluorescent lights (Four Hf 32W bulbs) [Kariya Plant / Higashi-Kariya Plant / Hanazono Plant]



Before: Mercury lights (400W)



# Resource Conservation Activities

## Resource Conservation Efforts

To address the problem of resource depletion, we established a Resource Conservation Committee, which is acting to reduce primary materials such as raw

materials and secondary materials such as abrasives and cutting tools in order to promote production activities that take into account the global environment.

### Activity plan for FY 2005

In FY 2005, we had a target to reduce the unit consumption cost of primary materials to 3.0% less than the figure for FY 2003; however, by improving yields through measures such as reducing the machining/processing allowance through near net shape processing and effectively using scrap such as material that is punched out, we were able to achieve a reduction of 4.2%.

For secondary inputs, our goal was to reduce the unit consumption cost of secondary materials to 2.3% less than the figure for FY 2003; by increasing die life and reusing abrasives, we were able to achieve a reduction of 3.1%.

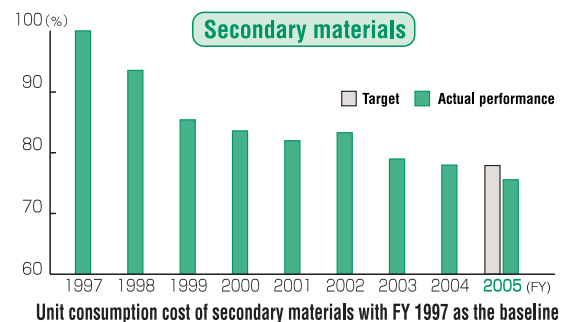
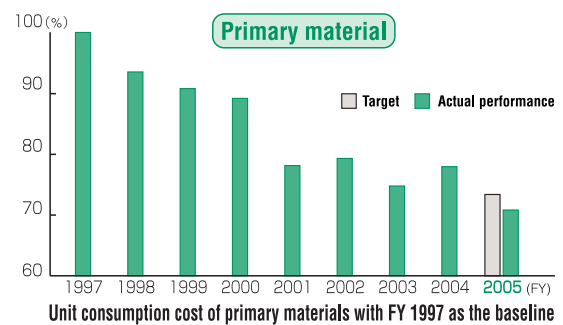
#### Primary material

- Reducing material usage by increasing material yields through changing processing methods
- Reducing material usage through the effective use of scrap
- Reducing material costs through changes to material and material quality

#### Secondary materials

- Reduction of abrasives, cutting tools, and die usage through material changes
- Recycling of waste oil, abrasives, cutting tools, and jigs

### Koyo Seiko's performance\*

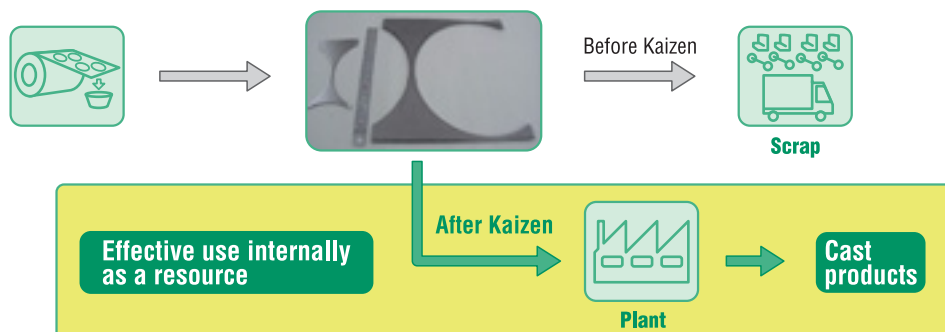


\*FY 2006 was a period of preparation for Toyota Machine Works' resource conservation measures. They will start their efforts in FY 2007 with a similar index.

#### Example of Kaizen

### Efficiently using the scrap from the material used to make tapered roller bearing cages

Steel material removed during the processing of bearing cages has been sold for value as scrap. In FY 2006 we started using this material as raw material internally in our casting processes. We are expecting to save about 1,800 tons/year.

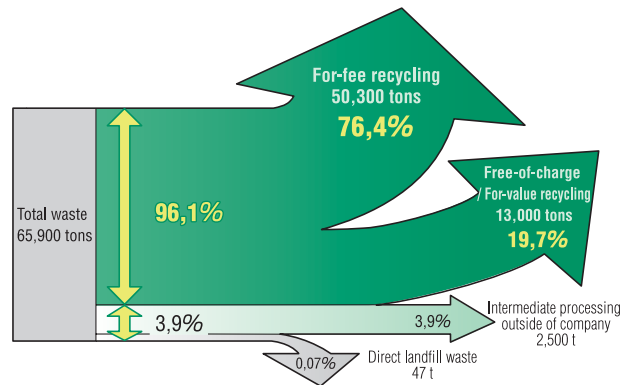


# Activities to Reduce Waste Products

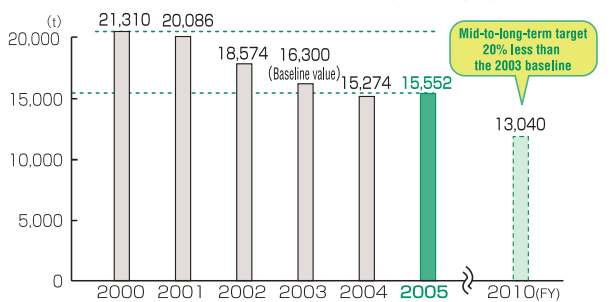
## Results and Targets of Activities

In FY 2005, we carried out activities to reduce direct landfill waste and intermediate processing done outside the company. As a result, we were able to reduce our total output by 3.9%. In FY 2006, we defined "waste products" as the total amount including the above in addition to free-of-charge and for-value recycling. It is our aim to reduce this figure by 20% over the 2003 level by 2010.

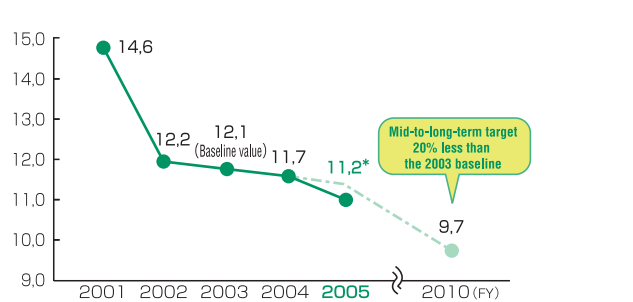
## Processing status of industrial waste products and recycled materials



## Waste output vs. fiscal year



## Unit amount of waste vs. fiscal year

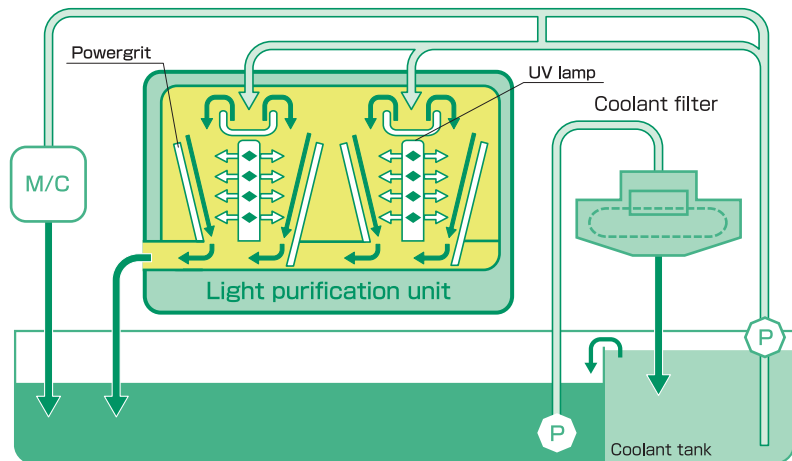


\*JTEKT Corporation started operations on January 1, 2006, with the merger of Koyo Seiko Co., Ltd. and Toyoda Machine Works, Ltd. Thus the results shown are the simple sum of sales of Koyo Seiko and Toyoda Machine Works from April through December 2005 and JTEKT sales from January through March 2006.

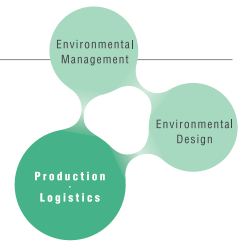
## Increasing coolant life using a light-based purification device

We introduced a device in which Powergrit, which is a porous catalyst made of used abrasive that has been impregnated and fired together with aluminum oxide, is irradiated with ultraviolet light to generate ozone that breaks down organic impurities and bacteria. By doing this, we increased coolant life.

Coolant top-up: Once / year --> Once/1.5 year



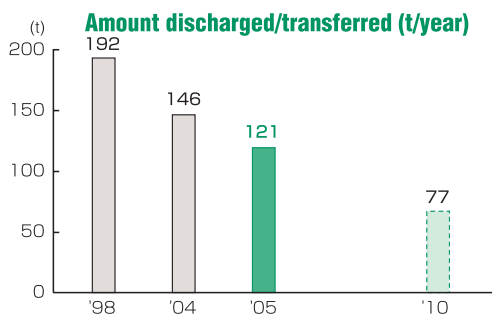




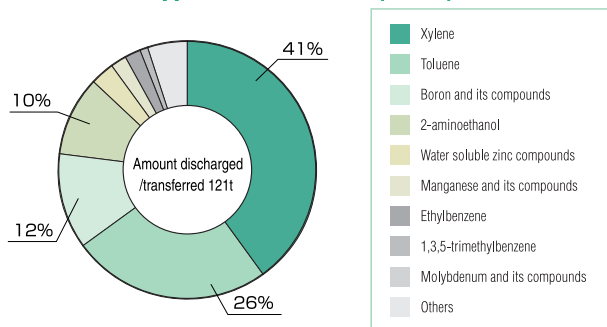
# Managing and Reducing Chemical Substances

## Initiatives to reduce substances of environmental concern

Our total emission and transfer of PRTR-applicable substances in FY 2005 was 121 tons. 89% of this total was made up of xylene and toluene from our painting process as well as boron, its compounds, and 2-aminoethanol from our grinding fluid. Henceforth, focusing on these four substances, we will focus on reducing our emissions to 60% of the 1998 levels by 2010 and carry out reduction activities.

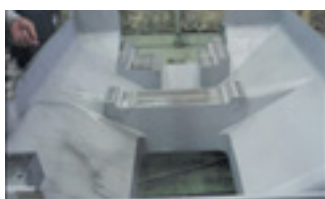


## Breakdown of applicable substances (FY '05)



## Reducing toluene and xylene using alternatives to cleaning thinners

To reduce the use of substances of environmental concern in our company, we have been investigating alternatives to the cleaning thinners mainly used in our paint process looking at such factors as cleaning power, drying characteristics, and ease of use, and we have reduced our emission of substances that fall under the PRTR law.



Cleaning power test in progress



X-ray fluorescence analyzer

## Managing and Reducing Chemical Substances

### Responding to substances of environmental concern

As part of our response to substances of environmental concern, we have divided all the chemicals we use into several grades to manage them. For substances that should ideally not be used, we have been finding alternative substances focusing on paints, grinding fluid, and detergents.

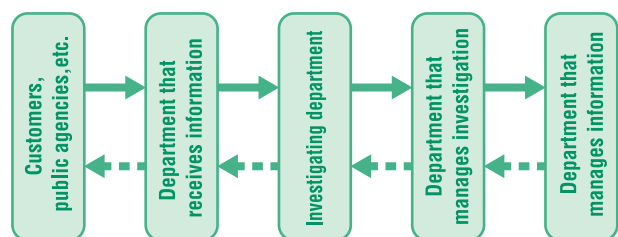
#### Control grades

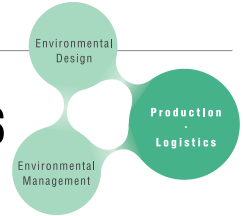
- Prohibited substances
- Conditional-use substances
- Reduced-use substances
- Substances for which information on use is controlled

### Efforts to reduce substances of environmental concern from our products

In addition to requesting that our suppliers submit certificates indicating that their products are free of substances that fall under the European End-of-Life Vehicle Directive, we have used our own analytical equipment as needed to measure the presence of substances of environmental concern. Also, to respond to investigations by our customers related to substances of environmental concern present in our products and manufacturing processes, we are creating a system where our management system is clearly specified so that these investigations can be carried out.

#### Control / information flow





# Promoting Streamlining in Logistics / Reduction of Water Consumption

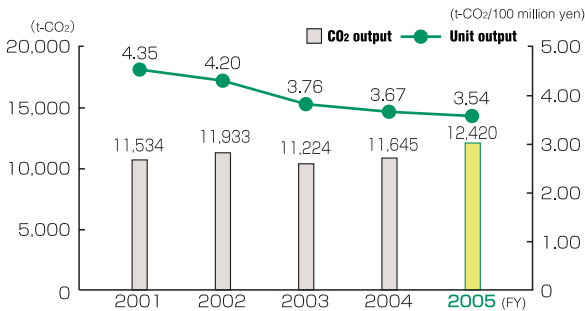
## Promoting streamlining in logistics

We are currently increasing the loading efficiency of our trucks, expanding modal shift, and decreasing CO<sub>2</sub> emissions by promoting the change from forklifts (gasoline vehicles) to towing vehicles. We are also simplifying our packaging specifications and promoting the use of returnable containers to reduce the material used for packaging. Through these initiatives, we are working to prevent global warming and use resources effectively.

### Reduction of return trips through cooperative shipments with other companies

By setting up cooperative shipments in which return trips can be used for products being sent by the other company, distribution waste has been eliminated and CO<sub>2</sub> output has been reduced.

### CO<sub>2</sub> output and unit output in logistics



### Expansion of Modal Shift\*

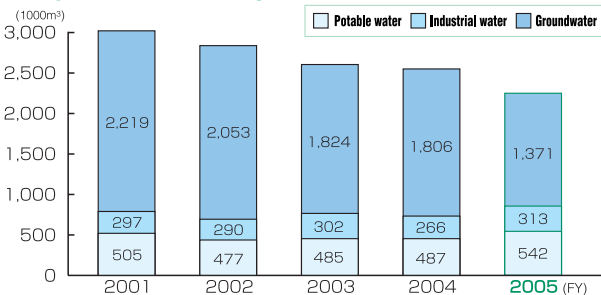
In 2003 we started the use of rail transport using special containers, and in FY 2005 we expanded our use of containers, sending three shipments daily.

\*Modal shift : switching to mass transport such as rail or sea, which is better for the environment.

## Conserving water resources

With the belief that water is a precious resource, we have worked to reduce water use by measures including reusing wastewater. Even as production output increased in FY 2005, we reduced our water consumption by approx. 333,000m<sup>3</sup>. We will continue efforts to reduce water consumption and costs.

### Changes in water consumption



\*Reverse osmosis (RO) :

When a dilute solution and a concentrated solution are placed in a container, separated by a semi-permeable membrane, the difference in osmotic pressure causes the solvent to move to the side with the concentrated solution.

In this case, the concentration tends to shift so that they are equal, and this phenomenon is known as "osmosis." "Reverse osmosis" is when high pressure is applied to the side with the concentrated solution, which makes the solvent on that side pass through the semi-permeable membrane into the side with the dilute solution. This allows the solvent (or water) to be separated from the solute.

### Example of improvement

In FY 2005, in order to reduce the amount of wastewater discharged into the sewers and reduce the use of industrial water, we introduced a reverse-osmosis (RO)\* unit to reuse treated wastewater as industrial water.

As a result, we expect to reduce the consumption of industrial water by 50,000m<sup>3</sup> per year.



# For Our Customers

## Relationship with customers

### Putting customers first and focusing on quality

"We will put quality first and provide products to earn the trust and satisfaction of our customers." This is in our quality policy, and we are working to emphasize the concept of "putting customers first and focusing on quality" at every opportunity as well as to create attractive products that will satisfy the customer.

### Quality control system & Creating products to put the customer first

We are promoting "TQM (Total Quality Management) activities" based on "improvement in quality of work" and "vitalization of people and workplaces" for everything from product planning to manufacturing, sales, and service, and we are working to build in quality.

Moreover, because we acquired certification in the ISO 9001 and ISO/TS 16949 international quality management standards early on, we have created a quality system that can respond to the demands of customers.

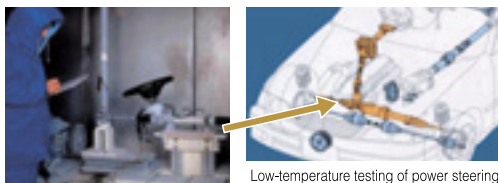


### Creating machine tools that create customer satisfaction



Performance evaluation of grinder

### Creating competitive automotive parts



Low-temperature testing of power steering

## Quality Assurance

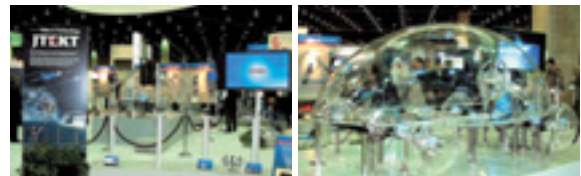
### ① Basic Concept

Basically, quality assurance is achieved by building in quality at each process. We assure quality by building it in at the development and production (mass production) preparation stages. We also strive to enhance customer satisfaction by continuously improving our effectiveness in quality assurance, by abiding by the quality policy, all in accordance with the quality management system.

### ② Quality assurance in the supply chain

Quality and reliability are the most important points for the JTEKT, Koyo, TOYODA, and TORSEN brands. In order to supply reliable high-quality products to our customers, all companies that make up our supply chain strive to enhance quality to the best of their abilities.

## Social involvement



Introducing our newest technologies at the SAE Show

We have been contributing to society by designing Only-One products attractive to customers.

Also, we contribute to society through the focused improvement of our fundamental technologies creating product systems and modules and developing and offering safe, reliable, pleasure-providing, energy-conserving, and environmentally friendly products.



The safe "Only-One" PLC that passed stringent European certification tests.



Windmill power generator  
Contains JTEKT bearings in the primary shaft and generator.



Developed low-torque high-performance tapered roller bearings  
(80% less rotational torque)

# Relation with local communities

## Activities contributing to society

“As a good corporate citizen, aggressively pursue activities that contribute to society” being our corporate activity model, employees in every plant take up activities such as cleaning and preserving the environment as part of the company’s contribution to local society.

530 (garbage cleanup) activity (Kariya Plant)



Cleaning Campaign (Kagawa Plant)



Volunteer work (Nara Plant)



## Interaction with local societies

We aim to be a company that provides society with happiness and excitement. To that end, we hold events such as festivals to bring joy to local society, thereby deepening interaction with the local community. Among those events was the “Illumination Festival” held at Higashi-Kariya Plant, whose electrical lighting and musical performances were written about in the local paper and became the talk of the town.

Illumination Festival (Higashi-Kariya Plant)



Around 650 people took part



Musical performance with hand bells

Yu-yu Festival (Okazaki Plant)



Around 1000 people joined the event

# Together with shareholders and investors

## Management summary of fiscal year 2005 and regarding returning profits to shareholders

Our aim is to become a company that "seeks to contribute to the happiness of people and the abundance of society through product manufacturing that wins the trust of society." To achieve business growth and stable profit, we are striving with a strong workforce to create products that are environmentally friendly and meet the future needs of customers, for which purpose we are allocating resources strategically and striving to achieve synergistic benefit of the merger as quickly as possible under the overall management policy of placing the customer first.

