

Forest-In Office

Amada Green Action

Amada Group
Environmental and Social Report

2014

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◆Our Management Philosophy

1. Growing together with our customers

Our company has been sharing this philosophy as a starting point for all of our business activities since its formation.

We believe that the creation and provision of new values based on customers' perspectives will strengthen the relationship of mutual trust between our customers and the Amada Group, and become a source of mutual development.

2. Contribute to the international community through our business

Our company recognizes that contributing to "manufacturing" conducted by our customers throughout the world leads to the development not only of local communities, but also the international community as a whole, and we conduct our business activities with the aim of providing the highest quality of solutions in each market around the world by optimally distributing our group's management resources.

3. Develop human resources who pursue creative and challenging activities

Rather than being content with the present situation, we are constantly in search of new and better ideas to put into action in order to improve and enhance our business activities. This is the Amada Group's basic philosophy of human resource development, and we believe that Amada's unique corporate culture will be further developed by continuing to practice this philosophy.

4. Conduct sound corporate activities based on high ethics and fairness

We promote transparency and we comply with regulations in the Amada Group's management and in all aspects of its business activities, and strive to further enhance its corporate value while conducting sound activities.

5. Take good care of people and the earth's environment

By treating the Amada Group's stakeholders (such as shareholders, customers, business partners, employees and local residents) and the global environment with respect, we strive to continue to be a good company for both people and the earth.

◆Amada Group environmental policy

◇Amada Group's environmental principles

Amada Group thinks that preservation of the earth, a small planet in macrocosmos, for the next generation is the biggest theme for human beings. Based on this idea, Amada Group positions environmental preservation as one of its important management issues, and is committed to contributing to a prosperous future for people around the world through eco-friendly manufacturing, in order to pass down this beautiful earth to our descendants.

◇Amada Group's environmental policies

1. Provision of products and services for preservation of the environment

Evaluate environmental load throughout the product life cycle, provide energy-saving and resource-saving products and services which are free of hazardous substances, and contribute to environmental preservation and the economy.

2. Reduction of environmental load in business activities

In every process of business activities, thoroughly pursue reduction of environmental load by promoting energy efficiency improvements, energy saving, resource saving and recycling. Also, aggressively promote green procurement and try to eliminate the use of hazardous substances.

3. Biodiversity activities

Grasp effects of business activities on the natural environment and contribute to building a biodiversity-nurturing society in concert with stakeholders.

4. Compliance with environment-related laws

Comply with environment-related laws and other agreements concluded with stake holders.

5. Continuous improvement of environment management system

Build an environment management system and make continuous improvement of it. Grasp the effects of business activities, products and services on the environment. Set environmental goals and targets and reduce environmental load as well as prevent contamination.

6. Enhancement of education about environment

Provide education aimed at environment preservation to improve employees' sense of responsibility as a member of the company and also boost awareness of environment preservation.

Established in April, 2010
Mitsuo Okamoto
President of Amada Co., Ltd.

Top Message

Message from the President and CEO



As hopes rise that the Japanese economy is emerging from its long spell of deflation, business activity has regained its buoyancy. The selection of Tokyo as host for the 2020 Olympics is good news for our country's economy, and the resulting economic effects of infrastructure improvements and increased tourism, which have attracted considerable attention, are expected to provide a boost to Japan's growth strategy. This favorable outlook has spurred an upturn in business confidence within the machinery industry, and small and medium enterprises have regained their appetite for investment in plant and equipment. Modest, steady growth seems likely for the future. However, the world context of product creation is undergoing enormous change driven by the rapid evolution of technology. In such matured markets as the US, Europe and Japan, segments exploiting advanced technologies including green business, aircraft, and medical equipment have been expanding, and there is a demand for small-batch and variable-mix/variable-volume production. At the same time, we are seeing a rapid transformation in the emerging markets too, as sharply rising labor costs prompt more and more customers to automate. The 'emerging market' countries are shifting to new regions.

Faced with this context of diversifying global markets, Amada has developed fiber laser machines with significantly reduced environmental impact and combination machines that integrate production processes for increased productivity. These machines are 'locally made with Amada quality' at our main manufacturing facilities around the world and delivered to customers all over the globe. As a comprehensive manufacturer of metalworking machinery, Amada supplies machines that combine the adding of high value to our customers' products with environmental friendliness, thereby contributing to the development of society and the protection of the global environment.

In 2010, we formulated the Amada Group Environmental Declaration, in which we stated our intention as a company to connect with our customers, society and the world through 'eco-conscious product creation'. In line with the long-term 'Amada Green Action' targets for FY 2020, we have committed ourselves to three major tasks.

— Reducing CO₂ emissions associated with our products —

Our first task is reducing CO₂ emissions associated with our products. Since Amada's products are industrial goods, most of their lifecycle CO₂ emissions occur during customer use, which is why we believe that developing machines with high energy efficiency (eco products) is extremely important. Having developed numerous eco products such as fiber laser machines that consume 80% less power than conventional models, and combination machines with lower energy consumption and integrated production processes for higher productivity, we have made good progress with our efforts to reduce CO₂ emissions associated with our products.

These efforts have won us a strong reputation for developing eco products with excellent energy efficiency and productivity. Among other honors, we have received the 2013 Environment Minister's Award for Global Warming Prevention Activity (in the technology/manufactured products category) for our FOL-3015AJ laser machine and ACIES series punch and laser combination machines. We accept such honors with a mixture of pride and humility, and for the future our efforts will continue to focus on developing a wide range of eco products with excellent energy efficiency and productivity.

— Reducing CO₂ emissions associated with our business activities —

Our second task is a 25% reduction in CO₂ emissions associated with our business activities by 2020, and we are making steady progress toward this goal. At our main manufacturing facilities, we strive for improved efficiency in our business and manufacturing processes, innovating day by day to save energy and resources, and create eco factories with low environmental impact. Also, because natural energy usage is a major concern for us, we are making extensive use of natural energy sources in our new-build factories and other facilities.

Further, we are vigorously pursuing environmental activities at our overseas facilities. Our blade factories in Austria and China have already received ISO14001 certification, and targets for the environmental initiatives being carried out at these sites are the same as for our facilities in Japan. For the future, Amada will be rolling out environmental initiatives on a more global scale, striving for rapid achievement of targets.

—Conservation and regeneration of biodiversity —

Our third task is the conservation and regeneration of biodiversity. We are pursuing a variety of ecosystem conservation initiatives including tackling the challenge of creating an 'office in the forest' where workers and green space can exist side by side at Isehara Works (our national headquarters), managing the Amada Forest, an area of flourishing woodland on the site of Fujinomiya Works (our main manufacturing facility), and planting Japanese red maple, an endemic tree that has been designated an endangered species, at Toki Works.

Overseas too, Amada is creating the conditions for coexistence with natural ecosystems. For example, Amada UK, our subsidiary company in the United Kingdom, set up an on-site habitat area to conserve the ecosystem of the great crested newt, which the UK classes as a protected species. For the future, we shall continue our endeavors to conserve and regenerate global biodiversity, in particular through efforts to protect such endangered species.

Thanks to you, our customers, Amada will be celebrating its 70th anniversary in 2016. As a comprehensive manufacturer of metalworking machinery, Amada unceasingly strives to innovate in response to a rapidly evolving global market, creating products that will contribute to a prosperous future for the world's people.

September 2014



Introduction

About Amada

Amada is a comprehensive manufacturer of metalworking machinery, a “total solution” company that contributes to the creation of products for global customers.

This is Amada

The Amada Group consists of approximately 90 subsidiaries and affiliated companies, and its main business is the manufacturing, sale, leasing, repair, maintenance, inspection, and testing of metalworking machines and equipment.

It handles metalworking machines mainly for the four business fields of sheet metal machines, presses, cutting / structural steel machines, and process machinery. It also provides total solution services including software for controlling machines, peripheral equipment, tooling, and maintenance.

◆ Isehara Works

The Isehara Works are in Isehara City, which is almost in the center of Kanagawa Prefecture, and this is where the Amada headquarters and Amada Solution Center are located.

The Amada Solution Center is a place for providing “improvement suggestions” to our customers for solving their manufacturing issues. It features an “Exhibition Hall” where people can get acquainted with our products, and serves the function of “demonstration processing” in which Amada uncovers customers’ issues and proposes solutions. Our manufacturing proposals can be tested here with our equipment as well.



Isehara Works

◆ Fujinomiya Works

The Fujinomiya Works (Fujinomiya City, Shizuoka Pref.) is in a scenic location on the south-west side of Mt. Fuji. With responsibility for development and manufacture, this site is a source of innovation.

The Third Factory of Fujinomiya is the world’s largest laser factory that manufactures our latest laser machines, and it has the manufacturing capacity of 140 units per month.

The factory’s concurrent design system with the Development Center has made our front loading development* and manufacturing system possible.

There are 4 Innovation Rooms at the Development Center, and with the aid of the latest design systems and video equipment, these rooms can be used by customers and development staff as creation spaces for cutting-edge development. As a result of the module design, created with 3-dimensional CAD, product manufacture can be tested from the design stage, thus allowing for modularization to a high degree of quality.



Fujinomiya Works

◆ Ono Plant

Ono Plant is located in Ono City, Hyogo Prefecture, at the center of Higashi-Harima region, and this area is known for its metal industry from the old days as the manufacturer of blades.

Today, Ono Plant serves the functions of development and manufacturing of band saw blades as the backbone factory of the Amada Group’s consumable business.

With our unique technology and daily pursuit of “QCD” + “I” (for “innovation”), we have acquired the number one share of the world bandsaw blade market. Our plant in Japan works together with our affiliated factories in Austria and China to develop products incorporating the latest technologies in response to the needs of our customers worldwide.



Ono Plant

*Front loading development: an effective development method where relevant divisions gather from the planning stage to study the products from multiple angles concurrently, and reduce the problems during the latter half of development.

◆ Amada Machine Tools

Amada Machine Tools is responsible for the development, manufacture and sales of metal cutting machines, machine tools (lathes, grinding machines).

In the cutting and structural business, we provide a total solution approach to cutting that maximizes machining performance with machines and blades. We also provide shaped steel processing systems to the steel-frame industry, which is seeing an increase in the size of components in cutting and hole-punching processes, along with a move towards high speed processing and automatization.

Its machine tool segment offers systems that generate precision and value-added products with automation. The company's well-known creative product developments include profile grinding machines and combination lathe.



Amada Machine Tools, Toki Works

◆ Amada Tool Precision

Amada Tool Precision deals with the manufacture and sales of dies / toolings, and die peripheral processing devices, which are expendable parts of Amada's punching and bending machines.

The company has three separate manufacturing plants. One is the seamless and automated "876 Plant" that covers processes ranging from the procurement of raw materials, rough processing, and heat treatment, to grinding processing. Second is the "Resizing Plant" that accommodates quick-delivery orders, and third is the "Special Tooling Plant" that manufactures non standard tools made-to-order.



Amada Tool Precision

◆ Amada Automation Systems

Amada Automation Systems (former Amada Engineering)

Since it began operations, Amada Engineering has handled automated equipment for systems, and in the sheet metal system sector it has grown into a pioneering manufacturer of sheet metal system equipment, backed up by a wealth of experience and achievement.

This company has accumulated various manufacturing technologies and knowhow over the years. It plays an important role as a member of the Amada Group, and serves as a well-trusted engineering partner of global sheet metal factories, based on providing total solutions for customers' issues.



Amada Automation Systems / Fukushima Plant

◆ Nicotec

Nicotec manufactures and sells cutting tools, cutting machines, and cutting lubricants. Its headquarters is located inside the Isehara Works, and its manufacturing facilities are located in Hyōgo and Saitama Prefecture.

The Miki Plant, in Hyōgo Prefecture, is responsible for the development and manufacture of bandsaw blades, hole saws, coils and so forth. The Urawa Plant in Saitama Prefecture, meanwhile, comprises an Oil Center, a Service Center, and the Tokyo Sales Office, and the Oil Center is very active as a manufacturing and distribution hub, handling all the cutting and machine oil from across the Amada Group.



Nicotec / Miki Plant

◆ **AMADA TOYO**

Created in 1956 under the name of Tōyō Kōki Seisakusho, AMADA TOYO was added to the AMADA group in 2009. The company is currently in charge of the manufacturing of bending machines.