Net sales for fiscal year 2005 were 724.3 billion yen (an increase of 27.0% compared to Koyo-Seiko's net sales in the previous fiscal year). Ordinary profit has been affected by such factors as a rise in steel material prices, but due to the

rise in net sales and the merger, we have managed to achieve an increase in both revenue and in earnings, revenue being 46.8 billion yen (an increase of 47.3%) and net income of 27.2 billion yen (an increase of 65.9%).

As a result we have increased our annual dividend to 15 yen, a 6 yen increase from the previous fiscal year of Koyo Seiko. Dividend is decided taking into account of the company's performance and dividend payout ratio and following a basic philosophy of sustaining a stable dividend.

Internal reserve capital will be used for future business development, and we hope to respond to shareholder's expectations.

### Status of shares Status of shares (as of March 31, 2006)

Total number of shares to be issued by the company...1,200,000,000 shares

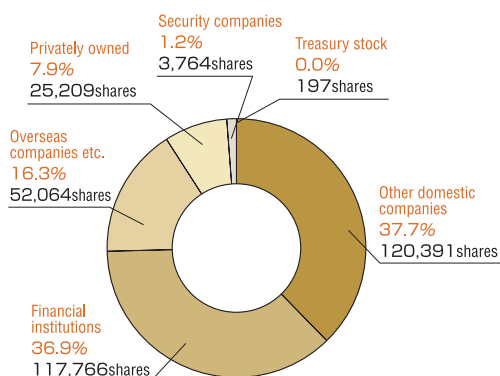
Total number of shares issued...319,394,000 share

Number of stockholders...18,068

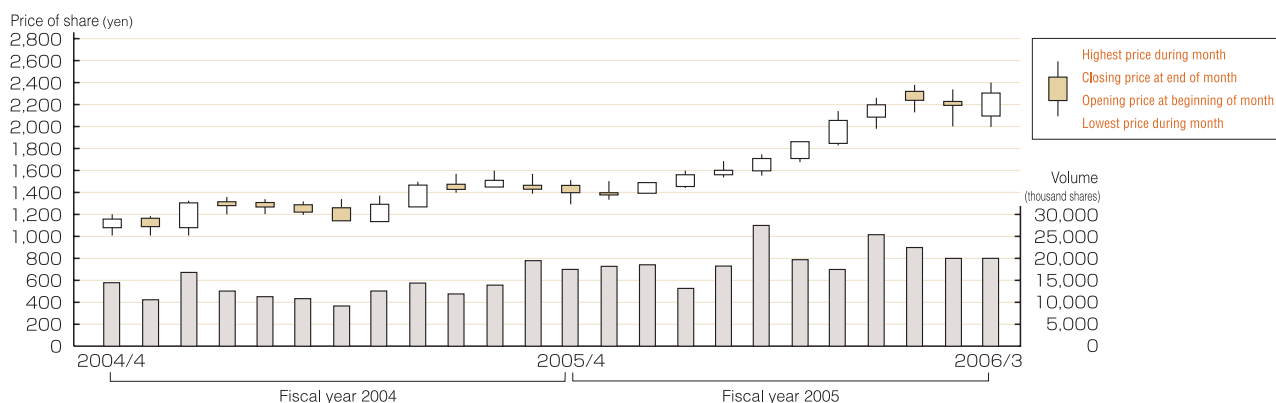
### Status of major stockholders

Name of shareholder	Number of shares (thousand shares)	Percentage of voting rights
Toyota Motor Corporation	72,435	22.68
The Master Trust Bank of Japan, Ltd. (trust account)	23,410	7.33
Japan Trustee Services Bank, Ltd.	20,850	6.53
DENSO CORPORATION	17,611	5.51
Nippon Life Insurance Company	13,731	4.30
Toyota Industries Corporation	7,493	2.35
Resona Bank, Ltd.	6,749	2.11
The Sumitomo Trust & Banking Co., Ltd.	6,729	2.11
Sumitomo Mitsui Banking Corporation	6,366	1.99
Toyota Tsusho Corporation	5,202	1.63

### Distribution of shares by owner



### Changes in price of share





# Together with suppliers

## Procurement policy meeting

Every year, we hold a purchasing policy meeting to explain our purchasing policy to our suppliers.

In this meeting, we explain our company's efforts to reduce landfill waste and CO2 emissions among other environmental activities and our aim of being an environmentally conscientious manufacturer and request the cooperation of suppliers.



JTEKT purchasing policy meeting (April 6, 2006)

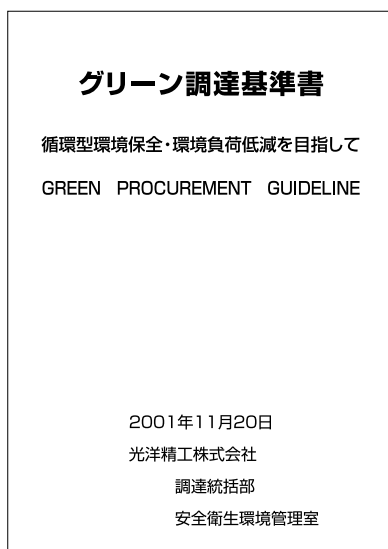
## Activities for acquiring ISO14001 certification at suppliers

JTEKT asks its major suppliers to undertake activities to reduce the burden on the environment based on a "Green Procurement Standard" and "Green Procurement Guidelines" issued by JTEKT.

Also, we have been requesting suppliers to acquire ISO 14001 certification and construct an environmental management systems that satisfies a certain level. We will continue to promote a green purchasing policy.

### <Koyo Seiko>

Title page of [Green Purchasing Standard]



### <Toyota Machine Works>

Title page of [Green Purchasing Guidelines]





# Relationship with employees

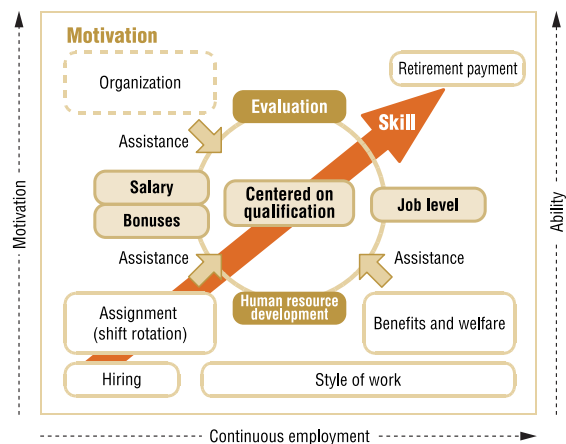
## ~Human resource development~

Our company philosophy is to "seek to contribute to the happiness of people and the abundance of society through product manufacturing that wins the trust of society." In order to create new value and provide society with joy and excitement on a broad scale, we strive to carry out human resource development in a manner that allows all employees to fulfill their creative abilities. We strive to create workplaces where the individuality of each employee is respected, that provide employees with the chance to fulfill their potential, and that enable them to contribute to the success of the company

### Idea behind human resource development

Our system of human resource development system, which consists of the three elements training, evaluation, and compensation, enables employees to improve their skills on a continual basis and provides them with motivating circumstances for the duration of their years in the company.

- (1) Develop employees who understands the company philosophy, and who are professional, creative, highly skilled, and able to achieve management goals.
- (2) Develop employees who are creative, always motivated to improve themselves, and able to realize their true potential through self-driven and disciplined actions.
- (3) Develop employees who respects human rights, lives in harmony with the environment, observes social rules, are sensible and have an international perspective.
- (4) Create a workplace culture where corporate capability is raised and results are achieved as a result of good communication and developing each employee's capabilities.



### Employee development

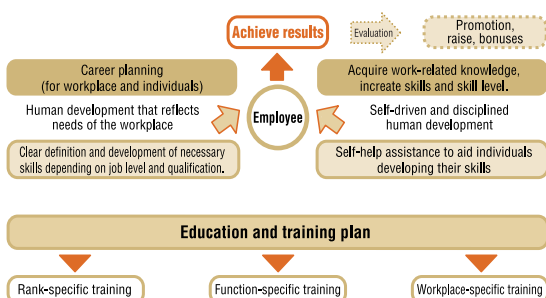
Our training system consists of rank-specific training (companywide training), function-specific training within specialist fields (division training), and workplace-specific training carried out by the workplace.

Rank-specific training is separate for each qualifications and job level. Clearly defined knowledge, skills and responsibilities must be attained by persons at each rank, and the training is designed to achieve that.

Function-specific training is provided so that employees can obtain advanced knowledge and skills through external instructors who are skilled in specific functional fields.

At each workplace, an education and training plan is defined so that employees can acquire the skills relevant to their job level and qualifications based on a schedule.

There are other types of training available, such as assistance for acquiring



### Technician development

As one of the world's few functional parts manufacturers also possessing a machine tools division, we carry out training on a continual basis to provide our technicians with top-level technical knowledge and skills so that JTEKT can be a company with the technical capability to carry out manufacturing innovation and provide the world with reliable, advanced technology.

Technicians receive basic education through the company's vocational school and then through OJT at the workplace. After that, technicians are trained while working with their teams through such means as studying for national and internal technical-skill examinations and participating in courses to increase their skills.



# Relationship with employees

~Safety, Hygiene, Health, and Transportation~

Building a safe and pleasant working environment and aiming to achieve both physical and mental fitness

## Safety, Hygiene, and Health

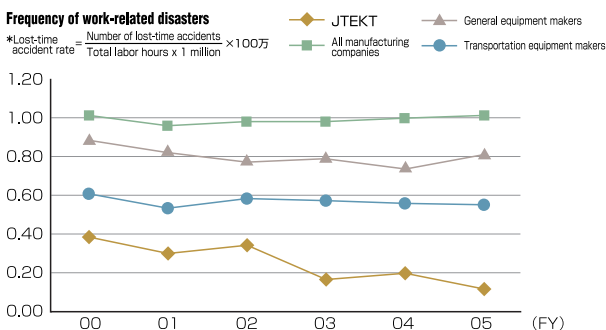
Following the merger, the basic health and safety policy of JTEKT is to "recognize that securing the safety and health of employees is an essential aspect of managing the company and promote companywide, proactive health and safety management activities for that purpose". As a result, all employees actively work on health and safety activities in order to create pleasant workplace and achieve fitness.

### Companywide health and safety policy

1. Strongly recognize that securing the safety and health of employees is an essential aspect of managing the company and promote companywide, proactive health and safety management activities to achieve that.
2. Include laws and regulations related to health and safety as well as notification and guidelines issued by administrative and government offices appropriately to company regulations and have them enforced. Also, identify and thoroughly remove sources of danger and hazardous materials from equipment and work by promoting preventative activities such as enforcing occupational health and safety management systems and risk assessment.
3. Heighten the safety awareness of all employees and promote the building of fundamentally safe workplaces and safety-conscious employees. Promote the following health and safety management items strongly.
  - Elimination of work-related disasters
  - Elimination of transport-related accidents
  - Achieving mental and physical fitness
  - Establishing a pleasant working environment
  - Strengthening management of fire prevention
  - Comprehensive health and safety education
4. Incorporate opinions of employees, and promote continuous kaizen and Innovation in all phases.

Frequency of work-related disasters

\*Lost-time accident rate =  $\frac{\text{Number of lost-time accidents}}{\text{Total labor hours} \times 1 \text{ million}} \times 100 \text{万}$



### Basic idea behind "zero disasters"

#### < Two basic rules in safety >

##### 1. Strengthen "sprit, mind, and body"

**S p r i t**: Strong determination and alertness to seek safety

- Put safety above all else, and continuously have a strong will to prevent injuries to both oneself and colleagues

**M i n d**: Observe carefully, and think through the true cause

- Are rules being thoroughly followed?
- Why aren't rules being followed?
- Why are abnormal conditions occurring?

**B o d y**: Powerful will to execute, single-minded thoroughness

- Always "stop" during occurrence of abnormal conditions
- Rules to be "followed" and "supervised" properly

##### 2. Thorough visual control

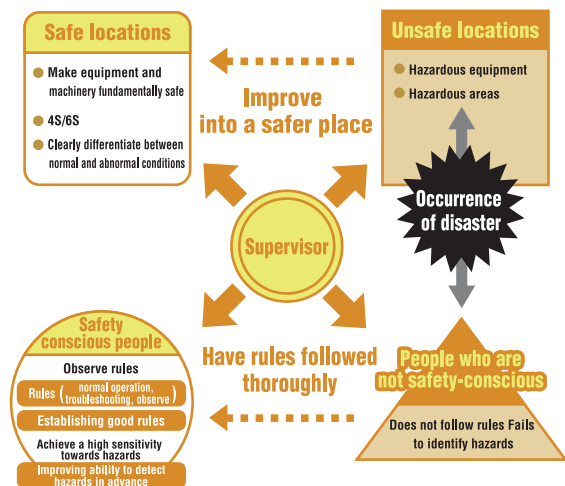
Visual control of problems (bad events, bad situations)

- Analyze them and reduce them to "0" as much as possible

Visual control of solutions (kaizen examples, knowledge, experience)

Visual control of situations

- Basis (standards), change points, progress, cost, etc.



## Major policies for 2005

### 1. Health and safety

- (1) Carry out activities based on occupational health and safety management system
  - Improve work methods and equipment through promoting risk assessment
  - Obtain certification from external organizations
  - Fiscal year 2003: Tokyo -Fiscal year 2004: Tokushima, Nara, and Toyohashi
  - Fiscal year 2005: Kokubu, Kameyama, and Kagawa
  - Other 6 plants expected to obtain certification by end of fiscal year 2007
- (2) Promote making equipment fundamentally safe
  - Review and implement equipment safety standards
  - Promote prevention measures for startup by third parties (lock out system)
- (3) Promote safety-conscious employee
  - Enforce observation of rules (prepare manuals, education and training)
  - Enforce reporting and horizontal implementation

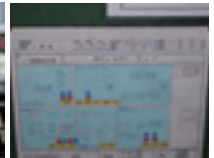
- (4) Promote elimination of causes through visualizing minor injuries and "Hiyari-hatto (close calls)."
- Creating maps
- (5) Improve work environments
  - Improve workplaces that fall into 3rd degree noise management
  - Improve hot workplaces ● Reduce workload by incorporating ergonomics



Acquisition of OSHMS certification



Lock out system



Minor injuries / 'Hiyari-hatto' map

### 2. Transportation and fire prevention

- (1) Carry out activities for improving and maintaining awareness for traffic safety
  - ..... Increasing awareness by possessing safe driver cards
- (2) Build workplaces that don't cause fires ..... Execute self-diagnosis on fire prevention
- (3) Maintain and improve fire extinguishing activities
  - ..... Execute extinguishing training by fire extinguishers in the workplace



Fire extinguishing exercise by workplace fire fighting team

### 3. Achieving mental and physical health

Health management activities are being executed to assist employees in promoting health and well-being.

As a measure for achieving mental and physical health, we proactively promote activities to prevent lifestyle-related diseases and maintain mental health suited to individual health and activity levels.

#### (1) Building health

Health education and guidance are carried out after health checks in the aim of preventing lifestyle-related disease. From April 2006, the Kariya, Okazaki, Hanazono, Tadamisaki, Higashi-Kariya, and Kohda plants have all prohibited smoking indoors. We will work to reduce smoking-related problems in the workplace prohibited indoor smoking at all affiliates by 2009.



#### (2) Achieving mental health

We aggressively promote mental health, mainly focusing on countermeasures for depression, based on a government-issued "policy for the mental and physical health of workers."

#### Mental health activities of JTEKT

	2000	2005	2010
Self-awareness		Investigating stress	
Early detection of problems	Health counseling in the workplace		Critical path for improving mental health
Mental health education	Supervisors *( ) number of attendees	Mental health seminars Mental health education for supervisors (480 people) Listener education (740 people)	Mental health education for supervisors (800 people expected) Listener education (1200 people expected)
	All employees	Stress management education (6 affiliates)	Stress management education (9 affiliates)

#### Critical path for improving mental health

Tools for early detection of abnormal behavior by staff



Guide book

#### Stress management education

~Building stress-tolerant people~

1. Target: All employees
2. Content of education: 45 minutes
  - What is stress?
  - Cognitive behavioral therapy ... identify distortion in cognition
  - Peer counseling
  - Coaching
  - Relaxation (autogenic training, Tanden respiration)



Stress management education

# Koyo Machine Industries Co., Ltd.

## Message from the President



President  
Masaomi So

With the Kyoto Accord regulations coming into effect last year, we as companies must work towards limiting emissions of CO<sub>2</sub>. Also we must observe the RoHS protocol of Europe that restricts the production of substances of environmental concern. Our company acquired ISO14001 certification in May 2001, and we will be updating our certification for the second time next year. During this period, we have put our efforts into designing and manufacturing products that have limited impact on the environment and have actively promoted the manufacture of environmentally friendly products. We will continue to strive for an environmentally sustainable society by following the key words simple, slim, smooth flow and orderly and well arranged.