AMADA TOYO

◆ **AMADA MIYACHI**

AMADA MIYACHI is a manufacturing company dedicated to the development, manufacturing and commercialization of ultra fine welding and processing devices. Its scope of activity is divided into spot welding, laser welding, laser processing and the systems that combine these devices with other automated devices. The only one of its kind, AMADA MIYACHI boasts spot and laser welding technologies; its fiber laser technology is a true global contribution in the field of innovative manufacturing technologies. With 16 current operation bases in the world, the company has plans to further expand its sales and services in the Asian region.



AMADA MIYACHI Noda Works

◆ **Opening of Technical Centers and Satellite Centers in Several Locations**

Amada group is expanding its activities by providing community-based technical services, and by creating technical and satellite centers with the purpose of solving current sheet metal processing issues in close relation with our clients.

In May 2013, Amada opened its Shanghai facility, which is the first of its kind in the world in that it functions as a factory, technical center, parts center, and also as a school.

Finally, “AMADA TECHNICAL CENTER in LANDSHUT” was opened in June, and for the purpose of implementing both research and development in the same site, a new building called “Amada Advanced Technology” was constructed.

Amada is expanding its commercial presence by creating operation bases that are locally rooted, allowing customers to stop by at their convenience.

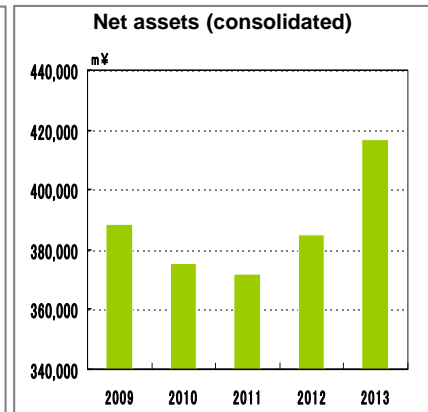
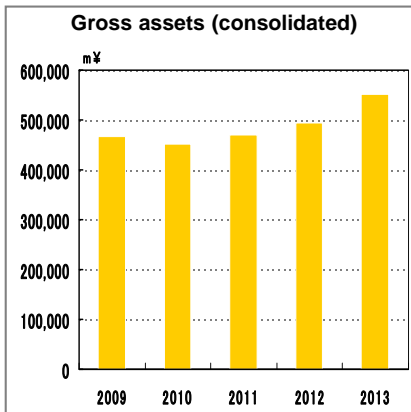
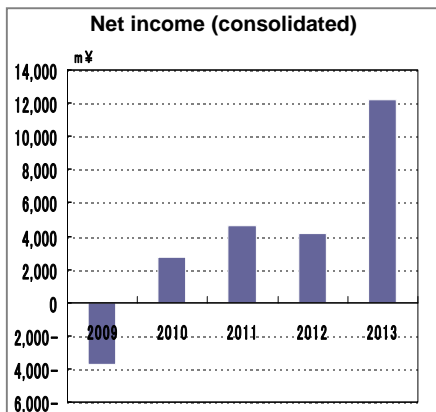
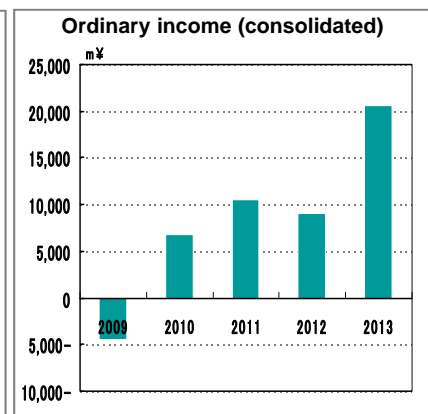
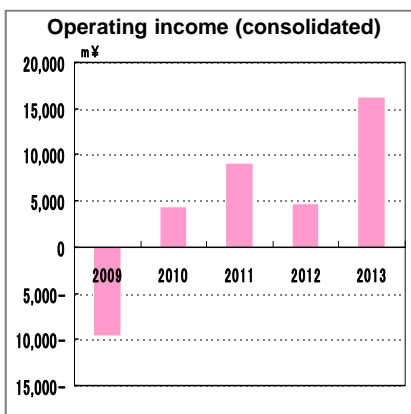
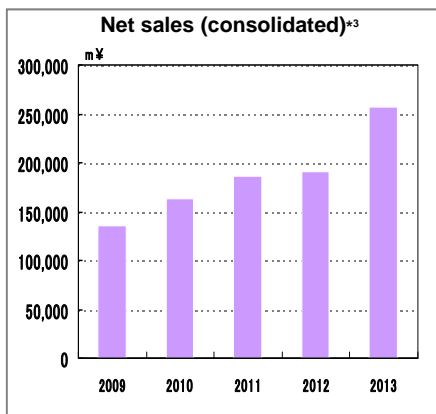
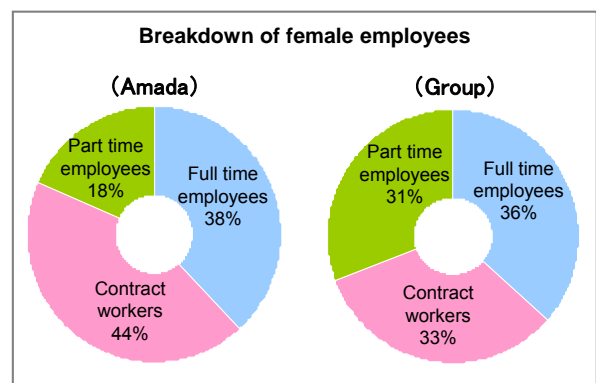
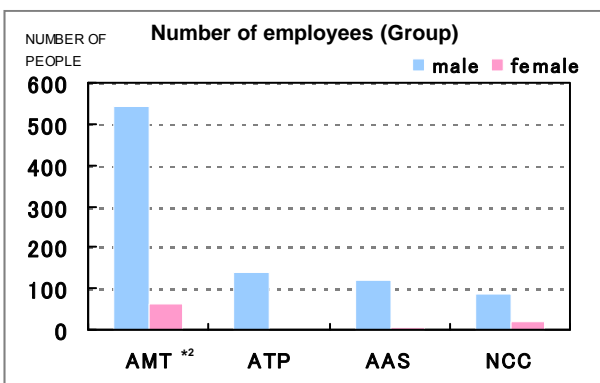
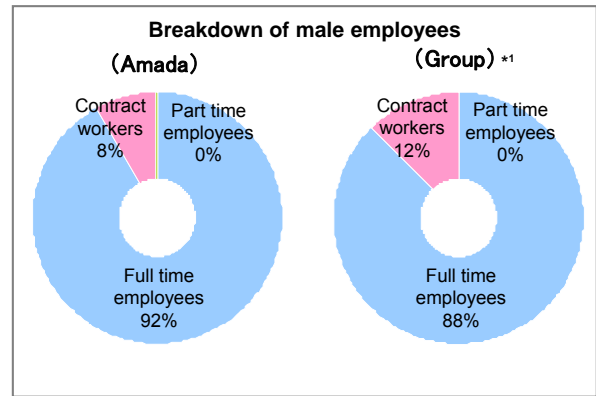
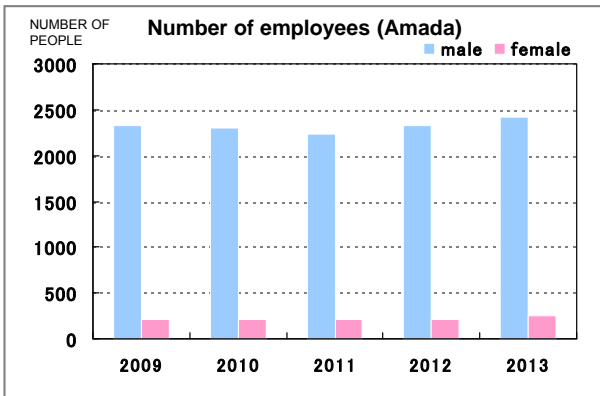


AMADA TECHNICAL CENTER in LANDSHUT, Germany



Shanghai Facility

◆ Outline of Amada (as of end March 2014)



*1 Number of Amada Group employees includes the 5 group companies of Amada, AMT, Amada Automation Systems(former AEG), ATP, and NCC.

*2 Acronyms for Group companies: AMT (Amada Machine Tools), ATP (Amada Tool Precision), AAS (Amada Automation systems), NCC (Nicotec)

*3 Scope of IR (investor Relations) data: Amada Group consolidated reports

Amada products

Here is our product lineup – the Amada Group provides machines, software, peripheral equipment, and consumables for all metalworking processes including sheet metal processing, and cutting / pressing / machining.

Punching machine
EM-3612ZRT



Laser machine
FLC-3015AJ



Punch & laser combination machine
ACIES-2512B



Bending machine
HD-8025NT



Bending robot system
EG-6013AR



Process-integrating all-in-one machine
LASBEND-AJ



◆ Punching machines

Machines that punch various holes (round, square, and others) and cut sheet metal

Punching machines can punch out almost any shapes from sheet metal by using various punching tools. They can also create partial 3D shapes with forming tools, and drill/thread holes.

◆ Laser machine/combination machine

Machines that open holes and cut sheet metal with laser beams

The laser machine has the capacity to cut complex lines since it cuts the material with laser beams.

Using fiber laser oscillators developed in-house, FOL-3015AJ and FLC-3015AJ are the next-generation laser machines that allow for high speed and energy-saving processing, as well as offering improved machining performance with highly reflective and difficult-to-cut materials.

A combination machine is a machine combining both laser and punching functions for further process integration.

◆ Bending Machines / Automated Bending Systems

Also called “press brakes”, the machines bend sheet metal with two tools on the top and the bottom.

Bending machines and automated bending systems implement the 3D bending process of flat sheet metal cut out from materials by punching, laser and/or shearing machines, as well as the hemming process consisting in rolling the edge over onto itself.

We also have an automated bending system in which robots lead the machines in bending instead of manual labor.

◆ Process integration all-in-one Machines

These advanced process integrating sheet metal machines can perform four processes in a row: laser, forming, tapping, and bending.

Only one machine can perform high speed process with reduced energy consumption due to Amada’s exclusive fiber laser oscillator, while optimizing the processing capability of highly reflective and difficult-to-cut materials. Each material unit is placed in one machine, where such forming processes as punching, cutting or burring are implemented, followed by the tapping and bending processes, before unloading the products.

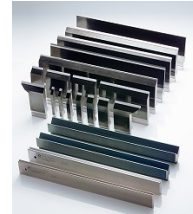
Peripheral equipment
FLC-3015AJ + ASF-3015



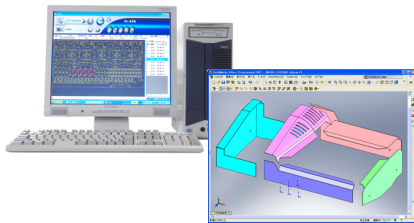
Stamping Press Machine
SDE-2025



Tooling
Punching tools / Bending tools



Software products
AP100 / SheetWorks



Band saw machine
PCSAW-720



◆ **Peripheral equipment**

Devices designed for the loading, unloading, and piling of sheet metal materials from-and-into punching, laser and combination machines.

This type of equipment feeds the material into the processing machine, then unloads and piles the processed semi-products. Highly automated sheet metal processing systems can be configured to allow prolonged and continuous automatic operation.

◆ **Stamping Press Machines**

Press machines for processing thin sheet metal with tooling

Stamping press processing methods are used to realize a variety of 3D shapes from thin sheet metal material. For such processing, tools are generally prepared in advance, according to the products to be processed, and then fitted to the machine. 3D shapes are then produced by applying pressures on both side of the sheet metal.

◆ **Tooling**

Processing operations require punching tools for punching machines and bending tools for bending machines. Such tooling is also offered by Amada.

◆ **Software products**

Production management, CAD/CAM, network software and others

The sheet metal processing machines must receive a series of commands in order to process the parts. Software products such as our automated programming systems make this easily achievable.

◆ **Band saw machines**

Machines used to cut round bars and steel I beams with band saw blades and circular saw blades.

In addition to the sheet metal machines, Amada offers also a series of band saw machines used for round bars and shaped steels such as H beams.

Lathe
V-10T



Grinding machine
TECHSTER-126



Shearing machine
DCT series



Welding machine *1
FLW-4000M3



Welding equipment *2
ML-6810B



◆ Lathe

A lathe is a machine tool that cuts a rotating workpiece
A lathe is a machine tool that cuts metal with a fixed turning tool by rotating the workpiece. Amada also offers a combination machine that can make holes or screw holes into a workpiece after lathe turning.