## Company outline

Company name	Koyo Machine Industries Co., Ltd.
Head office	2-34 Minamiematsu-cho, Yao-shi, Osaka TEL 072-922-7881 URL http://www.koyo-machine.co.jp
Established	August 1961
Capital	1.1 billion yen
Net sales	FY 2004: 29,543 million yen FY 2005: 35,328 million yen
Primary business	Manufacture and sale of machine tools, factory automation systems, precision equipment, and joints
Number of employees	970
Business bases	Sales bases: Tokyo, Chubu, Osaka (USA, Korea) Production bases: Head office and Plant (Osaka), Yuzaki Plant (Nara), Gojo Plant (Nara) Overseas companies: 4 (USA, China, Thailand)

## Main products



### Machine tools

- Centerless grinders
- Surface grinders
- Water grinders
- Other grinders



### Joints

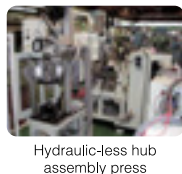
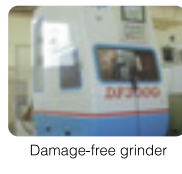

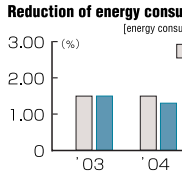
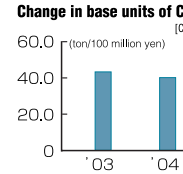

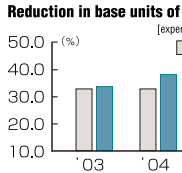
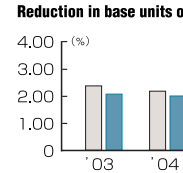

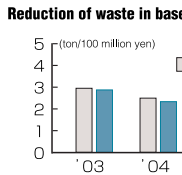
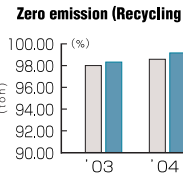

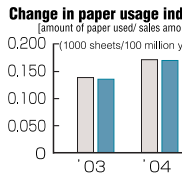
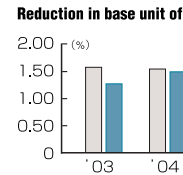
- Automotive intermediate shafts
- Driveshafts

## Environmental data

	Item	Yao Plant			Yuzaki Plant			Gojo Plant		
		Legal limit	In-house standard	Actual measurement	Legal limit	In-house standard	Actual measurement	Legal limit	In-house standard	Actual measurement
Drainage water quality	BOD	60	50	50	1,500	600	220	1,500	600	180
	COD	60	50	31	-	-	-	-	-	-
	SS	120	100	8	1,500	600	290	1,500	600	200
	pH	5.8-8.6	5.9-8.5	7.9	5-9	5.8-8.6	8.2	5-9	5.5-8.5	8.4
	Mineral oil	5	4	1.0	5	4	3.0	5	4	3.0
	Wastewater volume	142	100	56	-	-	*2	-	-	*4
Air	NOx	150	120	64	150	120	63	150	120	92
	SOx	0.3	-	*1	1.1	-	*3	0.23	-	*5
	Particulates	0.1	0.01	0.0026	0.2	0.01	0.005	0.2	0.01	0.005
Noise	Morning	65	60	56.5	65	60	52.4	65	60	56.3
	Afternoon	70	65	60.1	70	65	54.8	70	65	59.9
	Evening	65	60	57.4	65	60	56.8	65	60	59.3
	Night	60	55	54.3	55	50	49.3	55	54	48.0
Vibration	Afternoon	70	65	46	65	60	52.5	65	60	32
	Night	65	60	42	60	55	48.4	60	55	*6

\*Yao Plant: [Water quality] Discharged into public waters, regulated by the Water Pollution Control Law and reported to Yao city [Noise] Regulated by Osaka prefectural bylaws [Air] Facility: Absorbing type cooling equipment regulated by Osaka prefectural bylaws \*1: Not measured since city supplied natural gas used [Vibration] Regulated by Osaka prefectural bylaws  
 Yuzaki Plant: [Water quality] Discharged into public sewage, regulated by Kawanishi-town sewage bylaws \*2: Not measured due to sewage [Noise] Regulated by Nara prefectural bylaws [Air] Facility: Absorbing type cooling equipment, regulated by Nara prefectural bylaws \*3: Not measured since city supplied natural gas used [Vibration] Regulated by Nara prefecture bylaw  
 Gojo Plant: [Water quality] Discharged into public sewage, regulated by Gojo city sewage bylaws \*4: Not measured due to sewage [Noise] Regulated by Nara prefectural bylaws [Air] Facility: Absorbing type cooling equipment / Regulation: Nara prefecture bylaw \*5: Not measured since LP gas used [Vibration] Regulated by Nara prefectural bylaws \*6: Level lower than lowest possible measurement provided by measuring equipment  
 \*Note: Osaka prefectural bylaws: Osaka prefecture living environmental laws and regulations; Nara prefectural bylaws: Nara prefecture living environmental laws and regulations  
 \*(Units) BOD, COD, SS, Mineral oil (mg/ℓ), Wastewater volume (m<sup>3</sup>/day), NOx (ppm), SOx (Nm<sup>3</sup>/h), Particulates (g/Nm<sup>3</sup>), Noise, Vibration (dB)

## Environmental management system

	Environmental objective	Performance index (mid-term target)	FY 2005 target	FY 2005 results	Evaluation	Main activities
<b>Environmentally friendly products</b>	Plan and implement strategies to improve efficiency and set a target in the reduction of environmental effects.	Minimize the environmental burden by reducing the amount of resources used and considering energy conservation methods and extended product life. Achieve 45% better efficiency than current models by the end of FY 2008	Reduce environmental burden by 30% by FY 2005 (compared to 2002 levels)	28.9% (compared to 2002 levels)	○	<b>Environmentally friendly product subcommittee</b> <ul style="list-style-type: none"> <li>Production and sales of hydraulic-less hub assembly press</li> <li>Damage-free grinder (production of 2nd machine)</li> <li>Manufacturing compact internal cylindrical grinders, examination of the market</li> <li>Production of dual spindle test machine</li> </ul>  
<b>Energy conservation</b>	Reduce consumption of electricity Reduce consumption of gas Reduce consumption of water	Reduction of basic unit (energy consumption/ production output) 6% reduction in 2007 in comparison to FY 2004 Production output from 1.33% to 1.25%	2% reduction from FY 2004 FY 2005 output :from 1.33% to 1.30%	Reduction in CO <sub>2</sub> level from 36.4% to 33.1%  Reduction in energy consumption 1.25%	○	<b>Energy conservation subcommittee</b> <ul style="list-style-type: none"> <li>Installation of energy conserving equipment (BeNext) to air conditioner</li> <li>Continued replacement to energy conserving mercury lamps</li> <li>Investigate the possibility of installing inverter-type compressors</li> <li>Continued replacement from high altitude mercury lamps to line illumination fluorescent lamps</li> </ul>   
<b>Resource conservation I</b>	Reduce consumption of primary materials Reduce consumption of secondary materials	2% reduction of base unit (expenditure / production cost) from target of previous year, for FY 2007, primary materials 35.5%, secondary materials 1.94%	FY 2005 Primary materials: 40.1% Secondary materials: 2.0%	Primary materials 38.9% Secondary materials 1.93%	○	<b>Resource conservation subcommittee I</b> <ul style="list-style-type: none"> <li>Reduce rate of malfunction and number of defects</li> <li>Increase yield with new manufacturing methods and integration of materials types used</li> <li>Change to linear scale and reduce number of parts</li> <li>Modify the mold for free forged parts and change to tubing</li> <li>Change cold dress yoke to press</li> </ul>   
<b>Environmental improvement</b>	Reduce waste Recycle waste Monitor the air and water quality	Base unit (waste amount t/ production cost in 100million yen) 2.8% reduction from previous year, 1.90 for FY 2007 FY 2007 recycling percentage 99.4%	FY 2005 Base unit: 2.03 Recycling percentage: 99.0%	Base unit 1.94 Recycling percentage 99.27%	○	<b>Environmental conservation subcommittee</b> <ul style="list-style-type: none"> <li>Install separation device to dust collector of tip conveyor and reduce liquid waste by collecting coolant</li> <li>Collect defective products from dealers delivering defective pressed materials and offer advice for improvement</li> <li>Investigate methods to recycle glass and honing stones</li> <li>Reduce toluene and xylene use by changing coating compound</li> </ul>   
<b>Resource conservation II</b>	Reduce paper usage Reduce usage of packaging products Reduce shipping costs	Reduction target of base unit from 2005 (number of sheets used / sales amount) Reduce sheet usage index appropriate for the sales amount 3% from previous year 0.148 (cumulative total for all departments) for FY 2008  Reduce base unit (cost/sales amount) by 13% in FY 2008 compared to 1998 level ·Packaging cost 0.53%, shipping cost 0.93%	FY 2005 base unit 0.172 (1000 sheets / million yen)	2005 base unit 0.145 (1000 sheets / million yen)  Packaging cost, shipping cost : 1.10%	○	<b>Resource conservation subcommittee II</b> <ul style="list-style-type: none"> <li>Reduce usage of copying paper</li> <li>Promote usage of CDs for creating instruction manuals</li> <li>Use email to provide estimates</li> <li>Use packaging appropriate for customs</li> <li>Change box type used for exports</li> </ul>   



# Toyooki Kogyo Co., Ltd.

## Message from the President



President  
Yasuaki Hayashi

As the only comprehensive hydraulic equipment manufacturer in the Toyota Group, we contribute not only to the Group's plant-related businesses but also to automation and energy saving for various other industries.

Our environmental preservation activities are being promoted by four subcommittees: the Energy Conservation Subcommittee, Industrial Waste Subcommittee, Product Development Subcommittee, and Regional Environmental Subcommittee.

As part of efforts to achieve continuous improvement, we held our first certification renewal meeting in February. We ask for the support of all our customers, suppliers, shareholders and people in the community to help us continue to work on environmental preservation activities.

## Company outline

Company name	Toyooki Kogyo Co., Ltd.
Established	1958
Head office	45 Kaizan, Hacchi-cho, Okazaki-city, Aichi Prefecture TEL 0564-48-221 URL http://www.toyooki.jp/
Capital	2.54 million yen
Net sales	FY2004: 12,775 million yen FY2005: 14,786 million yen
Primary business	Hydraulic and pneumatic equipment, automotive component, measurement equipment
Number of employees	521
Business base	Sales bases: Tokyo, Chubu, Osaka, Hiroshima, and Fukuoka Production bases: Okazaki Head Office Plant (Aichi), Anjou Plant (Aichi)

## Main products



Hydraulic equipment



Automotive components  
AT/CVT gear sets



Measurement equipment  
Automotive component inspection machines

## Environmental data


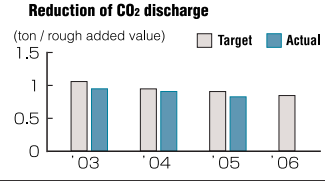
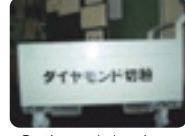




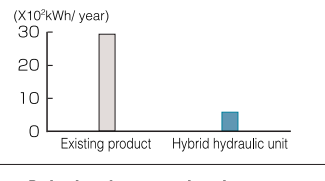

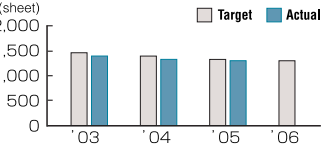
Item	Legal limit	In-house standard	Actual measurement
<b>Drainage water quality</b>			
BOD	20	—	11
COD	20	—	12
SS	20	—	7
pH	6.5-8.5	—	7.2
Nitrogen	35	—	12
Phosphorus	3	—	0.39
Mineral oil	2	—	1
Animal and vegetable oil	10	—	1
<b>Air</b>			
K value	7.59	—	0.42
NOx	0.1	—	0.002
SOx	250	—	86
Particulates	2.57	—	0.12

Item	Legal limit	In-house standard	Actual measurement
<b>Noise</b>			
Morning	55	53	49
Afternoon	60	58	55
Evening	55	53	53
Night	50	48	47
<b>Vibration</b>			
Afternoon	65	61	43
Night	60	57	44

※[Water quality] Discharged into public rivers, regulated by Pollution prevention and environmental preservation protocol (Okazaki city)  
[Noise] Regulated by Pollution prevention and environmental preservation protocol (Okazaki city)  
[Air] Regulated by Pollution prevention and environmental preservation protocol (Okazaki city)  
[Vibration] Regulated by Pollution prevention and environmental preservation protocol (Okazaki city)

※[Units] BOD, COD, SS, Nitrogen, Phosphorus, Mineral oil, Animal and vegetable oil (mg/ℓ), NOx (ppm), SOx (m³/h), Particulates (g/m³), Noise, Vibration (dB)

## Environmental management system

	Environmental objective	Performance index (mid-term target)	FY 2005 target	FY 2005 results	Evaluation	Main activities
<b>Energy Conservation Subcommittee</b>	Reduction of CO <sub>2</sub> discharge	Cut on the basic unit. By the end of FY2010, 30% reduction compared to FY2003.	CO <sub>2</sub> discharge Basic unit 0.82 (ton/million yen)	0.72 (ton / million yen)	○	<ul style="list-style-type: none"> <li>● Reduce electricity usage and noise by renewal of compressor</li> <li>● Eliminate of water removal by installing air dryer</li> <li>● Warm-biz and cool-biz campaign</li> <li>● Company-wide power cut during long holiday</li> </ul>  <p>Renewal of compressor</p>  <p><b>Reduction of CO<sub>2</sub> discharge</b> (ton / rough added value) Target Actual</p>
<b>Industrial Waste Management Subcommittee</b>	Reduction of industrial waste	Cut on the basic unit. By end of 2010, 30% cut compared to FY2003.	Basic unit 0.058(ton/¥mil)	0.056 (ton / million yen)	○	<ul style="list-style-type: none"> <li>● Life extension of washing liquid.</li> <li>● Sorting and charging of grinding chips</li> <li>● Reduction system of grinding chips</li> </ul>  <p>Sorting and charging for diamond's grinding chips</p>  <p><b>Reduction of industrial waste</b> (ton / rough added value) Target Actual</p>
<b>Regional Environmental Subcommittee</b>	Air pollution and water pollution control Compliance with the noise pollution and vibration regulation	100% compliance with both regulations and internally set target	100% compliance with both regulations and internally set target	100% compliance	○	<ul style="list-style-type: none"> <li>● Check revision of laws</li> <li>● Planned improvement of equipment for environmental preservation</li> <li>● Enforcement of emergency training</li> </ul>  <p>Establishment of a sound proofing walls</p>  <p><b>Noise comparison</b> (dB) Before measures After measures</p>
<b>Product Development Subcommittee</b>	Development of energy and resource saving products	Development of energy and resource savings products Reduce environment impacting substances from products	Energy-saving products Development of 2-model. RoHS compatible products. Production of 2-model.	2-model product development. 2-model production	○	<ul style="list-style-type: none"> <li>● Hybrid hydraulic pump unit</li> <li>● Energy-saving vane pump</li> <li>● Toyo-pack eco</li> <li>● 025B electromagnetic valve } Adopting chromium VI-free and Pb free solder</li> </ul>  <p>Hybrid hydraulic pump unit</p>  <p><b>Reduction of electricity consumption</b> (X10<sup>3</sup>kWh/ year) Existing product Hybrid hydraulic unit</p>
<b>Paper Reduction Subcommittee</b>	Reduction of paper purchased	By end of FY 2007, 6% reduction in comparison to 2004	Amount of paper purchased : 1248 sheets	1,232 sheets	○	<ul style="list-style-type: none"> <li>● Unify procurement to enforce management of purchase</li> <li>● Promote publishing of electronic catalogue on web site</li> <li>● Promote use of electronic data</li> </ul>  <p>Electronic catalogue on home page</p>  <p><b>Reduction of paper purchased</b> (sheet) Target Actual</p>

# Koyo Sealing Techno Co., Ltd.

## Message from the President



President  
Koji Hashiguchi

With a view toward the future global environment, we have been working toward environmental preservation based on our company philosophy of "contributing to achievement of a safe and plentiful society through providing exceptional value through wisdom and creativity based on respect for people." In an age when the demand for environmental burden reduction and energy conservation is on the rise, we aim to develop, manufacture and sell energy-efficient, environmentally friendly products in fast response to requirements presented by customers.

Also, our a global environment protection committee proactively and continually promotes energy conservation, resource conservation, reduction of industrial waste and reduction of toxic substances.

### Company outline

Company name	Koyo Sealing Techno Co., Ltd.
Established	October 1964
Head office	39 Aza Nishino, Kasagi, Aizumi-cho, Itano-gun, Tokushima Prefecture TEL 088-692-2711 URL http://www.koyo-st.co.jp/
Capital	125 million yen
Net sales	FY 2004: 12,223 million yen FY 2005: 13,278 million yen
Primary business	Manufacture of oil seals (general, large size, bonded piston seals, etc.) and rubber products
Number of employees	432
Certificate acquisition	Oct. 23, 2002 (valid until Oct. 22, 2008)
Certification body	Japan Audit and Certification Organization for Environment and Quality (JACO)

### Main products













### Environmental data

Item	Legal limit	In-house standard	Actual measurement
<b>Drainage water quality</b>			
Pollutant load (COD)	17.4	8.6	4.6
Pollutant load (Nitrogen)	15.1	8.7	0.31
Pollutant load (Phosphorus)	1.68	1.4	0.19
BOD	30	10	8.3
COD	30	10	9.1
SS	30	14	12
pH	5.8~8.6	6.5~7.9	7.8
Oil content	5	2	0.5
Nitrogen	16	4.5	3.4
Phosphorus	120	8	7.4
Wastewater volume	840	750	604
<b>Air</b>			
K value	13	0.15	0.1
NOx	180	87	86
Particulates	0.3	0.03	0.002
<b>Noise</b>			
Morning	60	53	48
Afternoon	65	55	52
Evening	60	53	51
Night	55	49	48
<b>Vibration</b>			
Afternoon	65	61	59
Night	60	59	59

※[Units] Pollutant load (kg/day) BOD, COD, SS, Oil content, Nitrogen, Phosphorus (mg/ℓ) Wastewater volume (m<sup>3</sup>/day), NOx (ppm), Particulates (g/m<sup>3</sup>), Noise, Vibration (dB)