◆ Grinding machine

A machine that processes the workpiece by grinding with rotating grindstones
A grinding machine processes a workpiece with grindstones that are rotating at high speed. It is used for processing very hard materials that other machines can't process, or in finish machining that requires high precision.

◆ Shearing Machines

Shearing machines allow the free size cutting of metal sheets.

Through cross cutting of the sheet by upper and lower blades, the shearing machines realize a linear cutting of the sheet metal material.

All operations, from shear cutting with sizing device, length definition, blade clearance adjustment according to sheet thickness and automatic piling at the piling reception device are possible.

◆ Welding machine *1

Welding machines are used to weld the joining sections of bent parts, and to weld parts together.
Amada provides fiber laser welders fitted with automated robotic welding systems, as well as manual fiber laser welders and spot welding machines.

◆ Welding equipment *2 / laser markers

Machines designed for fine welding of small parts, thin sheets, and for laser marking
Amada offers a range of fiber laser welders fitted with the "real time power feedback control", YAG laser welders and handheld laser Welders, for the purpose of implementing stabilized and superior quality welding operations by generating ideal output wave forms.

Shearing machines are commercialized by the group's affiliate AMADA GENERAL MACHINE CO., LTD.
Welding equipment *2 is manufactured and sold by AMADA MIYACHI Co., LTD., an Amada Group company.

List of Prizes and Awards (since 2003)

Year	Equipment or installation concerned	Award	Sponsor
2003	MERC type M	45th Top Ten New Product Award, Main Award	Nikkan Kogyo Shimbun
2005	EMZ-3510NT NC Turret punch press 	35th Machine Design Award, Minister of Economy and Industry Prize	Nikkan Kogyo Shimbun
2007	PCSAW-700 Pulse cutting bandsaw machine	49th Top Ten New Product Award, Main Award	Nikkan Kogyo Shimbun
2008	“Sheetmetal course” (Joint award received by Amada / Amada School / Tokyo Institute of Technology)	The Japan Society for Technology of Plasticity Award, Education Prize 2008	The Japan Society for Technology of Plasticity
2009	LC-F1NT series Laser machine	51st Top Ten New Product Award, Main Award	Nikkan Kogyo Shimbun
	LC-C1NT series Process integration, built-in and compact combination machine 	39th Machine Design Award, Highest Award, Minister of Economy and Industry Prize	Nikkan Kogyo Shimbun
2010	Amada Isehara Works	13th Thermal Storage Gathering, Heat Pump and Thermal Storage Efficient Use Award	Heat Pump & Thermal Storage Technology Center of Japan
	Dorsal Power Pulse Cutting Band Saw Machine	Japan Institute for Promoting Invention and Innovation, invention awarding ceremony of Kantō area, Invention Encouraging Prize	Japan Institute for Promoting Invention and Innovation
2011	S-10 CNC Combination lathe machine	53rd Top Ten New Product Award, Main Award	Nikkan Kogyo Shimbun
2012	FOL-3015AJ Fiber laser machine 	54th Top Ten New Product Award, Masuda Award	Nikkan Kogyo Shimbun
	ACIES series Blanking process integrating solution 	42nd Machine Design Award, (Nippon Brand Prize)	Nikkan Kogyo Shimbun
2013	ACIES series Blanking process integrating solution	55th Top Ten New Product Award, (Nippon Brand Prize)	Nikkan Kogyo Shimbun
	Technical Center of Toki Works	Ministry of the Environment’s 2012 Power Saving and Lighting Design Awards, Public and General Facilities category	Ministry of the Environment
	FOL-3015AJ ACIES series	3rd Kanagawa Prefecture Global Warming Prevention Awards, Greenhouse Gas Emissions Reduction Technology category Award	Kanagawa Prefecture
	Fully automated bending system EG-6013AR 	43th Machine Design Award, Minister of Economy and Industry Prize	Nikkan Kogyo Shimbun
	FOL-3015AJ ACIES series	Environment Minister’s Award for Global Warming Prevention Activity 2013	Ministry of the Environment
2014	Sheetcenter LASBEND-AJ 	56th Top Ten New Product Award, Masuda Award	Nikkan Kogyo Shimbun

Special Feature: Environment Minister's Award for Global Warming Prevention Activity 2013

In recognition of our initiative to develop our Eco Products, and of Amada Co., Ltd as a corporation with a prodigious record in the field of the prevention of global warming.

Award given to the FOL-3015AJ fiber laser machine and the ACIES series of punch/laser combination machines.

Our FOL-3015AJ fiber laser machine and the ACIES series of punch and laser combination machines were awarded the 2013 Environment Minister's Award for Global Warming Prevention Activity, and a ceremony was held in a Tokyo hotel on December 4th 2013.

The award, created by the Ministry of the Environment in 1998, is given to an organization and its members in recognition of its superior record in the field of global warming prevention.

The award, in the technology development / product category, was given in recognition of the superior productivity and energy saving properties of the Eco Products we have developed. The award is also linked to our unique Eco Product standards and product assessment processes, which are the linchpin of our long-standing and continuous commitment to greenhouse gas reduction.

These same products also won the third "Kanagawa Global Warming Prevention Award Grand Prize" in the category of "Development of Greenhouse Effect Gas Reduction Technology", in January last year.



The award ceremony

Kanagawa Global Warming Prevention Awards Prize

Our products won the third "Kanagawa Global Warming Prevention Award Grand Prize" in the category of "Development of Greenhouse Effect Gas Reduction Technology" on February 4th, 2013.

These Awards were established in 2010 as a way of honoring outstanding global warming prevention initiatives by companies, associations and individuals.



Kanagawa Global Warming Prevention Awards Ceremony (Photo courtesy of Kanagawa prefecture)



2013 Environment Minister's Award for Global Warming Prevention Activity

Field of R&D and Commercialization

The certification system for Amada Eco Products

The Amada Group has two systems for evaluating product environmental performance, the Product Environmental Assessment system and the Amada Eco Products Certification System, and these are a testament to our long-standing and continuous commitment to greenhouse effect gas reduction.

So far 28 products have been registered under the Amada Eco Products Certification System since it was introduced in October 2001.