### Environmental management system

Environmental objective	Performance index (mid-term target)	FY 2005 target	FY 2005 results	Evaluation	Main activities
<b>Energy conservation</b> Reduce energy consumption	Proportion of basic unit for energy to internal net sales 6.0% reduction by end of FY 2007 compared to FY 2004 < 2.06 >	Proportion of basic unit for energy to internal net sales 2.0% reduction compared to FY 2004 < 2.14 >	Increased by 2.8% < 2.24 >	× due to increase in price of crude oil	<ul style="list-style-type: none"> <li>Air leakage inspection and repair, review pressure settings</li> <li>Operation management of large compressor during holiday construction work and special duty</li> <li>Operation management and overheating countermeasures through installation of vapor flow meter</li> <li>Replacing operational oil with energy efficient types</li> <li>Embedding of finishing machine in ON/OFF cycle</li> <li>Increased productivity and energy saving as a result of aggregating secondary sulfurization furnace</li> </ul>  
<b>Resource conservation</b> Reduce primary and secondary material usage	<b>Primary materials</b> Proportion of primary material consumption cost to internal net sales 4.6% reduction by end of FY 2007 compared to FY 2004	Proportion of consumption cost to internal net sales 2.6% reduction compared to actual result obtained in FY 2004 < 97.4% >	3.3% reduction < 96.7% >	○	<ul style="list-style-type: none"> <li>Kneading of acrylic rubber materials internally</li> <li>Replace #491 carbon fiber</li> <li>Change spring materials from SUS to SWB</li> <li>Develop replacement for FKM Teflon</li> <li>Reuse core of large metal ring</li> </ul>
	<b>Secondary materials</b> Secondary material consumption cost per internal net sales 4.6% reduction by end of FY 2007 compared to FY 2004	Proportion of consumption cost to internal net sales 2.6% reduction compared to actual result obtained in FY 2004 < 97.4% >	9.1% increase < 109.17% >	× due to increase in price of crude oil	<ul style="list-style-type: none"> <li>Reduction or standardization of adhesives (Chemlok 607 to APZ6601)</li> <li>Reduce usage through minimizing tank capacity of adhesive</li> <li>Reduction of usage through reviewing replacement cycle of parker processing fluid</li> <li>Reduce grind stone consumption through eliminating the wrap process</li> </ul>
<b>Environmental improvement</b> Reduce waste Recycle Manage and improve environmental facilities	Proportion of basic unit for waste to internal net sales 8.4% reduction by end of FY 2007 compared to FY 2004 < 5.39 >	Proportion of basic unit for waste to internal net sales 8.4% reduction compared to FY 2004 < 5.71 >	4.6% reduction < 5.6 >	○	<ul style="list-style-type: none"> <li>Improvements to industrial waste storage area of environmental facilities and external alkaline pool (improving measures to prevent leakage of oil and chemicals to gutter)</li> <li>Reduction of sludge using centrifugal separator</li> <li>Internal processing of BPS wet blast-processing fluid</li> <li>Continuing thermal recycling of rubber sealing and vinyl (cement company)</li> <li>Abiding by internal standards through continual maintenance and management of facilities</li> </ul>  
	Recycling rate: over 99%	Recycling rate: 99%	99%	○	
	100% compliance of in-house standards Improvement activities for environmental facilities	100% compliance of in-house standards Improving external alkaline tank and rain water gutter	100% compliance Executed	100% compliance	○
<b>Logistics</b> Reduce packaging and packaging materials Make logistics more efficient	Basic unit for packaging, packing materials and delivery cost 6.0% reduction by end of FY 2007 compared to FY 2004 < 0.418 >	Basic unit for packaging, packing materials and delivery cost 2.0% reduction compared to FY 2004 < 0.435 >	Increase of 39.3% < 0.621 >	×	<ul style="list-style-type: none"> <li>Reducing cost through use of plastic pallets</li> <li>Reducing plastic replacement cost through improving packaging methods</li> <li>Carton of product container - switched to returnable plastic container</li> <li>Modify delivery method of empty plastic container to customer</li> <li>Modal shift, expand replacement of lifts with electric cars (reduce CO<sub>2</sub>)</li> </ul>  
<b>Paper reduction</b> Reduce paper usage	Paper consumption 9.0% reduction by end of FY 2007 compared to FY 2004 < 837 thousand sheets >	Reduce paper consumption by 3.0% compared to FY 2004 < 893 thousand sheets >	3.0% reduction < 892 thousand sheets >	○	<ul style="list-style-type: none"> <li>Sorting used paper and reusing the other side (installed box for paper reuse)</li> <li>Extensive use of projectors during meetings</li> <li>Recycling through sorting of waste paper</li> <li>Reduce handout paper through reviewing number of copies needed</li> <li>Effective use of email</li> </ul>  
<b>Design</b> Carry out product assessments	<b>Item</b>	<b>Target</b>	<b>Completion date of development</b>	<b>With respect to the plan</b>	
	① Extend acceptance of order for primary low torque seals	30% reduction in energy consumption compared to existing products	Completed, extending acceptance of orders	○	<ul style="list-style-type: none"> <li>Increase order acceptance of primary low torque seals (30% reduction in energy consumption compared to existing product)</li> </ul>
	② Development of secondary low torque seals	40% reduction in energy consumption compared to primary version	Jun. 2008	○	<ul style="list-style-type: none"> <li>Development of secondary torque seals (40% reduction in energy consumption compared to primary version)</li> </ul>
	③ Development of seals compatible with high rotational speeds	50% reduction in energy consumption compared to existing product	Jan. 2008	○	<ul style="list-style-type: none"> <li>Development of high rotational speed compatible seals (Development of surface improving technologies such as coatings)</li> </ul>
	④ Development of lightweight bonded piston seals	10% reduction in weight compared to existing product	Jan. 2006	○	<ul style="list-style-type: none"> <li>Development of lightweight bonded piston seals (reduce weight through development of local thickening technology)</li> </ul>
⑤ Development of replacement materials for environmentally impacting substances	Development of replacement materials	Sep. 2005	○	<ul style="list-style-type: none"> <li>Development of replacement materials for environmentally impacting substances (developing replacement materials for leaded adhesives)</li> </ul>  	



# CNK Co., Ltd.

## Message from the President



President  
Ikumi Funahashi

The company was established in 1958 as 'Chubu Netsuren Research Center' for the purpose of researching and developing sulfurization treatment. It then undertook development of FA equipment for machine tools and the manufacture of rack shafts. In 1989, we changed our company name to CNK Co., Ltd. Having a management philosophy of "creating technology that is friendly to both mankind and the environment and promoting preservation of global and local environments in order to contribute to realization of a plentiful and comfortable society," we acquired ISO14001 certification in February 2002. We have been assisting customers through implementing activities that are in accord with an environmental management system, and producing products that have low in environmental burden.

### Company outline

Company name	CNK Co., Ltd.
Established	1958
Head office	28 Buwari, Noda-cho, Kariya-shi, Aichi Prefecture TEL 0566-21-1833 URL http://www.cnk.co.jp/
Capital	48 million yen
Net sales	17.2 billion yen
Primary business	Machinery, environmental products, metal surface treatment, automobile parts
Number of employees	288
Business base	Tokyo Branch office, Toyota Plant, Thailand Plant

### Main products

<b>Machinery</b>  LNIV type loader for crankshafts	<b>Environmental products</b>  Round eddy-current coolant system	<b>Metal surface treatment</b>  Clutch plate	<b>Automobile parts</b>  Rack shafts
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### Environmental data

	Item	Headquarters Plant			Parts Plant			Toyota Plant		
		Legal limit	In-house standard	Actual measurement	Legal limit	In-house standard	Actual measurement	Legal limit	In-house standard	Actual measurement
Drainage water quality	BOD	160	25	7.8	160	25	13.25	-	-	-
	COD	160	25	8.6	160	25	14.6	-	-	-
	SS	200	30	4.4	200	30	13.2	-	-	-
	pH	5.8-8.6	5.8-8.6	8.4	5.8-8.6	5.8-8.6	8.1	-	-	-
	Mineral oil	5	5	1.1	5	5	2.9	-	-	-
	Wastewater volume	644.4	-	312.3	-	-	-	-	-	-
Air	NOx	180	180	62	-	-	-	-	-	-
	SOx	0.14	0.14	0.040	-	-	-	-	-	-
	Particulates	0.30	0.30	0.009	-	-	-	-	-	-
Noise	Morning	65	65	59.8	65	65	60.3	55	55	52.0
	Afternoon	70	70	62.4	70	70	62	60	60	53.8
	Evening	65	65	60.7	65	65	61.3	55	55	53.0
	Night	60	60	54.8	60	60	56.5	50	50	49.5
Vibration	Afternoon	70	70	Less than 50	70	70	Less than 50	70	70	Less than 50
	Night	65	-	-	65	-	-	65	-	-

※[Units] BOD, COD, SS, Mineral oil (mg/ℓ), Wastewater volume (m<sup>3</sup>/day), NOx (ppm), SOx (Nm<sup>3</sup>/h), Particulates (g/Nm<sup>3</sup>), Noise, Vibration (dB)

### Environmental management system

	Environmental objective	Performance index (mid-term index)	FY 2005 target	FY 2005 results	Evaluation	Main activities
<b>Environmentally friendly products</b>	Reduce burden on environment-friendly product design activities.	Promote environment friendly designs that take into account of energy conservation, reducing waste, recycling and reduced noise. Number of Design For Environment: 4 or more per year.	4 or more Design For Environment per year.	4 per year	○	<b>Product assessment</b> <ul style="list-style-type: none"> <li>Adapting manual driving of front and back axles of EGP loader to reduce motor used</li> <li>Modifying beam shape of EGP loader to reduce weight</li> <li>Adapting manual tab setup of the ceramic filter transfer loader to reduce motor used</li> <li>Reduction of motor capacity through weight reduction of tandem type loader</li> </ul> Reduce motor of EGP loader                      Reduction of motor capacity of tandem type loader
<b>Energy conservation</b>	Reduce energy consumption through activities performed by Energy Conservation Subcommittee.	The Energy Conservation Subcommittee sets target figures for FY of each division, clarifies concrete execution items and promotes activity. By end of FY 2010, reduce CO <sub>2</sub> total output by 5% compared to FY 2005.	CO <sub>2</sub> total output 12,332t- CO <sub>2</sub> /year	12,261 t- CO <sub>2</sub> /year	○	<b>Improving productivity of equipment</b> <ul style="list-style-type: none"> <li>Increasing efficiency of compressor for N<sub>2</sub> gas generator</li> <li>Reduce use of electricity of hydraulic pumps using accumulators</li> <li>Improve productivity through improving jig and tools</li> <li>Improve productivity through reviewing cycles</li> </ul> Reduce use of electric power through increasing load capacity of jig                      Reduce use of electric power through decreasing C/T of paper polisher
<b>Resource conservation</b>	Reduce industrial waste through activities performed by the waste group.	The waste group sets target figures for FY of each division, clarifies concrete execution items and promotes activity. By end of FY 2010, reduce total industrial waste output by 25% compared to FY 2005.	Total waste output 82t/year	78 t/year	○	<b>Measures at source</b> <ul style="list-style-type: none"> <li>Reduction of degreasing fluid through separation of AW-5 rough cleaning from finish cleaning</li> <li>Reduction of oil consumption through countermeasures for oil leaks and mists</li> <li>Reducing waste volume through reuse of contacts</li> <li>Reducing waste plastics through recycling of safety shoes</li> </ul> Reuse contacts by splitting into two and brazing it to reduce waste volume                      Installation of recovery box dedicated to safety shoes to reduce waste plastic
<b>Green procurement</b>	Reduce impact on environment through joining activities to realize a society with an environmentally sound material cycle	Promote a green procurement where parts, materials and essential materials which are low on environmental burden from manufacturers who are proactive on environment preservation.	Number of green procurements : 6 or more per year	6 per year	○	<b>Reducing environmental burden of procured items</b> <ul style="list-style-type: none"> <li>Reduction of swarf output through using casting for loader adjuster base</li> <li>Reduction of floor cleaning agent through introduction of ionic water generator</li> <li>Reduction of load during incineration by changing materials of loader plastic cover</li> <li>Reduction of waste subject to incineration by modifying packaging for coolers</li> </ul> Reduce load on incinerator through using polyester for covers                      Reduce waste subject to incineration through use of metal fittings for cooler packaging
<b>Environmental improvement</b>	Reduce environmental burden through execution of "personal declaration on environment" by all employees and through personal environmental improvement activities.	Raise environmental awareness of all members and continuously deploy improvement activities in order to reduce environmental burden in each division. Number of environmental improvements to be 2 or more per month per division	Number of environmental improvements to be 2 or more per month per division	Total of 115 per year	○	<b>Reduction of environmental burden in each division</b> <ul style="list-style-type: none"> <li>Energy saving operation through modifying control method of compressor</li> <li>Simultaneous process of two racks and guide rails</li> <li>Reducing waste volume through extending life span of DLC lining</li> <li>Preventing splattering of diameter 25B line center less mist</li> </ul> Remove soot from inner lining and reduce waste by extending durability                      Prevent splatter to outside of machine by installing mist collection equipment.

# Koyo Thermo Systems Co., Ltd.

## Message from the President



President  
Michiro Kajiwara

Today, global warming is causing ice in Greenland to melt. The cause of that is thought to be greenhouse gases such as CO<sub>2</sub> produced by developed countries. Since its establishment, our company has been manufacturing and selling heat treatment equipment, but our products consume much electrical power a source of CO<sub>2</sub>. With the prevention of global warming being a critical environmental issue, we will be pushing to contribute through the development of energy conserving products. We thank you for your feedback and assistance in achieving this goal.

### Company outline

Company name	Koyo Thermo Systems Co., Ltd.
Established	July 19, 1967
Head office	229 Kabata-cho, Tenri-shi, Nara Prefecture TEL 0743-64-0981 URL http://www.koyo-thermos.co.jp/
Capital	450 million yen
Net sales	FY 2005: 21.51 billion yen FY 2004: 19.85 billion yen
Primary business	Heat treatment furnace for metals, heat treatment equipment for manufacturing semiconductors, electronic parts, and ceramics, heat treatment equipment for LCD and plasma displays, others
Number of employees	399
Business base	Sales bases: Nara (Headquarters), Tokyo, Gunma, Aichi, Shizuoka, Fukuoka, Kagawa Production bases: Headquarters Plant (Tenri City), Kashihara Plant (Kashihara City) Overseas affiliates: 4 companies (China, Taiwan, Korea, Thailand)

### Main products



**Vertical furnace system**  
Purpose: Semiconductor manufacturing



**CCBS oven with multiple racks**  
Purpose: LCD panel manufacturing



**Small vacuum oven**  
Multi-purpose testing equipment

### Environmental data


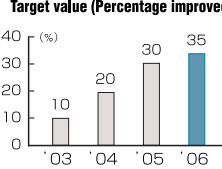
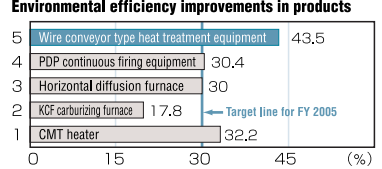
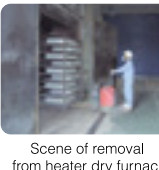
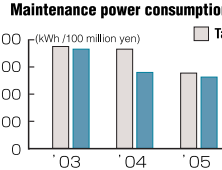
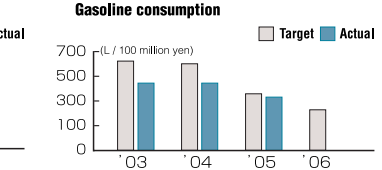
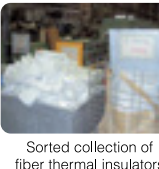

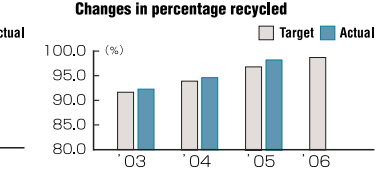

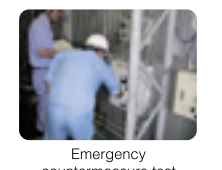
Category	Item	Legal limit	In-house standard	Actual measurement
Drainage water quality	BOD	1500	750	130
	SS	1500	750	86
	pH	5.8-8.6	6.0-8.0	7.2
Air	NOx	180	100	64
	SOx	180	100	54
	Particulates	0.2	0.1	0.004
Noise	Morning	60	60	46.2-57.9
	Afternoon	65	65	50.2-59.8
	Evening	60	60	44.3-57.5
Vibration	Afternoon	65	65	30-40
	Night	60	60	30-34



Every year in June, the environment month, all employees get involved in cleaning the plant perimeter.

※Water quality obtained from water quality test results of sewage (No dedicated facility)  
※[Units] BOD, SS (mg/ℓ), NOx (ppm), SOx (Nm<sup>3</sup>/h), Particulates (g/Nm<sup>3</sup>), Noise, Vibration (dB)

### Environmental management system

	Environmental objective	Performance index (mid-term index)	FY 2005 target	FY 2005 results	Evaluation	Main Activities																						
Design for environment	<b>Delivering products which are environment aware, with a focus on reducing CO<sub>2</sub> output</b>	Develop and release products that have improved environmental burden by 40% by end of FY 2008 (Reference: characteristics for FY 2002)	Develop and release products that have improved environmental burden by 30% (Reference: characteristics for FY 2002)	Percentage improved 30%	○	<ul style="list-style-type: none"> <li><b>[Applicable products]</b> <ul style="list-style-type: none"> <li>Development of CMT heater</li> <li>Wire conveyor type heat treatment equipment</li> <li>PDP continuous firing furnace</li> <li>Horizontal diffusion furnace</li> </ul> </li> <li><b>[Areas of improvement and target values]</b> <ul style="list-style-type: none"> <li>Power consumption 30% improvement</li> <li>Equipment weight 30% improvement</li> </ul> </li> </ul>																						
		 <p>Wire conveyor type heat treatment equipment</p>  <p>Target value (Percentage improved)</p> <table border="1"> <tr><th>Year</th><th>Value (%)</th></tr> <tr><td>'03</td><td>10</td></tr> <tr><td>'04</td><td>20</td></tr> <tr><td>'05</td><td>30</td></tr> <tr><td>'06</td><td>35</td></tr> </table>  <p>Environmental efficiency improvements in products</p> <table border="1"> <tr><th>Equipment</th><th>Value (%)</th></tr> <tr><td>Wire conveyor type heat treatment equipment</td><td>43.5</td></tr> <tr><td>PDP continuous firing equipment</td><td>30.4</td></tr> <tr><td>Horizontal diffusion furnace</td><td>30</td></tr> <tr><td>KCF carburizing furnace</td><td>17.8</td></tr> <tr><td>CMT heater</td><td>32.2</td></tr> </table>	Year	Value (%)	'03	10	'04	20	'05	30	'06	35	Equipment	Value (%)	Wire conveyor type heat treatment equipment	43.5	PDP continuous firing equipment	30.4	Horizontal diffusion furnace	30	KCF carburizing furnace	17.8	CMT heater	32.2				
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CMT heater	32.2																											
Energy conservation	Reduce energy consumption	(1) Reduce consumption of city gas (proportional to fiber input volume)	Reduce city gas consumption rate of FY 2008 to below 0.924kg/kgFin	Input less than 0.981kg/kgFin	0.722kg/kgFin	○	<ul style="list-style-type: none"> <li>Saving boosted temperature heat quantity through managing of workpiece removal times from heater dry furnace</li> <li>Adoption of hybrid cars for business use</li> <li>Establishing an idle stop campaign</li> <li>Adoption of energy efficient fluorescent lamps and mercury lamps</li> <li>Adoption of dummy fluorescent lamps</li> <li>Reduction of install base of vending machines</li> <li>Standardizing operation and enforcing bringing forward of closing time upon job completion, improved efficiency of plant operation</li> </ul>																					
		(2) Reduce gasoline consumption	Reduce gasoline consumption of FY 2008 to below 346 liters per 100 million yen	Less than 420.9 L/100 million yen	389.2 L/100 million yen	○		 <p>Scene of removal from heater dry furnace</p>  <p>Maintenance power consumption</p> <table border="1"> <tr><th>Year</th><th>Value (kWh/100 million yen)</th></tr> <tr><td>'03</td><td>14.00</td></tr> <tr><td>'04</td><td>10.00</td></tr> <tr><td>'05</td><td>8.00</td></tr> <tr><td>'06</td><td>6.00</td></tr> </table>  <p>Gasoline consumption</p> <table border="1"> <tr><th>Year</th><th>Value (L/100 million yen)</th></tr> <tr><td>'03</td><td>700</td></tr> <tr><td>'04</td><td>500</td></tr> <tr><td>'05</td><td>300</td></tr> <tr><td>'06</td><td>200</td></tr> </table>	Year	Value (kWh/100 million yen)	'03	14.00	'04	10.00	'05	8.00	'06	6.00	Year	Value (L/100 million yen)	'03	700	'04	500	'05	300	'06	200
		Year	Value (kWh/100 million yen)																									
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'03	700																											
'04	500																											
'05	300																											
'06	200																											
(3) Reduce electricity consumption	Keep maintenance electricity consumption for FY 2008 to below 8,120kWh per 100 million yen	9,830kWh per 100 million yen per year	9,250 kWh per 100 million yen per year	○																								
Resource conservation	Effective use of resources	(1) Reduce usage of copy paper	Keep usage of copy paper in A4 equivalent size for FY 2008 to below 12,930 sheets per 100 million yen per year	Copy paper consumption in A4 equivalent size of 16,780 sheets per 100 million yen per year	15,500 sheets per 100 million yen per year	○	<ul style="list-style-type: none"> <li>Establishing use of back paper in all divisions</li> <li>Replacing FAX arrangements with electronic data</li> <li>Promoting use of CD-Rs for instruction manuals</li> <li>Execution and confirmation of closing lid of container when not in use</li> <li>Reducing double wiping</li> <li>Switching to paint with low content</li> <li>Efficient painting</li> </ul>																					
		(2) Reduction of ethanol consumption	Keep ethanol consumption for FY 2005 to below 2.55kg per 100 million yen	Keep ethanol consumption to below 2.55kg per 100 million yen	2.25kg per 100 million yen per year	○																						
Environmental improvement	Schemes for achieving zero emissions	Reduction of substances of environmental concern	Target substances: (1) Xylene (2) Truene (3) Buthyl acetate	Keep total consumption of target substances to below 9.4kg per 100 million yen per year	Total consumption of target substances 16.73kg per 100 million yen per year	10.36kg per 100 million yen per year	○	<ul style="list-style-type: none"> <li>Recycling of fiber thermal insulators as part of recycling of waste</li> <li>Improving precision of separating paper from combustible waste through sorting of collected garbage</li> </ul>																				
			(1) Reduction in volume of waste	Reduce output of industrial waste to below 7.6 tons per year	Output of industrial waste below 16.8 tons per year	10.50tons per year	○																					
Environmental laws	Observing laws and preventing pollution	① Storage of chemical substances ② Storage of high-pressure gases ③ Storage of hazardous materials ④ Appropriate processing of waste ⑤ Performing emergency countermeasure tests	Number of environment law violations: 0 per year	Number of environment law violations: 0 per year	0	○	<ul style="list-style-type: none"> <li>Regular holding of liaison meetings on environment related laws</li> <li>Execution and checks for statutory inspections and regular inspections</li> <li>Execution and checks for monthly inspections of storage volume</li> <li>Execution and checks for emergency countermeasure tests</li> <li>Execution of education on environmental laws</li> </ul>																					
			Number of environment pollution accidents: 0 per year	Number of environment pollution accidents: 0 per year	0																							
			Execution rate of statutory inspections and regular inspections: 100%	Execution rate of statutory inspections and regular inspections: 100%	100%		 <p>Sorted collection of fiber thermal insulators</p>  <p>Output of industrial waste</p> <table border="1"> <tr><th>Year</th><th>Value (ton/year)</th></tr> <tr><td>'02</td><td>60.0</td></tr> <tr><td>'03</td><td>40.0</td></tr> <tr><td>'04</td><td>30.0</td></tr> <tr><td>'05</td><td>20.0</td></tr> </table>  <p>Changes in percentage recycled</p> <table border="1"> <tr><th>Year</th><th>Value (%)</th></tr> <tr><td>'03</td><td>95.0</td></tr> <tr><td>'04</td><td>95.0</td></tr> <tr><td>'05</td><td>95.0</td></tr> <tr><td>'06</td><td>95.0</td></tr> </table>	Year	Value (ton/year)	'02	60.0	'03	40.0	'04	30.0	'05	20.0	Year	Value (%)	'03	95.0	'04	95.0	'05	95.0	'06	95.0	
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			Execution rate of emergency countermeasure tests: 100%	Execution rate of emergency countermeasure tests: 100%	100%		 <p>Education on environment related laws</p>  <p>Emergency countermeasure test</p>																					