The product processing system, which follows the product development concept, is analyzed to estimate the product's energy saving properties and productivity, and then a decision is made as to whether or not the product can be certified. This initiative led to the award.

* Product assessment: a system to evaluate product environmental performance (described in detail on page 17)

<The Products which Received the Award>

FOL-3015AJ



The FOL-3015AJ, developed to achieve the top processing performance in the world, is a next generation laser machine providing a total solution through a perfect oscillator-machine-software fusion. Our fiber laser oscillator, which we developed in-house, gives an enlarged processing area and greater eco-performance, it has reduced electricity consumption by approximately 80% compared to traditional machines, it does not need laser gasses, and achieves extremely low running costs.

<Other awards>

54th Top Ten New Product Award, Masuda Award Prize
The Fifth Laser Industry Award for Excellence from The Laser Society of Japan

ACIES Series



ACIES, which means “forefront” in Latin, is a cutting-edge next-generation punch/laser combination machine for high-mix, varied volume production, which reduces electricity consumption by up to 50% compared to existing machines, and completely solves the problem of scratches on the underside of the workpiece.

Machining data is created swiftly, even for new products and extremely small lots, greatly reducing lead times. This fully-automatic solution model allows automatic continuous operation for precise, high quality processing.

<Other Awards>

42nd Machine Design Award, Nippon Brand Prize
55th Top Ten New Product Award, Nippon Brand Prize

Interview with the developer of the FOL-3015AJ



Blank No.2 Development Div.
Kazuhiro Takabayashi

The FOL-AJ is fitted with a 3-axis linear servo drive in order to maximize the fiber laser 4kW processing performance. This high performance machine has high speed and high precision processing capabilities coupled with low energy consumption. We have achieved the best processing capabilities in the world through a combination of laser technologies we have built up over the years and new experimental processing technology.

All the members of the development team shared the same goals and faced up to all the challenges, and I am convinced that this dedication helped us to win the award.

Interview with the developer of the ACIES Series



Blank No.1 Development Div.
Takeshi Kawashima

ACIES machines, created by blending our unique Amada technology we have built up over many years with the latest cutting edge technology, has been developed as the ultimate high-mix, varied volume total solution which can run uninterrupted for 72 hours to provide our customers with worry-free, stable top-quality product processing. It is also designed to have a greatly reduced environmental impact. A number of conditions had to be met to achieve these goals, and we worked very hard to meet them, one by one.

We, as developers, listened to our customers, and took onboard what they had to say, and this enabled us to produce products which have raised the quality standards of sheet metal.

Interview with an Amada Eco Products User

Users declare that Amada Eco Products are by far the best in terms of productivity and energy saving when compared with other environmentally-friendly products. Here are some examples of customers who have purchased Amada Eco Products.

◆ Kashimoto Shoten Ltd Outline of Company

Kashimoto Shoten Ltd is a processor and vendor of steel material and sheet cutting metalwork based in Kita-Kyūshū whose core business involves gas processing and laser processing.

The company began handling raw materials for steel making in 1949, and was relaunched in 1974 as Kashimoto Shoten Ltd. The company originally handled material sales, but it gradually modernized and moved into manufacture and sales, and now provides a comprehensive service from the order stage, through draftsmanship and processing, to dispatch and delivery.



Interviewee
CEO Shinkichi Hamaya

Q. Please tell us what's special about Kashimoto Shoten

What's special about Kashimoto Shoten is encapsulated in our company motto, which is "Conscientiousness, Reliability, Flexibility". We always work hard to manufacture products our customers will be happy with. Of the three elements of our motto, the greatest importance is attached to flexibility. We deal with our customers in a timely manner and strive to work in a way which will have a positive impact on them.

Q. What motivated you to purchase the FOL-3015AJ fiber laser machine?

In 2009 our incoming orders dropped by 50-60% due to the Lehman Brothers collapse. Domestic demand was in steep decline and it was impossible to foresee when things would improve. It was in these circumstances that we were forced to look out how we could grow our profits, and that's when our attention was drawn to the issue of electricity costs.

Since we introduced two CO₂ laser machines (not made by Amada), our electricity costs were as much as ¥10 million per year. We began to deliberate on the idea of switching to fiber laser, which we had been told could reduce our electricity costs by as much as two thirds.

We originally intended to replace our two CO₂ laser machines with fiber laser machines, but we were lucky enough to get so many orders that we realized we wouldn't be able to keep up with them unless we operated the CO₂ and fiber machines in parallel. In March 2014 we replaced one CO₂ 4kW laser machine with a 4kW fiber laser machine.

Q. Of all the fiber laser machines that there are out there, what led to your decision to purchase Amada machines?

We compared all the various machines, and it was clear that for products under 9mm, which constitute 70% of our business, the Amada machine was by far the best. The running costs of Amada 2kW machines and those manufactured by other companies are completely different. Also, Amada 4kW machines are far faster than 2kW machines made by other companies, so the costs, when calculated on a running time basis, are low. We processed the same product on different machines and saw that the Amada machine processing time was only a third of the time required by the other machines.

The Amada machine cutting speed is faster than our existing 4kW CO₂ laser machine, so we can process a higher volume in the time that is saved.

The Amada fiber motion system is the fastest in the world – the cutting head moves to the cutting location at a speed of 340m per minute. This is twice as fast as other machines and 14 times faster than a self-propelled type machine. In addition to the drive system, the Amada machine is fitted with beam control to ensure a fine high quality surface.

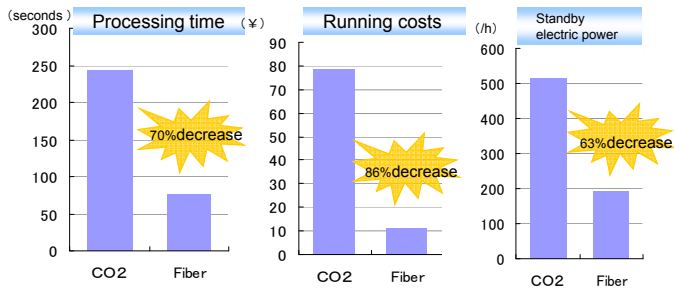


Exterior of Plant 2, Kashimoto Shoten Ltd

Q. What have been the effects of your switch from CO₂ to fiber?

A meter is attached to each machine so that we can follow its operating time, electricity consumption and productivity in each month. Over the last four months we have discovered that our three fiber laser machines combined consume less electricity than one CO₂ laser machine. Our production output is now 1.7 times greater than it was when we only had two CO₂ laser machines, but our electricity consumption is almost unchanged.