# Koyo Electronics Industries Co., Ltd.

## Message from the President



President  
Tsutomu Yuine

With the effects of global warming becoming evident through phenomenon such as higher sea levels, stringent regulations are being imposed on the production of hazardous chemical substances, and the responsibility of companies to protect the environment is further increasing. However, the task of environmental conservation is not achieved by a single colossal effort, but rather is the cumulative result of daily efforts by every individual to protect our environment. To achieve this, it is necessary for each employee to take responsibility and actively participate in environmental conservation activities, and it is my goal to build such a responsible corporate culture.

### Company outline

Company name	Koyo Electronics Industries Co., Ltd.
Founded	November 1955
Established	March 1959
Head office	1-171 Tenjin-cho, Kodaira, Tokyo TEL 042-341-3111 URL <a href="http://www.koyoele.co.jp/">http://www.koyoele.co.jp/</a>
Capital	1,593.2 million yen
Net sales	FY 2004: 12.0 billion yen (nonconsolidated) FY 2005: 12.7 billion yen (nonconsolidated)
Primary business	Manufacture and sale of electronic control devices and on-vehicle products
Number of employees	366
Business base	Sales bases: Sendai, Tokyo, Nagoya, Osaka, Hiroshima Production base: Oizumi Plant (Yamanashi) Overseas affiliates: USA, China (2 companies), Taiwan

### Main products

Electronic control devices





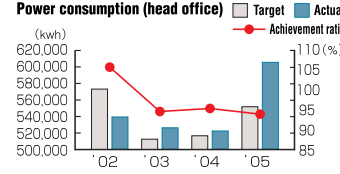
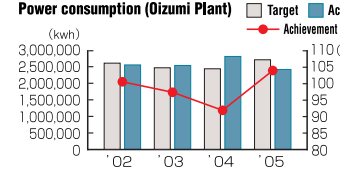
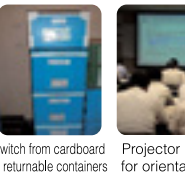
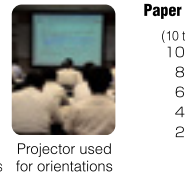
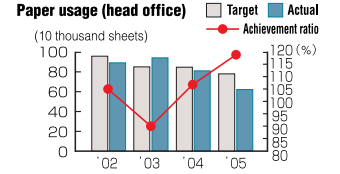
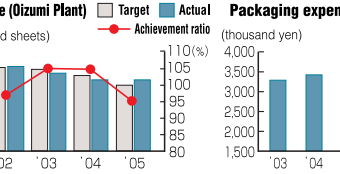
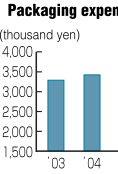

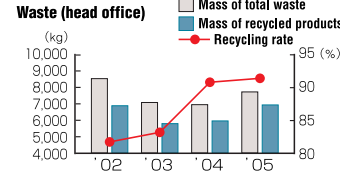
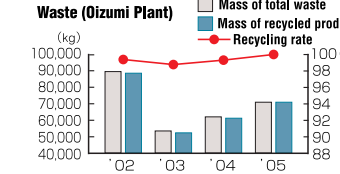

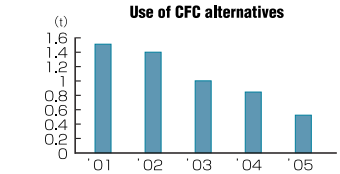


### Environmental data

Item	Oizumi Plant			Head office		
	Legal limit	In-house standard	Actual measurement	Legal limit	In-house standard	Actual measurement
Drainage water quality	Domestic wastewater discharge only					
Air	NOx	180	60	54	No particular facility	
	SOx	1.3	0.01	0.008	No particular facility	
	Particulates	0.3	0.01	0.008	No particular facility	
Noise	Morning	60	60	53	No particular facility	
	Afternoon	65	65	54	No particular facility	
	Evening	60	60	57	No particular facility	
	Night	55	55	51	No particular facility	
Vibration	Afternoon	65	50	20	No particular facility	
	Night	60	45	19	No particular facility	

※[Units] NOx (ppm), SOx (Nm<sup>3</sup>/h), Particulates (mg/Nm<sup>3</sup>), Noise, Vibration (dB)

### Environmental management system

Category	Environmental objective	Performance index (mid-term target)	FY 2005 target	FY 2005 results	Evaluation	Main Activities	
Environmentally friendly products	Promote environmental design	Implement a goal for environmental design	Construct system to monitor hazardous substances Promote RoHS compliant products	Develop management system and facility	○	<ul style="list-style-type: none"> <li>Develop information system for products containing hazardous substances</li> <li>Develop facilities to manufacture RoHS compliant products</li> <li>Change product design to comply with RoHS standards</li> </ul>   	
	Promote energy conservation and resource conservation	Reduce power consumption at head office Reduce power consumption at Oizumi Plant	1% reduction from previous year	Head office: 97% Oizumi Plant: 106%	△ ○	<ul style="list-style-type: none"> <li>Turn all lights off when unneeded</li> <li>Set energy conservation modes for computers</li> <li>Raise preset temperature for air conditioning</li> <li>Facilitate energy conserving equipment (such as air conditioning)</li> </ul>   	
Resource conservation	Paper	Reduce paper usage	Promote paperless work at head office Promote paperless work at Oizumi Plant	Reduce usage of paper Reduce usage by 2% from previous year	Head office: 119% Oizumi Plant: 95%	○ △	<ul style="list-style-type: none"> <li>Reduced paper usage for office work by utilizing Office LAN, Groupware, electrical documents DB, TV conference system, projector, scanner, e-mail, etc.</li> </ul>     
	Logistics	Promote energy and resource conservation	Reduce resources consumed for shipment	Reduce shipment budget by 2% from previous year	Shipment costs reduced by 0.5% from previous year	×	<ul style="list-style-type: none"> <li>Recycle unwanted cardboard as packing material</li> <li>Reuse of cardboard boxes</li> <li>Use of returnable containers for subcontractors</li> </ul>
Waste	Reduce and optimally recycle waste	Promote zero emissions at head office Promote zero emissions at Oizumi Plant	Achieve recycling rate of 92% Achieve recycling rate of 98%	Recycling rate Head office: 91% Oizumi Plant: 100%	○	<ul style="list-style-type: none"> <li>Thoroughly separate garbage</li> <li>Partnership with recycling agent</li> <li>Request to suppliers that packaging be kept minimal</li> </ul>   	
Chemical substances	Suppress use of and properly control chemical substances	Reduce the use of AK225U in hope of terminating its use in the future	30% reduction from previous year	38% reduction of from previous year	○	<ul style="list-style-type: none"> <li>Elimination of circuit board washing (100% elimination completed)</li> <li>Elimination of circuit board washing for products ordered by customers</li> </ul>  	

# Daibea Co., Ltd.

## Message from the President



President  
Mitsuhiro Ikeda

Since our company's establishment, we have striven based on strong manufacturing principles to create products that meet the expectations of customers, but we also wish to contribute aggressively to environmental conservation through the provision of environmentally friendly products.

Also, in line with the principles and systems of the ISO14001 certification we acquired in August 2001, our employees together are actively participating in environmental conservation activities. We ask for the continued support of our customers and other concerned parties.

## Company outline

Company name	Daibea Co., Ltd.	
Established	February 1936	
Head office	9-510 Otorikita-machi, Nishi-ku, Sakai-shi, Osaka TEL 072-262-1125 URL http://www.daibea.co.jp/	
Capital	2,317 million yen	
Net sales	FY 2004: 20,312 million yen	FY 2005: 21,684 million yen
Primary business	Manufacture and sale of bearings and bearing-related products	
Number of employees	506 (as of March 31, 2006)	
Business base	Head office and Sakai Plant (Sakai-shi, Osaka), Nabari Plant (Nabari-shi, Mie prefecture)	

## Main products

Our compact and lightweight thin-walled bearings used in applications such as the heat rollers of copying machines and contribute to reducing the burden on the environment.




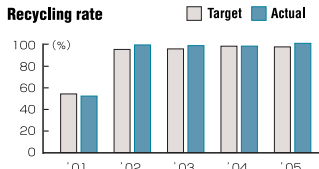
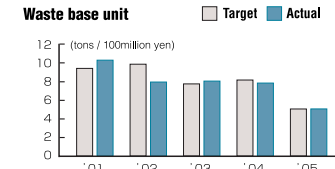

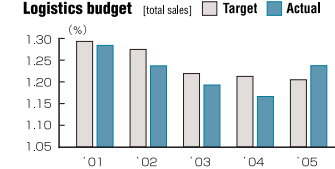
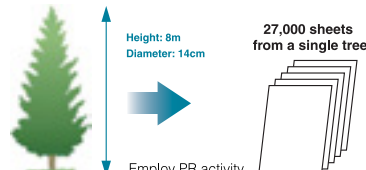
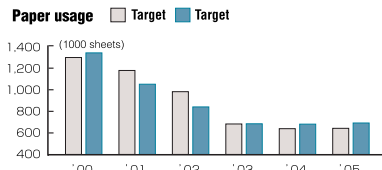
Thin-walled bearing series

## Environmental data

	Head office and Sakai Plant			Nabari Plant			
	Legal limit	In-house standard	Actual measurement	Legal limit	In-house standard	Actual measurement	
Drainage water quality	BOD	150	2-14	65	58	3	
	COD	150	3-9	—	—	—	
	SS	200	0.5-31	90	80	1	
	pH	5.8-8.6	—	5.6-7.7	5.8-8.6	6.3-7.7	7.5
	Mineral oil	5	—	1-4	3	2.7	1
	Wastewater volume	—	—	—	—	—	—
Air	No particular facility						
	NOx			180	160	62	
	SOx			0.86	0.77	0.05	
Noise	No particular facility						
	Particulates			0.3	0.27	0.006	
	Morning	65	60	43-51	65	63	55
	Afternoon	70	65	56-61	70	68	61
Vibration	Evening	65	60	52-60	65	63	60
	Night	60	60	48-57	60	58	57
	Afternoon	70	60	43-45	No particular facility		
Night	65	55	37-41	No particular facility			

※[Units] BOD, COD, SS, Mineral oil (mg/ℓ), NOx (ppm), SOx (Nm<sup>3</sup>/h), Particulates (g/Nm<sup>3</sup>), Wastewater volume (m<sup>3</sup>/day), Noise, Vibration (dB)

## Environmental management system

	Environmental objective	Performance index (mid-term target)	FY 2005 results	Single year target	Evaluation	Main Activities
Energy conservation	Reduce energy consumption	By FY 2006 end, reduce the energy cost per unit by 6.0% compared to FY 2003	Reduced energy cost by 4.0% compared to FY 2003	CO <sub>2</sub> : +16% compared to FY 2003	×	<ul style="list-style-type: none"> <li>Repair air leaks</li> <li>Change pump and compressor to inverter type</li> <li>Reduce operation time (air conditioning, etc.)</li> <li>Improve lighting</li> <li>Install high efficiency trance</li> <li>Change CRT operation board to LCD type</li> </ul>
		By FY 2006 end, reduce CO <sub>2</sub> 3.0% compared to FY 2003	Reduced emission by 2.0% compared to FY 2003			
Resource conservation	Reduce primary materials and secondary materials	Primary materials: By FY 2006 end, reduce mass and cost of materials by 6.0% compared to FY 2003	Reduced primary materials by 5.4% compared to FY 2004	Primary materials: +8% compared to FY 2004	×	<ul style="list-style-type: none"> <li>Reduce amount and types of materials used by revising manufacturing process</li> <li>Reduce amount of materials used by decreasing grinding cost</li> </ul>
		Secondary materials: By FY 2006 end, reduce secondary materials consumption per unit by 3.0% compared to FY 2003	Reduced secondary materials by 2.2% compared to FY 2004	Secondary materials: +0.6% compared to FY 2004	×	
Environmental improvement	Reduce waste	By FY 2006 end, reduce amount of waste per unit by 7.5% compared to FY 2003 By FY 2006 end, reduce waste discarded by 99.5% compared to FY 2000 Recycling rate: 99.5% by FY 2006 end	Reduced base unit by 2.5% compared to FY 2004 Reduced amount of waste discarded by 99.0% compared to FY 2000 Recycling rate: 99.0%	Recycling rate: 99.4% compared to FY 2004	○	<ol style="list-style-type: none"> <li>Reduction of waste                             <ul style="list-style-type: none"> <li>Produce resources by hardening grinded particles</li> <li>Reduce food waste (collect left over food)</li> <li>Recycle packaging</li> <li>Rent colored rags</li> <li>Recycle fluorescent lamps</li> <li>Recycle chopsticks</li> </ul> </li> <li>Environmental conservation                             <ul style="list-style-type: none"> <li>Comply with regulations</li> </ul> </li> </ol>  <p>Sorting of cafeteria waste</p>  <p>Recycling rate</p>  <p>Waste base unit</p>
	Improve local environment	Achieve 100% compliance of in-house target Regulate storage and usage of chemical substances: 100% Contribution to local environment	Confirm on-site: once per year Environmental conservation activity			
Logistics	Reduce packaging materials Improve logistics efficiency	By FY 2006 end, reduce logistics cost in relation to sales by 3.0% compared to FY 2003	Reduced logistics cost (per total sales) by 1.0% compared to FY 2004	+6%	×	<ol style="list-style-type: none"> <li>Improve packaging materials cost                             <ul style="list-style-type: none"> <li>Machine wash used trays instead of hand washing</li> <li>Partially reduce cost of washing plastic containers</li> </ul> </li> <li>Improve logistics efficiency                             <ul style="list-style-type: none"> <li>Increasing efficiency by tapping new shipping companies</li> </ul> </li> </ol>  <p>Improve logistics and packaging materials costs</p>  <p>Logistics budget (total sales)</p>
Paper reduction	Reduce usage of paper	In FY 2005, reduce usage of copy CP paper by 50% compared to FY 2000	Reduced paper usage by 2.0% compared to FY 2004	+6% compared to FY 2004	×	<ul style="list-style-type: none"> <li>Reduce handouts and utilize projector</li> <li>Promote dual side printing (continuation)</li> <li>Promote reuse of back side of paper (continuation)</li> <li>Reconsider logistics and number of prints</li> <li>Reconsider allocation of paper</li> </ul>  <p>Employ PR activity</p>  <p>Paper usage (1000 sheets)</p>

# Utsunomiya Kiki Co., Ltd.

## Message from the President



President  
Kunihiro Kato

It is thought that the 21<sup>st</sup> century will be an age of struggles over water and that water shortages will be a severe problem. It is predicted that global warming will cause flooding and droughts in many parts of the world and in Japan the rise in temperature is expected to cause a 20% increase in rainfall and an increased occurrence of severe rainstorms.

Our company acquired ISO 14001 certification four years ago and has actively contributed to preventing global warming by reducing CO<sub>2</sub> emissions. This year, we will attempt to further reduce CO<sub>2</sub> emissions by raising the efficiency of our manufacturing equipment.

## Company outline

Company name	Utsunomiya Kiki Co., Ltd.
Established	October 1953
Head office	585 Suzumenomiya-machi, Utsunomiya, Tochigi Prefecture TEL 028-653-1311 URL http://www.utsunomiya-kiki.co.jp/
Capital	50 million yen
Net sales	FY 2004: 6,160 million yen FY 2005: 6,180 million yen
Primary business	Needle roller bearings, etc.
Number of employees	268
ISO14001 Certification	Certification date: August 2002 Certification agency: Japan Quality Assurance (JQA)

## Main products



Thrust-type needle roller bearings      Radial-type needle roller bearings

## Environmental data

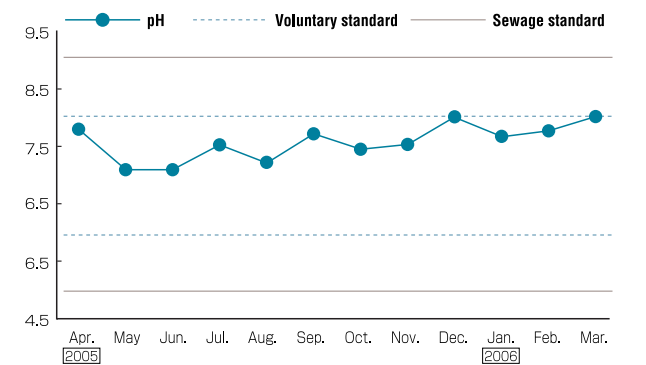
Item	Legal limit	In-house standard	Actual measurement
<b>Drainage water quality</b>			
pH	5-9	6-8	8
n-Hex (animal and vegetable oil)	30	15	0
n-Hex (mineral oil)	5	3	0
Nitrite nitrogen	380	380	16
<b>Air</b>			
Facility	NOx	950	950
In house power generator	SOx	0.96	0.96
	Particulates	0.1	0.1
<b>Noise</b>			
Morning		50	50
	Afternoon	55	55
	Evening	50	50
	Night	45	45
<b>Vibration</b>			
Afternoon		60	47
	Night	55	55

※[Units] n-Hex, Nitrite nitrogen (mg/ℓ), NOx (ppm), SOx (Nm<sup>3</sup>/h), Particulates (g/Nm<sup>3</sup>), Noise, Vibration (dB)

## Monitoring environmental measurement data trends

In order to quickly detect abnormalities and develop appropriate counter measures.

### FY 2005 Trend of plant sewage measurements



## Environmental management system

	Environmental objective	Performance index (mid-term index)	FY 2005 target	FY 2005 results	Evaluation	Main activities
<b>Energy conservation</b>	Reduce electricity consumption Reduce gas consumption Reduce fuel consumption Reduce ground water and water supply usage	a) In FY 2007, reduce the energy consumption of a single product by 10.0% from 2002 level b) By end of FY 2010, reduce CO <sub>2</sub> emission per total sales by 13.0% from FY 1997 level	a) 2.0% reduction from previous year b) 1.0% reduction from previous year	a) 3.0% reduction b) 2.4% reduction	○	<ul style="list-style-type: none"> <li>Reduce number of engine compressors operated and length of operation to reduce fuel consumption.</li> <li>Conserve energy by reducing pumping losses through the central placement of an inverter regulated compressor in the factory.</li> <li>Reduce power consumption by updating lighting equipment to energy conserving types.</li> </ul>
<b>Resources</b>	<b>Primary materials</b> Reduce consumption of primary materials Reuse and recycling of primary materials	a) In FY 2007, reduce the mass of primary materials consumed by 9.43% from FY 2002 level	a) 3.5% reduction from previous year	a) 1.3% reduction	△	<ul style="list-style-type: none"> <li>Reduced material consumption by staggering cutouts, reducing spacing between cutouts, reducing width and length of sheets and recycling mill ends.</li> <li>Reduced consumption of industrial materials by extending operational life through adding inserts to molds or by strengthening molds with titanium</li> <li>Reduction in the amount of grinding stones used by increasing operational life through increasing the dressing interval</li> </ul>
	<b>Secondary materials</b> Reduce consumption of secondary materials Reuse and recycling of secondary materials	b) In FY 2007, reduce the expenditure of secondary materials per sales amount by 18.2% from FY 2002 level	b) 10% reduction from previous year	b) 10% reduction	○	
<b>Environmental improvement</b>	Reduce, suppress production and recycle waste Appropriate disposal of waste Monitor ambient water noise and vibration Monitor chemical substances Improve environment around plant	a) In FY 2007, reduce total emission (including valuable resources) per manufacturing cost by 7.19% from FY 2002 level b) From the end of FY 2004, continue to limit percentage of solid waste disposal below 1% of total emission c) Waste collector, disposal contractor, check site of final disposal d) 100% compliance with laws and in-house standards e) 100% compliance in hazardous material management by using check sheet f) Maintain a good factory appearance	a) 1.0% reduction from previous year b) Achieve recycling rate of over 99% c) 100% enforced d) 100% compliance e) 100% compliance f) Continued weed removal and develop campaign for planting flowers	a) 1.0 reduction b) 99.3%	○	<ul style="list-style-type: none"> <li>Reduce dewatered sludge by using biodegradable chemicals at sewage treatment facility.</li> <li>Organize factory by setting a pallet collection area.</li> </ul>
<b>Logistics</b>	Reduce amount of packaging materials Promote reuse of packaging materials Promote usage of more environmentally friendly packaging materials Improve transportation efficiency	In FY 2007, reduce logistics cost per sales amount by 24.5% from FY 2002 level	5.0% reduction from previous year	21.4% reduction	○	<ul style="list-style-type: none"> <li>Improve transportation efficiency by combining orders for manufacturing and assembly suppliers.</li> <li>Reuse tray polyurethane tube by implementing a new washer.</li> </ul>
<b>Technology</b>	Promotion of energy and resource conservation Reducing use of substances of environmental concern	a) Develop 20 types of energy and resource conserving needle roller bearings between FY 2002 and 2007. b) 100% elimination of legally prohibited substances c) Reduce use of hazardous substances per product by 10% between FY 2003 and 2007	a) 3 development items b) Continue elimination c) 3.0% reduction from previous year	a) 4 items c) 3.9% reduction	○	<ul style="list-style-type: none"> <li>Conserve resources by using welded ball cages instead of grinded ball cages.</li> <li>Reduce amount of substances of environmental concern contained in rust inhibiting oils by installing more washers and switching over to alkaline ion water.</li> </ul>



# HOUKO Co., Ltd.

## Message from the President



President  
Takeshi Ohta

Our company's management principle is to "provide value for our customers by creating user-friendly and environmentally friendly products." We promote environmentally friendly products by overhauling and modifying Toyoda grinders to conserve resources and develop compact high-performance grinders to conserve energy. Based on the direction of our Environmental Improvement Committee, all our employees participate in environmental conservation activities to reduce CO<sub>2</sub> and other industrial emissions and develop ecologically friendly office and factory environments. We will continue to contribute to our environment and society.

### Company outline

Company name	HOUKO Co., Ltd.
Established	February 1, 1971
Head office	1-3 Ejiri, Hishiike, Kota-cho, Nukata-gun, Aichi Prefecture TEL 0564-62-1211 URL http://www.houko.co.jp
Capital	100 million yen
Net sales	FY 2004: 5,400 million yen FY 2005: 6,400 million yen
Primary business	Manufacture of multipurpose grinders and CNC grinders, repair and modification of grinders, manufacture of automobile parts, manufacture of electrical and electronic equipment
Number of employees	240
Certificate acquisition	December 12, 2001
Certification body	Japan Management Association (JMA)

### Main products



### Environmental data

Category	Item	Legal limit	In-house standard	Actual measurement
Drainage water quality	BOD	1.0 max.	80 max.	1.4
	COD	1.0 max.	40 max.	7.3
	SS	1.0 max.	60 max.	0
	pH	5.8 - 8.6	5.8 - 8.6	7.5
	Oil content	2.0 max.	6.0 max.	1.6
Air	NOx	No particular facility		
	SOx	No particular facility		
	Particulates	No particular facility		

Category	Item	Legal limit	In-house standard	Actual measurement
Noise	Morning	65	65	46
	Afternoon	70	70	66
	Evening	65	65	46
Vibration	Afternoon	70	70	Less than 40
	Night	70	70	Less than 40

※After initial treatment at our company, sewage undergoes final treatment at the JTEKT Kohda Plant.  
※[Units] BOD, COD, SS, Oil content (mg/ℓ), NOx (ppm), SOx (Nm<sup>3</sup>/h), Particulates (g/Nm<sup>3</sup>), Noise, Vibration (dB)

### Environmental management system

	Environmental objective	Performance index (mid-term index)	FY 2005 target	FY 2005 results	Evaluation	Main activities
<b>Energy conservation</b>	Reduce energy consumption	Total CO <sub>2</sub> emission By end of FY 2005, reduce emission by 5% compared to FY 2000  Promote energy conservation activities	Total CO <sub>2</sub> emission 374 tons / year (t-CO <sub>2</sub> )  1900 yen / person and year	415 tons / year (t-CO <sub>2</sub> )	△	<ul style="list-style-type: none"> <li>Update to energy-conserving air conditioner (switch from fuel-powered heater to energy conserving air conditioner (electrically operated))</li> <li>Shorten lead time and conserve energy by simplifying bearing manufacturing process (8 steps to 1 step) through installation of a complex turning machine</li> <li>Integrate processes (3 steps to 1 step) and install energy conserving machining center</li> <li>Update fleet vehicles to ecologically friendly vehicles</li> <li>Adopt "Cool Biz" and "Warm Biz" dress code for various types of workwear</li> </ul>
<b>Resource conservation</b>	Reduce waste	Total waste emission By end of FY 2005, reduce emission by 25% compared to FY 2000  Promote reduction of waste	Total waste emission 66 tons / year  500 yen / person and year	90 tons / year	△	<ul style="list-style-type: none"> <li>Recycle plastic scrap from automobile parts (started in January 2006: 7.6 tons)</li> </ul> <b>Recycling by separating waste</b> <ul style="list-style-type: none"> <li>Recycled paper and cardboard: 17.5 tons</li> <li>Recycled wood shavings: 11.3 tons</li> </ul>
<b>Environmentally friendly products</b>	Reduce environmental burden by developing environmentally friendly products	Promote environmental design considering energy conservation, reduction in waste, recycling and low noise levels.	Development of new models (includes minor model change)  1 or more / year	1/year	○	<ul style="list-style-type: none"> <li><b>GE4P minor model change (GC50B control device installed)</b> <ul style="list-style-type: none"> <li>Shorten cycle time by improving CNC performance</li> <li>Downsize by improving CNC performance</li> </ul> </li> <li><b>GL3 "smaller, lighter and more stylish" as a concept</b> <ul style="list-style-type: none"> <li>Energy and space-conserving grinder</li> <li>Propose advice for improvement for customers</li> </ul> </li> </ul>
<b>Environmental improvement</b>	Forest protection /greening campaign  Campaign for reducing environmental burden	Set up of green area inside plant  Planning and modification of plant facility  Improve operation by promoting paperless activities	Promote tree planting in factory (The third greening activity)  1 or more / year	1/year	○	<ul style="list-style-type: none"> <li><b>Creating a green factory environment</b> <ul style="list-style-type: none"> <li>Planting 770 trees and plants of 45 species including holly, Japanese wisteria, zelkova, etc. Increase yearly absorption of CO<sub>2</sub> by 5.9 tons through plantation</li> </ul> </li> <li>Begin solar power generation (generated 28.933kWh between February 2005 and May 2006)</li> <li>Elimination of incinerators (from end of April 2005)</li> <li>Discard hazardous material storage outside plant</li> <li>Promote paperless activity by improving office automation (6 cases of improvement)</li> <li>Efficient use of recycled paper (33,544 sheets / year)</li> </ul>



# Toyoda Van Moppes Ltd.

## Message from the President



President  
Kazuhiko Sugita

Since its founding in 1975, our company has provided its customers with tools for superabrasive applications such as CBN grinding wheels all of which enable high-efficiency manufacturing resource conservation and recycling. Since the implementation of the Kyoto Protocol last year and along with the growing importance of establishing a sustainable environment, our company has taken part in actively protecting the environment. We seek to develop superabrasive tools that help our customers manufacture products with minimal environmental burden.

### Company outline

Company name	Toyoda Van Moppes Ltd.
Established	1975
Head office	1-54 Shiroyama, Maiki-cho, Okazaki-shi, Aichi Prefecture TEL 0564-48-5311 URL <a href="http://www.tvmk.co.jp/">http://www.tvmk.co.jp/</a>
Capital	481 million yen
Net sales	FY 2005: 4,849 million yen
Primary business	Manufacture and sale of tools containing diamond or CBN grindstones that can withstand superabrasive applications
Number of employees	265
Business base	Sales bases: Aichi, Tokyo, Osaka, Shizuoka, Hiroshima Production base: Head Office Plant (Aichi)

### Main products



#### Vitrified bond CBN wheel

- For grinding camshafts
- For grinding crankshafts
- For high speed grinding
- For grinding cylinders others



#### Diamond rotary dresser

- Drivers type
- Flange type
- For bearings
- For ball screws
- For piston rings others

### Environmental data

#### Head Office Plant

Item	Legal limit	In-house standard	Actual measurement
	BOD	20	20
COD	20	20	1.3
SS	20	20	1.1
pH	6.5 - 8.5	6.5 - 8.5	7.7
Mineral oil	2	2	<1
Copper	1	1	0.02
Zinc	3	3	0.03
Soluble iron	5	5	0.5
Nitrogen	38	38	1.3
Phosphorus	4.1	4.1	1.6
Noise	Morning	55	45.7
	Afternoon	60	42.4
	Evening	55	41.8
	Night	50	41.2

※Unit: mg/ℓ (except for pH)  
 ※All the other regulated items that are not shown here have not been detected.  
 ※Unit: Noise (dB)

### Environmental management system

Environmental objective	Performance index (FY 2009 target)	FY 2005 target	FY 2005 results	Evaluation	Main activities	
Environmentally friendly products	Recycle Promotion of base recycling of CBN wheel	Recycling rate of CBN wheel base 31.7% increase from FY 1999 level Base recycling rate FY 1999: 39.1% ▷ FY 2009: 51.5%	Recycling rate of CBN wheel base 26.6% increase from FY 1999 level Base recycling rate: 49.5%	49.7%	○ ● Bit wheel base recycling activity	 CBN grinding stone  Bit wheel base recycling rate
	Extended life Promotion of extended life of CBN wheel	Cases of cost performance improvement for CBN wheel Increase by 2.1 times (20% reduction in tool cost) from FY 1999 level Cases of cost performance improvement FY 1999: 7 cases/year ▷ FY 2009: 15 cases/year	Cases of cost performance improvement for CBN wheel 1.9 times increase from FY 1999 level (20% reduction in tool cost) Cases of cost performance improvement 13 cases/year	13 cases	○ ● Propose improved grinding stone and optimize machining condition	 Use of grinding stone and optimize machining condition  Cases of cost performance improvement
Energy conservation	Reduction of power consumption	Power consumption (base unit) 6.2% reduction from FY 1999 level FY 1999: 948.2kWh / million yen ▷ FY 2009: 889.4kWh / million yen	Power consumption (Base unit) 5.4% reduction from FY 1999 level Power consumption (base unit) 897.0kWh / million yen	668.7 kWh / million yen	○ ● Reduce power consumption by installing energy-saving air conditioning ● Promote energy conservation by adopting "Cool Business Wear" system ● Propose energy conserving methods	 Installation of energy-saving air conditioning  Reduction of power consumption (base unit)
Resource conservation	Reduction of solid waste disposal (Landfill and incineration)	Solid waste disposal (Landfill and incineration) 72.0% decrease from FY 1999 level FY 1999: 109.1 tons/year ▷ FY 2009: 30.5 tons/year	Solid waste disposal (Landfill and incineration) 69.0% reduction from FY 1999 level Solid waste disposal: 33.8 tons/year	41 tons	△ ● Promote recycling through sorted collection of waste (plastic, WA grinding stone, discarded wire)	 Sorted collection of waste  Reduction of waste

# JTEKT Automotive Tennessee-Vonore Co.

## PRESIDENT COMMENTS



JATV PRESIDENT  
Michael Bowers

As a responsible corporate citizen, we must ensure that we manage and conduct our operations with the utmost attention to employee and community health, safety and environmental compliance. As responsible administrators of our resources, it is our obligation to work to control and reduce consumption, be it with energy, raw materials or the handling / disposal of by-products from our operations. Our Vonore facility has distinguished itself as a true environmental benchmark in Tennessee. Everyone must continue to work to not only sustain that benchmark status, but to elevate it to new heights.



## ENVIRONMENTAL POLICY

It is the policy of JTEKT Automotive to operate our business in a manner that protects the public health and the environment. We are committed to complying with all environmental laws and regulations, and to continually improve our environmental performance.

### This will be achieved by

- Managing processes, materials and people to prevent, reduce or eliminate environmental impacts
- Reducing or eliminating, where possible, the use of hazardous of substances.
- Minimizing or eliminating the creation of waste
- Periodically reviewing environmental goals and objectives and the performance of the environmental management system

## COMPANY OUTLINE

Company name	JTEKT Automotive Tennessee-Vonore Co. (ABBVE JATV)
Established	April 1988
Head office	55 Excellence Way, Vonore, TN 37885, USA Tel: (1)-423-884-9200 Tellico West Industrial Park, Vonore Tennessee 35 miles southwest of Knoxville Tennessee Plant size: 371,000 sq. ft. on 60 acres
Number of employees	Employment of 780
Overview	JATV is the largest employer in Monroe County (780 employees) and manufactures high quality power rack and pinion steering gears and hose assemblies. One out of seven vehicles manufactured in North America uses our steering gears

## PRODUCT INFORMATION



Certifications:  
ISO 14001 - January 2004  
TS 16949 - December 2004

## CURRENT ENVIRONMENTAL PROJECTS

	Environmental Projects	Issue	Corrective Action	Target
1	<b>Air Leak Reduction</b>	Excessive noise and power consumption generated from machine and tool air leaks.	Develop schedule to locate and repair leaks. Maintain system.	Eliminate hearing protection. Reduce energy consumption.
2	<b>Paint Pen Reduction</b>	Unused portions of paint pens are being disposed of as hazardous waste due to flammability status.	Investigate alternative methods.	Reduce hazardous waste disposal costs by December 2006.
3	<b>Control of Shop Towels</b>	Used towels not placed in proper containers.	Determine proper amount. Conduct monthly audits.	Increase proper reuse of shop towels.
4	<b>Oil and Coolant Reuse / Recycling</b>	Excessive oil / coolant spills and leaks.	Develop wash area and decontamination procedures.	Design wash area by December 2006.
5	<b>Debris to Landfill Reduction</b>	Grinder swarf going to landfill. Paying outside service to transport.	Implement grinder swarf briquette process.	SOP - August 1, 2006.
6	<b>Storm Water Runoff Control</b>	Runoff rain from new warehouse expansion causing soil erosion.	Add rip rap (rocks) and hardpipe downspouts.	Completed April 2006.
7	<b>Mop Water Disposal</b>	Leaks and spills. Placed in wrong waste stream. Paying outside service to treat and dispose.	Upgrade existing water treatment to process mop water.	Eliminate mop water disposal costs by December 2006.
8	<b>Powder Coat Burn off Process Emission Reduction</b>	Excessive ash (emission) from oven stack.	Investigate other options.	Currently sending parts to outside vendor.

NOTE: ALL ENVIRONMENTAL PROJECTS WERE DERIVED FROM ISO 14001 SIGNIFICANT ASPECTS SUMMARY.