Also, the processing time for an identical product is one third of the time it would take on a CO₂ machine, the electricity and assist gas costs are one seventh, and the hourly standby electric power costs are one third.



Q. Have you been able to reduce your running costs, such as consumables and repairs?

Definitely. The CO₂ laser machine needs consumables such as mirrors and reflectors inside the oscillator, but the fiber laser machine has no need for anything like that. There is also less product damage and fewer parts which need replacing. Also, CO₂ laser machines need laser gas, but fiber laser machines do not. Therefore, we can operate within low repair and consumable costs.

Q. I understand that you do non-ferrous metalwork. Do you actually do much copper and brass work?

We do cut and supply stainless steel, aluminium and copper, but the quantity is insignificant. This is a new area which we have only been able to take on since we installed the fiber laser machines, and at the moment we are looking for ways to develop it. We have just launched a PR campaign to advertise the fact that we can do non-ferrous cutting.

Q. Have you had any trouble or causes for dissatisfaction?

Because we try to ignore trifling things, in the beginning we had certain issues because we were not used to the machines and we did not really know how to use them, but we don't have any real problems now. Amada fiber laser machines are built to the highest level. The level of workmanship is higher than that of other manufacturers.

The machines are still under guarantee and we have been given very good service, and I would like to think that the service will be just as good after the guarantee expires....

Q. Do you have any requests for Amada?

The FOL-AJ cutting area is 5' x 10', but we have received orders for workpieces which are 3m long (and over), and 1500mm wide (and over). At present, we can only cut these using self-propelled equipment because the products will not fit in the machine.

Also, we stack up all incoming products each day and process them overnight. It would be extremely helpful if the machine were fitted with an inkjet-type marking device so that when we come into the factory in the morning we would know exactly which products have to go to which customer.



Inside the factory

Company Outline

Kashimoto Shoten Ltd
 CEO: Shinkichi Hamaya
 Location: 1-23 Ōjiansē, Wakamatsu-ku, Kitakyūshū, Japan
 Tel: 093-751-6211 Number of employees: 28
 Core business:
 laser cutting, gas welding, shear cutting, plasma cutting, steel sheet bending, sales of general purpose steel, sale of high strength steel plates
[Http://kasimoto.co.jp/](http://kasimoto.co.jp/)

Environmental Management

Amada Group's mid-and-long-term environmental plan

The Amada Group will strive to promote environmental activities to ensure sustainable development of our business and society. Amada will help to build a bright and prosperous future for people around the world by providing environmentally-friendly, and energy-saving products.

◆ Long-term environmental plan

In order to make further advances with its environmental conservation activities, the Amada Group has drawn up a long-term environmental objective (dubbed "Amada Green Action"), that extends as far as 2020. With this goal in mind, it is tackling issues such as the development of eco-friendly products, as well as energy and resource conservation, along with waste reduction, by improving the efficiency of its business activities.

Three goals of "AMADA GREEN ACTION"

■ Products

By 2020, we will reduce CO₂ emissions of all products by an average of 25%.

■ Product creation

By 2020, we will reduce CO₂ emissions from our establishments and factories by 25% in terms of specific consumption.

■ Biodiversity

We will focus our efforts on conserving and regenerating biodiversity in order to pass on this country, which is rich in natural blessings, in good shape to future generations.

◆ Mid-term environmental plan

	Themes of activities	Medium term goals (FY 2016)	Goals for FY 2013
Preventing global warming	【Product Development】 Contribute to the prevention of global warming by reducing CO ₂ emissions throughout the entire lifecycle of a product	Launch a series of products with reduced CO ₂ emissions in order to reduce the emissions of all our products by an average of 25% by 2020	Reduction in CO ₂ emissions thanks to the launch of Eco Products (Overall -9.9%)
	【Business Activities】 Reduce CO ₂ emissions by reducing consumption of energy and resources	Prevent global warming through energy saving A reduction in energy consumption of 24.7% compared to benchmark year (2007).	3.7% reduction of CO ₂ emissions in all Amada Domestic Group companies (Compared to benchmark year -8.8%)
Effective utilization of resources	Contribute to our recycle-base society by promoting the efficient use of limited resources	(1) Initiatives aimed at creating a clean factory * Activities based on our resource conservation roadmap) (Fujinomiya, Amada Tool Precision, Amada Machine Tools Toki)	* Continuous improvement of IN-OUT measures * Switch to recycling and bio-plastics (product packaging)
		(2) Achievement of zero emissions in 6 facilities * Maximum of 1% a year of landfilled solid waste (relative to total waste) Amada Group to achieve zero emissions by 2016	* Maintain zero emissions at three plants (Fujinomiya, Amada Tool Precision, Amada Machine Tools Toki) * Initiatives aimed at achieving zero emissions at 3 plants (Ono, Miki, Amada Automation Systems)
Regulated chemicals control	Bolster initiatives regarding management of regulated substances	Product development with green procurement (Reduce the use of RoHS directive chemicals)	Initiative to fully abolish RoHS directive chemicals * New products to be RoHS-compliant (75% green procurement rate) * Proportion of unsurveyed on-the-market products not to exceed 15%
		Reduce the use of regulated chemicals Appropriately control chemical substances, and reduce their use within the manufacturing process" (PRTR-4, VOC-5)	* Toluene-free paint horizontal development (Amada Machine Tools Toki, Amada Automation Systems) * Introduce TX-free paints (Fujinomiya)
Biodiversity	Preserve and regenerate biodiversity to pass on this country, which is rich in the blessings of nature, in good shape to future generations.	Activities based on biodiversity conservation plans at each site N.B.: activities to protect endangered species at each site in partnership with the local community	* Activities based on biodiversity conservation plans at each site * Site-specific conservation activities * Endangered species conservation activities * Conservation activities in partnership with the local community
Environmental management	Respond faithfully to voices of stakeholders, particularly customers, to fulfill social responsibility as a company	* Strengthen the Amada Group's environmental administration, and promote CSR activities * ISO14001 group integration (7 sites) * Bolster waste disposal compliance (establish certification system)	* Environmental Ecology Promotion Committee to carry out facilitation activities * ISO14001 integration (Isehara, Fujinomiya, Ono, Amada Machine Tools Toki, Kansai Technical Center, Miki) * Establish standards for waste disposal sub-contractors
		* Implement environmental communication (Organize tours of plants and other facilities)	* Issue the environmental report "Forest-In Office 2014" * Implement environmental communication (office and plant tours) * All facilities participate in local community initiatives