## AWARD RECOGNITION (ENVIRONMENTAL AND COMMUNITY)


Delta Kappa Gamma Society International "2006 Excellence in Education Award"		Monroe County United Way "2005 Platinum Award"
Japan-America Society of Tennessee, Inc. "2006 Exceptional Corporate Citizenship"		National Committee for Employer Support of the Guard & Reserve "2005 Five Star Award"
Monroe County United Way "2006 Platinum Award"		Keep Tennessee Beautiful "2004 Model Company" (1 of 4 named)
Keep America Beautiful "2nd Place 2005 National Award Winner for Beautification and Community Involvement"		Keep America Beautiful "2nd Place 2004 National Award Winner for Waste Reduction"
Tennessee Pollution Prevention Partnership 2005 "Performer Level" (1 of only 7 companies to achieve)		TN Depart. of Environment and Conservation "2004 Governor's Award for Industrial Pollution Prevention"
Koyo Seiko Co. Ltd "2005 Outstanding Worldwide Example Recognition"		Tennessee Recycling Coalition "2004 Business Recycler of the Year"
Blount County Chamber of Commerce "2005 Award of Business Excellence - Large Manufacturer"		Kentucky-Tennessee Water Environment Assoc. "2004 Pretreatment Excellence Award"
Tennessee TDOT and Keep Tennessee Beautiful "2005 Award of Excellence for Litter and Solid Waste Education"		Monroe County United Way "2004 Platinum Award"



# JTEKT Automotive Tennessee-Vonore Co.

## ENVIRONMENTAL SUCCESS STORIES

In-plant processing system for waste water.  
Treated **1,900,800 gallons** of waste water in 2005




Eliminated compressed air leaks to save energy. Conduct routine air leak audits to locate and repair air leaks. Cost savings is **>\$50,000 annually**



Eliminated **80%** of pressurized flammable degreasers by substituting environmentally friendly/non-flammable degreaser.



Implemented electronic controls to reduce process water at Powder Coat process. Reduced water by **40%** or **135,000 gallons** a month.



Reduced fluid waste stream by recovering used oil and recycling. Recycled **144,400 lbs** in 2005



Segregate and recycle plastic wrap and corrugated. Recycled **52,600 lbs** plastic wrap and **404,800 lbs** of corrugated in 2005



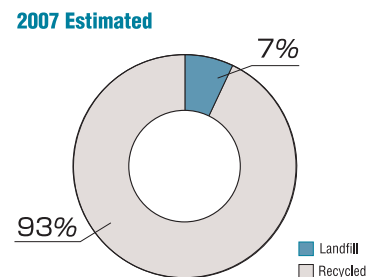
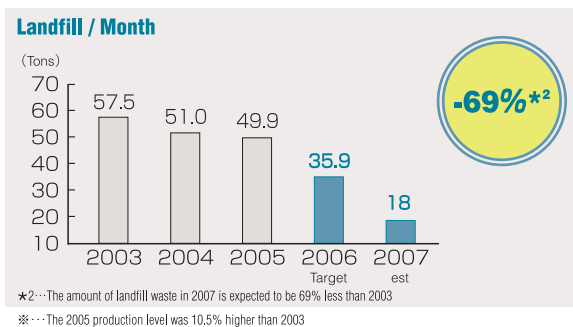
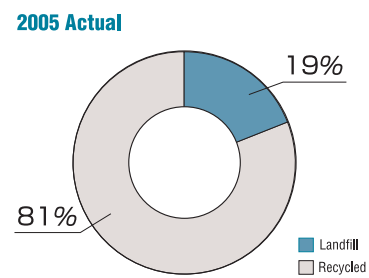
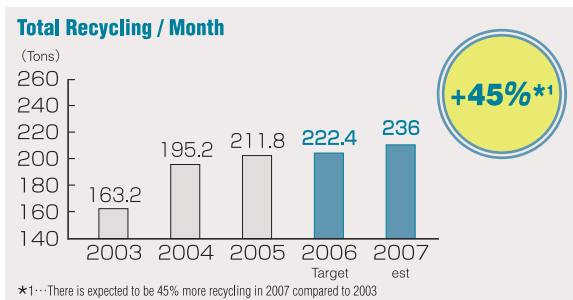
Implemented plant wide recycling program. Recycled **212 tons** of material in 2005. Recycling carts were placed at each production line.



Recycled disposable plastic shipping trays. Reduced landfill by **10,000 lbs** a month.



## RECYCLING AND LANDFILL DATA



## GRINDER SWARF (BRIQUETTE) MACHINE SOP 8/06

● Annual landfill avoidance of **624,960 lbs** or **\$84K**





# KOYO MANUFACTURING (THAILAND) CO.,LTD.

## PRESIDENT COMMENTS



President  
Shinichi Tada

The base of the production activities of KMTC of the product to defend the rich earth of this green to have borrowed from the king Majesty and to be kind with the environment"Timely, we report to the customer and it is to tackle by employee all the members" in the kind manufacturing in the earth. I take on the examination of ISO of the environment in 2002. That it is possible to keep this place works in this place. It explained to be the duty of the employee to them. The thing is the beginning. ASEAN introduces an environmental protection activity with the world identical level and we can share only one piece of the earth with the people in the world. The thought is acting when wanting to tailor at the factory.

## Company outline

Company name	KOYO MANUFACTURING (THAILAND) CO.,LTD. (ABBVE KMTC)
Established	March 1989
Location	172 MOO12,TAMBOL BANGWUA AMPHUR BANGPAKONG,CHACHENGSAO 24180, THAILAND
Capital	1,246 Million BAHT
Net sales	FY 2004 : 1,488 Million BATH FY 2005 : 2,057 Million BATH
Main Products	Universal jyoind Kits Needle roller Bearings Tapered roller Bearings Tensioner Bearings HUB Unit Bearing
Number of employees	480

## Environmental data

Drainage water quality	Item	Legal limit	In-house standard	Actual measurement
	pH	5.5-9.0	6.8-8.0	6.7
	SS	50	50	1
	TDS	3000	1,500	519
	BOD	20	10	1
	COD	120	100	4
Noise	Oil & Grease	5	4	0.4
	Pb	0.2	0.10	<0.10
Noise	IN SIDE	90	85	84
	OUT SIDE	70	65	65

※[Units] SS, TDS, BOD, COD, Oil & Grease, Pb (mg/ℓ)  
Xylene, Phenol, CO, CO<sub>2</sub>, Formaldehyde, Toluene (ppm),  
Total Dust, Oil Mist, NaOH, Kerosene, Cresol, Respirable Dust, HCl (mg/m<sup>3</sup>)

Air emission	Item	Legal limit	In-house standard	Actual measurement
	Xylene	100	40	0.915
	Total Dust	15	10	1.2
	Oil Mist	5	3	1.7
	NaOH	2	1	0.49
	Phenol	5	3	0.015
	CO	50	30	1.37
	CO <sub>2</sub>	5,000	3,000	719
	Kerosene	100	80	72
	Cresol	10	5	0.445
	Formaldehyde	3	1.5	0.02
	Respirable Dust	5	2	0.2
	Toluene	200	50	0.093
HCl	7	4	0.16	

## CURRENT ENVIRONMENTAL PROJECTS

	Critical Environmental Objective	Reason	Target 2006	Environmental Activity	Result	FY 2006 results on graph are average for January to June	The Next Project
1	Reduction in quantity of electric consumption.	<ul style="list-style-type: none"> <li>For energy conservation</li> <li>For costs down</li> </ul>	2% reduction of unit cost from previous year.	Setting reflector light in factory Setting sky light in W/H zone Replace hibay with fluorescent ligh in factory			※Electrical use has been increased due to new factory construction <b>Project</b> <ul style="list-style-type: none"> <li>Replace old ballast with electronic ballast</li> <li>Reduction in quantity of grinding sludge with compression machine</li> <li>Reuse water extension</li> <li>Using mrico blaze solution for oil contaminate washing</li> </ul>
2	Reduction in quantity of glove usage.	<ul style="list-style-type: none"> <li>For resource conservation</li> <li>For costs down</li> </ul>	2% reduction of unit cost from previous year.	Increasing in quantity of reuse glove			
3	Reduction in quantity of water consumption.	<ul style="list-style-type: none"> <li>For resource conservation</li> <li>For costs down</li> </ul>	3% reduction of unit cost from previous year.	Setting waste water treatment plant that can be reuse water			
4	Reduction in quantity of waste water contaminated oil	<ul style="list-style-type: none"> <li>For reduce generation of waste</li> <li>For costs down</li> </ul>	2% reduction of unit cost from previous year	Reducing in quantity of waste water contaminated oil with bioremediation effectiveness agent			

# KOYO MANUFACTURING (THAILAND) CO.,LTD.

## Report of KMTC's environmental efforts

Our environmental activities began in 2001. At the time, oil could be found in the canal in front of our plant, and the plant was full of mist. Standing in the passageway of the 70m-long plant, the exit looked hazy. We also saw a bird's nest on our plant grounds, and we could actually see the birds brooding. We realized at that moment that the way to coexist with the original residents of the area was through environmental conservation activities. When we started our environmental conservation activities, our electricity consumption and generation of waste was increasing with increased production at our plant. Managers joined employees to consider what to do about our production with respect to environmental conservation. Efforts to clean the area around the plant and dredge the canal without spending money raised the awareness of our employees. Without outside help, we acquired the 1998 version ISO 14001 certification in August 2002. Afterward, to improve energy conservation, we painted the plant roof with ceramic paint, posted photographs beside the names of employees assigned to turn off fluorescent lights, methodically improved the efficiency of our compressors, and installed skylights on the ceiling of the warehouse to eliminate daytime use of fluorescent lights.

To improve the environment inside the plant, we installed oil mist collectors manufactured in-house on all of our equipment. This is now standard on all equipment in the company. To address the four major substances of concern, we worked hard in production preparations for the IMV exported to Europe, and we were able to eliminate these substances from 8 product types and 148 model numbers. We started substantial water recycling in March 2006. 100% of sewage is biologically processed, collected, and reused. In June 2006, we obtained 2004 version ISO 14001 certification. In order to recycle waste slag in 2007, we will cooperate with and allocate work to steel-processing subcontractors and start efforts that reach beyond the boundaries of the JTEKT Group.



Environmental Team

### KOYO MANUFACTURING (THAILAND) CO.,LTD. (ABBVE:KMTC)

#### CHRONOLOGY

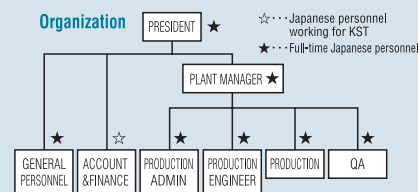
- 1989 MAR. The company was established
- 1990 APR. CROSS PIN FOR DRIVESHAFT WAS FIRST MANUFACTURED
- 1993 FEB. NEEDLE ROLLER BEARING(NRB)ASSEMBLY WAS STARTED
- 1995 MAY. TAPERED ROLLER BEARING & TENSIONER WAS STARTED
- 1998 DEC. OBTAINED CERTIFICATION OF QS9000 FOR TRB
- 2001 MAR. ISO9002/QS9000(TRB)RENEWAL
- 2001 DEC. BALL HUB BEARING WAS FIRST MANUFACTURED IN CONSECUTIVE LINE
- 2002 JUL. THE 3RD FACTORY WAS COMPLETED
- 2003 AUG. OBTAINED CERTIFICATION OF ISO14001
- 2004 MAR. OBTAINED CERTIFICATION OF ISO9001-2000
- 2004 JUL. TRB HUB BEARING WAS FIRST MANUFACTURED IN CONSECUTIVE LINE
- 2004 DEC. New grinding and assembly line for single TRB for a total of 5 lines
- 2005 OCT. New DAC grinding and assembly line for passenger vehicles started up
- 2005 DEC. Building No. 4 (2910m2) completed at KMTC

#### SHAREHOLDERS

"Koyo SEIKO CO.,LTD"	42.3%
KST	47.0%
"THAI Koyo CO.,LTD"	0.7%
"TOYOTA TSUSHO THAILAND CO.,LTD"	7.2%
LOCAL AGENT (3 COMPANIES)	2.8%



#### ORGANIZATION



MANAGEMENT	12
"CLERK,ENGINEER"	114
OPERATORS	330
Others	24
<b>TOTAL</b>	<b>480</b>

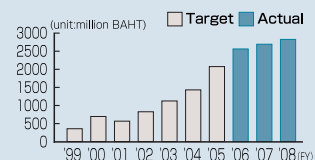
(include japanese 6 persons)

#### MAIN PRODUCTS

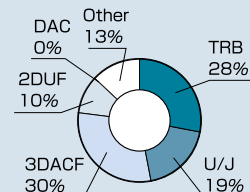
##### PROCESS

- 1.Universal joint Kits (U/J)
- 2.Needle roller Bearings
- 3.Tapered roller Bearings (TRB)
- 4.Tensioner Bearings
- 5.HUB Unit Bearing (2DUF,3DACF)

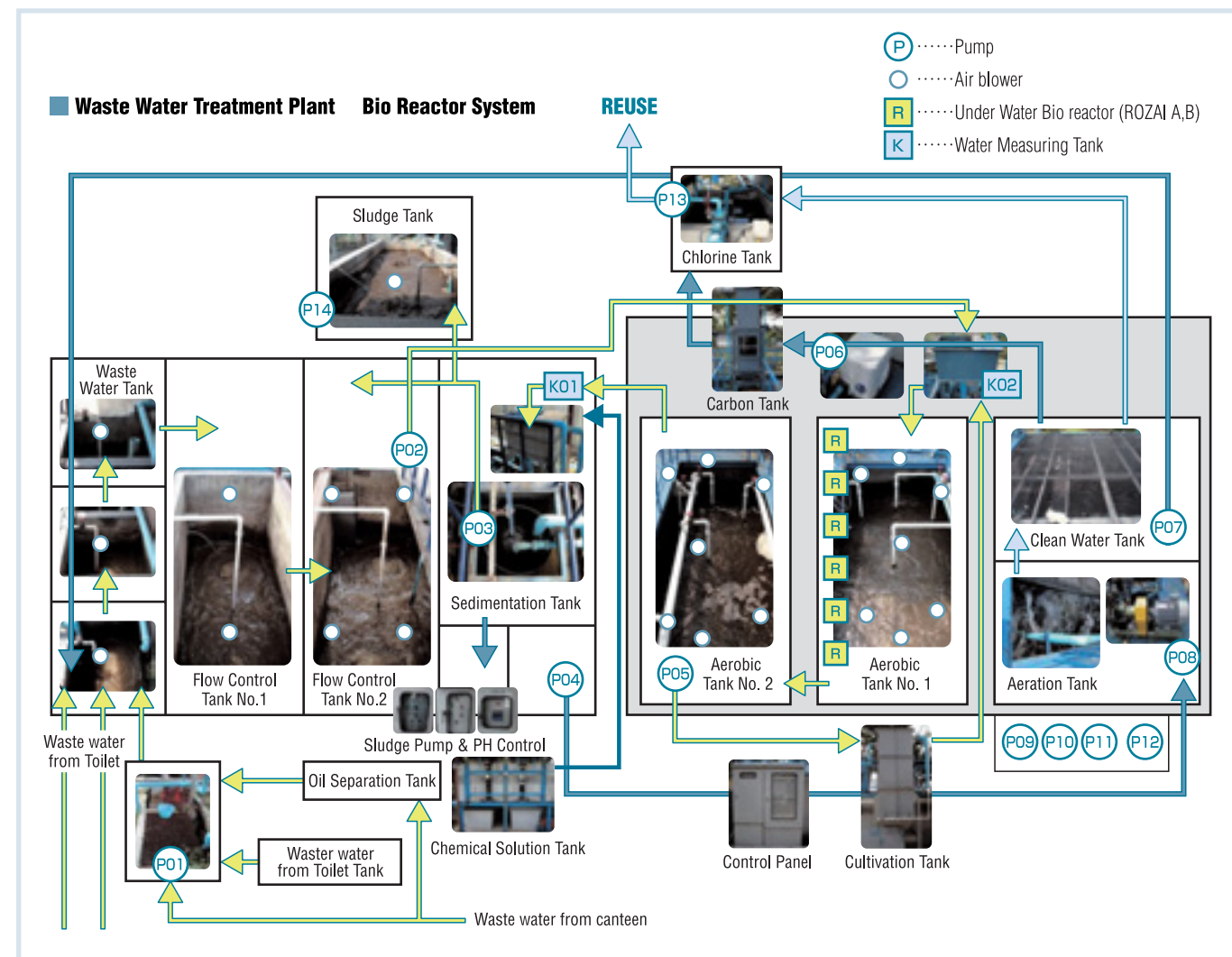
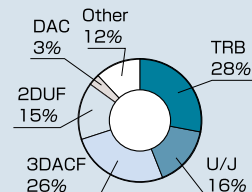
##### ANNUAL SALES & EXPECTATION



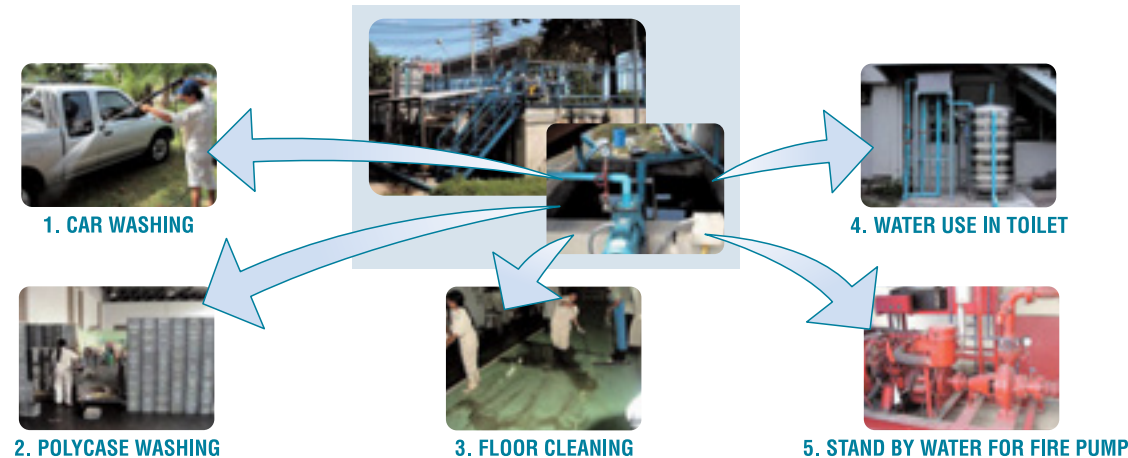
##### PRODUCTS RATIO (2005 ACT)



##### PRODUCTS RATIO (2006 PLAN)



### WATER REUSE PROJECT FROM WASTE WATER TREATMENT PLANT (BIO REACTOR SYSTEM)





# Environmental Data by Location

## Kokubu Plant



Number of employees : 887  
 Products : Various types of ball and roller bearings, ultra-large bearings, hub units, high-precision bearings

### Water Quality Measurement Data

Item	Regulation Value	Results	
		Maximum	Minimum
pH	6.0~8.0	7.9	7.0
COD	30	23	13
BOD	30	26	12
SS	60	14	5.6
Oil	4	1.9	1.2
Nitrogen	15	12	6.0
Phosphorus	1.5	0.21	0.11

### Atmospheric Measurement Data

Item	Equipment	Regulation Value	Measured Value
Particulates	Boilers (for forging)	0.03	0.003
NOx		120	52
SOx		0.5	0.005

[Unit] NOx:ppm Particulates:g/m<sup>3</sup>N SOx:K value

### Noise/Vibration Data

		Regulation Value		Measured Value	
		Regulation Value	Measured Value	Regulation Value	Measured Value
Noise	Morning	65	55		
	Afternoon	70	65		
	Evening	65	64		
Vibration	Night	60	55		
	Afternoon	70	44		
	Night	65	43		

### PRTR Substances

Substance No.	Substance Name	Amount Handled	Emission and Transfer				Recycled	Treated in Plant	Consumed
			Into Atmosphere	Into Waterways	As Waste	Into Soil			
1	Water soluble zinc compounds	7,323	0	15	718	0	0	0	6,590
16	2-aminoethanol	9,263	0	28	9,235	0	0	0	0
63	Xylene	8,045	8,045	0	0	0	0	0	0
311	Manganese and its compounds	1,032	0	19	373	0	0	0	640

## Kariya Plant



Number of employees : 1,531  
 Products : Machine tools, damper pulleys, machined parts

### Water Quality Measurement Data

Item	Regulation Value	Results	
		Maximum	Minimum
pH	5.8~8.6	7.1	6.8
COD	(14)	9.8	5.8
BOD	(20)	14	8.4
SS	(20)	4.0	0.6
Oil	5	2.2	1.0
Zinc	2	0.20	0.06
Soluble iron	5	0.13	0.01
Soluble manganese	2	0.20	0.10
Fluorine	5	0.14	0.03
Nitrogen	(17.2)	17	14
Phosphorus	(1.7)	0.06	0.04
Boron	10	0.79	0.09

### Atmospheric Measurement Data

Item	Equipment	Regulation Value	Measured Value
Particulates	Boilers (for canteens)	0.1	ND
NOx		130	62
SOx		ND	ND
Particulates	Boilers (Cold & hot water generators)	0.1	ND
NOx		130	45
SOx		ND	ND

[Unit] NOx:ppm Particulates:g/m<sup>3</sup>N SOx:m<sup>3</sup>/hr

### Noise/Vibration Data

		Regulation Value		Measured Value	
		Regulation Value	Measured Value	Regulation Value	Measured Value
Noise	Morning	65	61		
	Afternoon	70	64		
	Evening	65	62		
Vibration	Night	60	55		
	Afternoon	70	42		
	Night	65	40		

### PRTR Substances

Substance No.	Substance Name	Amount Handled	Emission and Transfer				Recycled	Treated in Plant	Consumed
			Into Atmosphere	Into Waterways	As Waste	Into Soil			
40	Ethylbenzene	2,125	1,730	0	0	0	0	0	395
63	Xylene	8,724	8,358	0	0	0	0	0	366
227	Toluene	18,884	15,164	0	0	0	0	0	3,720

## Tokushima Plant



Number of employees : 1,009  
 Products : Ball bearings, water pump bearings, cylindrical roller bearings, special-environment bearings

### Water Quality Measurement Data

Item	Regulation Value	Results	
		Maximum	Minimum
pH	6.0~8.2	7.7	7.3
COD	10	9.2	5.5
BOD	-	-	-
SS	19	16	8.2
Oil	3	2.9	2.7
Nitrogen	60	5.9	3.8
Phosphorus	8	0.13	0.07

### Atmospheric Measurement Data

Item	Equipment	Regulation Value	Measured Value
Particulates	Boilers	0.1	0.013
NOx		950	860
SOx		21	0.047

[Unit] NOx:ppm Particulates:g/m<sup>3</sup>N SOx:m<sup>3</sup>/hr

### Noise/Vibration Data

		Regulation Value		Measured Value	
		Regulation Value	Measured Value	Regulation Value	Measured Value
Noise	Morning	60	57		
	Afternoon	65	59		
	Evening	60	57		
Vibration	Night	55	52		
	Afternoon	60	50		
	Night	55	48		

### PRTR Substances

Substance No.	Substance Name	Amount Handled	Emission and Transfer				Recycled	Treated in Plant	Consumed
			Into Atmosphere	Into Waterways	As Waste	Into Soil			
16	2-aminoethanol	5,529	0	1	344	0	0	0	5,184
63	Xylene	3,712	3,712	0	0	0	0	0	0

## Okazaki Plant



Number of employees : 700  
 Products : Electric power steering, power steering gears, AT/CVT proportional control valves, CVT oil pumps, propeller shafts, cast parts

### Water Quality Measurement Data

Item	Regulation Value	Results	
		Maximum	Minimum
pH	6.5~8.5	7.4	7.2
COD	20	3.4	2.2
BOD	20	5.5	2.2
SS	20	1.5	0.63
Oil	2	0.90	0.47
Zinc	3	0.29	0.03
Soluble iron	5	0.19	0.02
Soluble manganese	3	0.19	0.03
Fluorine	1	0.19	0.06
Nitrogen	(24.1)	7.8	6.8
Phosphorus	(2.4)	0.22	0.09
Boron	10	0.07	0.05

### Atmospheric Measurement Data

Item	Equipment	Regulation Value	Measured Value
Particulates	Boilers (for thickeners)	0.1	ND
NOx		130	64
SOx		0.09	ND
Particulates	Boilers (for air conditioning)	0.1	ND
NOx		130	39
SOx		ND	ND
Particulates	Melting furnace	0.15	ND
NOx		100	ND
SOx		0.76	ND
Particulates	Gas engine (Cogeneration)	0.05	ND
NOx		180	54
SOx		6.08	ND

[Unit] NOx:ppm Particulates:g/m<sup>3</sup>N SOx:m<sup>3</sup>/hr

### Noise/Vibration Data

		Regulation Value		Measured Value	
		Regulation Value	Measured Value	Regulation Value	Measured Value
Noise	Morning	65	60		
	Afternoon	70	67		
	Evening	65	61		
Vibration	Night	60	59		
	Afternoon	70	50		
	Night	65	50		

### PRTR Substances

Substance No.	Substance Name	Amount Handled	Emission and Transfer				Recycled	Treated in Plant	Consumed
			Into Atmosphere	Into Waterways	As Waste	Into Soil			
44	Ethylene glycol monoethyl ether	2,180	0	0	0	0	0	0	2,180
63	Xylene	1,970	1,890	0	0	0	0	0	80
227	Toluene	5,484	4,387	0	0	0	0	0	1,097
311	Manganese and its compounds	64,685	0	0	145	0	0	0	64,540

## Tokyo Plant



Number of employees : 386  
 Products : Needle roller bearings, constant velocity joints, driveshafts, propeller shafts

### Water Quality Measurement Data

Item	Regulation Value	Results	
		Maximum	Minimum
pH	5.8~8.6	7.2	7.0
COD	-	-	-
BOD	150	23	9.0
SS	200	28	9.3
Oil	20	3.0	1.0
Nitrogen	120	26	11
Phosphorus	16	13	1.9

### Atmospheric Measurement Data

Item	Equipment	Regulation Value	Measured Value
Particulates	Gas absorption boiler	0.08	0.002
NOx		49	28
SOx		-	Not measured

[Unit] NOx:ppm Particulates:g/m<sup>3</sup>N SOx:K value

### Noise/Vibration Data

		Regulation Value		Measured Value	
		Regulation Value	Measured Value	Regulation Value	Measured Value
Noise	Morning	-	-		
	Afternoon	70	68		
	Evening	60	58		
Vibration	Night	55	52		
	Afternoon	60	30		
	Night	50	27		

### PRTR Substances

Substance No.	Substance Name	Amount Handled	Emission and Transfer				Recycled	Treated in Plant	Consumed
			Into Atmosphere	Into Waterways	As Waste	Into Soil			
16	2-aminoethanol	1,160	0	0	0	0	0	0	1,160
63	Xylene	3,657	3,657	0	0	0	0	0	0
227	Toluene	4,861	4,861	0	0	0	0	0	0
304	Boron and its compounds	10,115	0	405	9,710	0	0	0	0

## Kagawa Plant



Number of employees : 532  
 Products : Tapered roller bearings

### Water Quality Measurement Data

Item	Regulation Value	Results	
		Maximum	Minimum
pH	5.8~8.6	7.0	6.6
COD	40	31	23
BOD	40	35	24
SS	50	9.9	6.1
Oil	3	2.2	1.6
Nitrogen	120	12	7.9
Phosphorus	60	0.65	0.23

### Atmospheric Measurement Data

Item	Equipment	Regulation Value	Measured Value
Particulates	Boilers No 1	0.25	0.018
NOx		180	100
SOx		0.8	0.25
Particulates	Boilers No2	0.25	0.014
NOx		180	89
SOx		0.8	0.036
Particulates	On-site power generators	0.05	0.015
NOx		950	820
SOx		2.0	0.81

[Unit] NOx:ppm Particulates:g/m<sup>3</sup>N SOx:K value

### Noise/Vibration Data

		Regulation Value		Measured Value	
		Regulation Value	Measured Value	Regulation Value	Measured Value
Noise	Morning	65	64		
	Afternoon	70	65		
	Evening	65	64		
Vibration	Night	60	60		
	Afternoon	49	34		
	Night	46	33		

### PRTR Substances

Substance No.	Substance Name	Amount Handled	Emission and Transfer				Recycled	Treated in Plant	Consumed
			Into Atmosphere	Into Waterways	As Waste	Into Soil			
63	Xylene	3,501	3,501	0	0	0	0	0	0
304	Boron and its compounds	3,191	128	0	3,063	0	0	0	0



# Environmental Data by Location

## Nara Plant



Number of employees : 585  
 Products : Electric power steering, hydraulic power steering, manual steering

**Water Quality Measurement Data**  
Unit:mg/R (except pH values)

Item	Regulation Value	Results	
		Maximum	Minimum
pH	6.0~8.0	7.4	7.1
COD	13.5	11	9.8
BOD	5	2.8	1.2
SS	5	1	1
Oil	1	0.5	0.5
Soluble iron	1	0.14	0.07
Soluble manganese	1	0.08	0.05
Nitrogen	40	33	18
Phosphorus	12	7.0	3.5

**Noise/Vibration Data** Unit: dB

Item	Regulation Value	Measured Value	
Noise	Morning	64	60
	Afternoon	67	59
	Evening	64	54
	Night	54.8	49
Vibration	Afternoon	60	54
	Night	55	48

**Atmospheric Measurement Data** [Unit] NOx:ppm Particulates:g/m<sup>3</sup> SOx:K value

Item	Equipment	Regulation Value	Measured Value	Equipment	Regulation Value	Measured Value
Particulates	Plant 1, No.1 (Boilers)	0.1	0.001	Plant 2 (Cold & hot water generators)	0.1	0.002
		150	57		150	75
		0.6	0.026		0.6	0.02
Particulates	Plant 1, No.2 (Boilers)	0.1	0.001	Plant 4 (Cold & hot water generators)	0.1	0.001
		150	56		150	51
		0.6	0.025		0.6	0.018

**PRTR Substances** Unit: kg/year

Substance No.	Substance Name	Amount Handled	Emission and Transfer					Recycled	Treated in Plant	Consumed
			Into Atmosphere	Into Waterways	As Waste	Into Soil				
63	Xylene	16,515	16,515	0	0	0	0	0	0	0
227	Toluene	4,688	4,688	0	0	0	0	0	0	0

## Tadomisaki Plant



Number of employees : 781  
 Products : Driveshafts, 4WD couplings

**Water Quality Measurement Data**  
Unit:mg/R (except pH values)

Item	Regulation Value	Results	
		Maximum	Minimum
pH	6.0~8.5	8.4	7.7
COD	(10)	4.0	2.7
BOD	(10)	3.3	0.70
SS	(20)	2.0	0.47
Oil	2	0.08	ND
Zinc	2	0.25	0.16
Soluble iron	3	ND	ND
Soluble manganese	2	ND	ND
Fluorine	5	0.15	0.08
Nitrogen	(34.8)	9.1	8.1
Phosphorus	(3.6)	0.20	0.12
Boron	10	2.1	1.8

**Atmospheric Measurement Data** [Unit] NOx:ppm Particulates:g/m<sup>3</sup> SOx:m<sup>3</sup>/hr

Item	Equipment	Regulation Value	Measured Value
Particulates	Boilers (Cold & hot water generators)	0.1	0.002
		130	56
		ND	ND

**Noise/Vibration Data** Unit: dB

Item	Regulation Value	Measured Value	
Noise	Morning	65	59
	Afternoon	70	58
	Evening	65	58
	Night	60	58
Vibration	Afternoon	70	42
	Night	65	42

**PRTR Substances** Unit: kg/year

Substance No.	Substance Name	Amount Handled	Emission and Transfer					Recycled	Treated in Plant	Consumed
			Into Atmosphere	Into Waterways	As Waste	Into Soil				
1	Water soluble zinc compounds	2,246	0	0	449	0	0	0	0	1,797

## Higashi Kariya Plant



Number of employees : 364  
 Products : Mechatronics products, sensors, propeller shafts, machined parts

**Water Quality Measurement Data**  
Unit:mg/R (except pH values)

Item	Regulation Value	Results	
		Maximum	Minimum
pH	5.8~8.6	7.9	7.3
COD	(29)	5.2	4.4
BOD	(20)	8.3	3.9
SS	20	2.0	0.6
Oil	5	0.30	0.18
Zinc	2	0.25	0.08
Soluble iron	5	0.55	0.06
Soluble manganese	2	0.20	0.10
Fluorine	5	1.7	0.30
Nitrogen	(26.9)	24	21
Phosphorus	(2.6)	0.04	0.03
Boron	10	0.08	0.03

**Atmospheric Measurement Data** [Unit] NOx:ppm Particulates:g/m<sup>3</sup> SOx:m<sup>3</sup>/hr

Item	Equipment	Regulation Value	Measured Value
Particulates	Boilers (Cold & hot water generators)	0.15	0.005
		130	63
		0.41	ND

**Noise/Vibration Data** Unit: dB

Item	Regulation Value	Measured Value	
Noise	Morning	65	63
	Afternoon	70	63
	Evening	65	63
	Night	60	57
Vibration	Afternoon	70	45
	Night	65	45

**PRTR Substances**  
 ※No substances handled at rate of 1,000 kg/year or above.

## Hanazono Plant



Number of employees : 1,024  
 Products : Electric power steering, hydraulic power steering pumps, Electric control units

**Water Quality Measurement Data**  
Unit:mg/R (except pH values)

Item	Regulation Value	Results	
		Maximum	Minimum
pH	6.5~8.5	7.6	7.3
COD	10	5.7	4.5
BOD	10	5.1	2.0
SS	10	2.0	0.31
Oil	2	ND	ND
Zinc	1	0.22	0.03
Soluble iron	5	0.17	0.01
Soluble manganese	3	0.32	0.13
Fluorine	1	ND	ND
Nitrogen	(31.5)	21	13
Phosphorus	(3.3)	0.12	0.04
Boron	10	ND	ND

**Atmospheric Measurement Data** [Unit] NOx:ppm Particulates:g/m<sup>3</sup> SOx:m<sup>3</sup>/hr

Item	Equipment	Regulation Value	Measured Value
Particulates	Compact through-flow boilers	0.1	ND
		130	35
		ND	ND
Particulates	Boilers (Cold & hot water generators)	0.1	ND
		130	59
		ND	ND

**Noise/Vibration Data** Unit: dB

Item	Regulation Value	Measured Value	
Noise	Morning	55	51
	Afternoon	60	58
	Evening	55	52
	Night	50	49
Vibration	Afternoon	65	51
	Night	60	45

**PRTR Substances** Unit: kg/year

Substance No.	Substance Name	Amount Handled	Emission and Transfer					Recycled	Treated in Plant	Consumed
			Into Atmosphere	Into Waterways	As Waste	Into Soil				
311	Manganese and its compounds	2,038	0	0	408	0	0	0	0	1,630

## Toyohashi Plant



Number of employees : 552  
 Products : Hydraulic power steering, hydraulic power steering hoses, manual steering, collapsible steering columns

**Water Quality Measurement Data**  
Unit:mg/R (except pH values)

Item	Regulation Value	Results	
		Maximum	Minimum
pH	6.1~8.0	7.4	6.8
COD	18	17	13
BOD	10	8.0	4.1
SS	10	16	4.2
Oil	3	ND	ND
Nitrogen	60	47	29
Phosphorus	8	4.5	2.5

**Atmospheric Measurement Data** [Unit] NOx:ppm Particulates:g/m<sup>3</sup> SOx:K value

Item	Equipment	Regulation Value	Measured Value	Item	Regulation Value	Measured Value	
Particulates	Plant 1 (Boilers)	0.10	0.010	Noise	Morning	65	62
		100	86		Afternoon	70	68
		1.0	0.028		Evening	65	63
Particulates	Plant 2 (Cold & hot water generators)	0.10	0.004	Night	60	60	
		100	67	Afternoon	55	41	
		1.0	0.025	Night	50	33	
Particulates	Plant 4 (Cold & hot water generators)	0.10	0.003	Vibration	Afternoon	55	41
		100	83		Night	50	33
		1.0	0.022				

**PRTR Substances** Unit: kg/year

Substance No.	Substance Name	Amount Handled	Emission and Transfer					Recycled	Treated in Plant	Consumed
			Into Atmosphere	Into Waterways	As Waste	Into Soil				
63	Xylene	2,604	2,604	0	0	0	0	0	0	0
346	Molybdenum and its compounds	2,290	0	0	0	0	0	0	0	2,290

## Kameyama Plant



Number of employees : 207  
 Products : Ball bearings, clutch bearings

**Water Quality Measurement Data**  
Unit:mg/R (except pH values)

Item	Regulation Value	Results	
		Maximum	Minimum
pH	6.0~8.0	7.3	7.1
COD	9	8.0	2.9
BOD	8	7.0	1.2
SS	10	1.0	0.6
Oil	0.5	ND	ND
Phosphorus	120	33	16

**Atmospheric Measurement Data** [Unit] NOx:ppm Particulates:g/m<sup>3</sup> SOx:m<sup>3</sup>/hr

Item	Equipment	Regulation Value	Measured Value
Particulates	Plant 1, No.1 (Boilers)	0.1	0.005
		150	80
		6.3	0.06

**Noise/Vibration Data** Unit: dB

Item	Regulation Value	Measured Value	
Noise	Morning	65	56
	Afternoon	70	56
	Evening	65	57
	Night	60	57
Vibration	Afternoon	65	29
	Night	60	28

**PRTR Substances**  
 ※No substances handled at rate of 1,000 kg/year or above.

\* Atmospheric data / Maximum value measured  
 \* Water quality / pH:hydrogen ion concentration COD:chemical oxygen demand BOD:biochemical oxygen demand SS:suspended solids Oil:n-hexane extracted substance content ( ) denotes average volume per day ND:or not detected: less than lower limit  
 \* Regulation values / Self-regulatory standards (including values stricter than those set by law)

\* Substances subject to PRTR / Substances the volume of which exceeds 1,000 kg/year (excluding dioxins)  
 The substance number indicates the government designated number of a class 1 chemical substance under PRTR law.  
 The volume treated in a plant means the volume of a PRTR substance which is treated in a plant by conversion to a different substance via incineration, neutralization, decomposition, chemical reaction, etc.  
 The amount consumed means the amount of a PRTR substance which is converted to a different substance by a chemical reaction and either used in a product or incidentally removed from the plant.

# JTEKT

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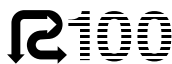
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\*This report can be viewed on our home page.

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