*1: CO₂ emissions data is calculated based on the calculation manual for the "Act on Promotion of Global Warming Countermeasures"

*2: Benchmark year: FY2007

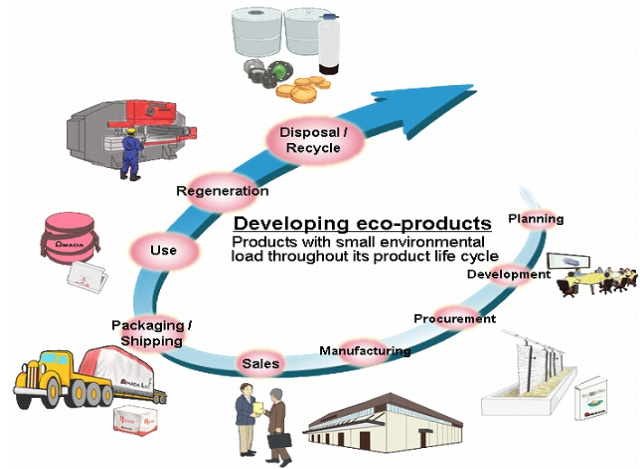
*3: RoHS : Stands for "Restriction of Hazardous Substances." A directive that specifies hazardous substances contained in electrical equipment and electronics and prohibits their use.

*Acronyms for Group companies: AMT (Amada Machine Tools), ATP (Amada Tool Precision), AAS (Amada Automation Systems),NCC(Nicotec)

◆ Amada Group Environmental Management

Fundamental to the Amada Group's environmental management approach is environmental protection activities during our products' life cycles with the aim of continually reducing environmental impacts "from the cradle to the grave", meaning throughout the life of a product from planning through development, procurement, manufacture, sale, shipping and use to disposal.

At Amada we are developing lifecycle management to create this kind of entire life for our eco-friendly products.



◆ FY 2013 Results

We proactively undertook our business activities in 2013 centered around 5 market related tasks: prevention of global warming, the effective use of resources, chemical substance management, biodiversity, and environmental management.

	FY 2013 Results	Goals for FY 2014
Preventing global warming	Reduce CO ₂ through Eco Products (Overall: -8.2%)	Reduce CO ₂ emissions through launch of new Eco Products (Amada Group Overall: -11.29%)
	Domestic Amada Group 7.6% reduction compared to benchmark year (Compared to benchmark year: -12.5%)	Amada Group CO ₂ reduction 4.0% on previous year (Compared to benchmark year: -16.1%)
Effective utilization of resources	<ul style="list-style-type: none"> * Reduction in packaging materials (Fujinomiya, Amada Machine Tools Toki, Amada Tool Precision) * Verification concerning prolonging the life of grinding fluids by using a grinding fluid purifier (Amada Tool Precision) * Cutting blade biomass cap test (Ono) * Switch to recycling plastics used for product packaging (Amada Machine Tools Toki, Amada Automation Systems) 	<ul style="list-style-type: none"> * Expansion of IN-OUT measures * Use a purifier to reduce consumption and waste of grinding fluids * Switch to recycling and reuse of product packaging material
	<ul style="list-style-type: none"> * Maintain zero emissions at 3 plants (Amada Tool Precision: 0.035%, Fujinomiya: 0.257%, Amada Machine Tools Toki: 0.097%) * IN measures: Continue reducing packaging materials (Amada Tool Precision, Fujinomiya, Amada Machine Tools, Amada Automation Systems) * OUT measures: Establish new recycling routes (Ono) 	<ul style="list-style-type: none"> * Maintain zero emissions plants * Initiatives aimed at achieving zero emissions
Regulated chemicals control	<ul style="list-style-type: none"> * New products to be RoHS-compliant (87.5% green procurement rate) * Proportion of unsurveyed on-the-market products is 34% 	<ul style="list-style-type: none"> Initiative to fully abolish RoHS directive chemicals * 90% of new products are RoHS-compliant * Proportion of unsurveyed on-the-market products is 15%
	<ul style="list-style-type: none"> * Optimize paint condition through reduction in use of thinners (Fujinomiya) * Prepare to introduce PRTR-substance free paint and thinners (Amada Machine Tools Toki) * Introduce toluene-free paint (Amada Automation Systems) 	<ul style="list-style-type: none"> * Reduce thinner consumption by improving the paint cleaning device * Introduce TX-free paint * Switch to powder paint
Biodiversity	<ul style="list-style-type: none"> * Activities based on biodiversity conservation plans at each site * Prepare biodiversity information materials (Isehara) * Discuss measures for protecting endangered species (Fujinomiya, Amada Machine Tools Toki) 	<ul style="list-style-type: none"> Activities based on biodiversity conservation plans at each site * Understand the link between business activities and the ecosystem * Prepare a record of sightings of endangered species
Environmental management	<ul style="list-style-type: none"> * Environmental Ecology Promotion Committee to carry out facilitation activities * Expansion of ISO14001 integration (Isehara, Fujinomiya, Ono, Amada Machine Tools Toki, Kansai Technical Center, Miki) * Establishment of an onsite waste management system (Isehara) 	<ul style="list-style-type: none"> * Environmental Ecology Promotion Committee to carry out facilitation activities throughout the group * ISO 14001 integration (Amada Miyachi) * Implementation of integrated standards with regards waste disposal contracts
	<ul style="list-style-type: none"> * Issue the environmental report "Forest-In Office 2014" * Implement environmental communication (office and plant tours) (Isehara, Fujinomiya, Amada Machine Tools Toki) * Actively participate in local clean-up campaigns 	<ul style="list-style-type: none"> * Issue the environment and social report "Forest-In Office 2014" * Implement environmental communication (office and plant tours) * CSR activities at each site

*4 : PRTR : Stands for "Pollutant Release and Transfer Register," in which the emissions and movements of environmental pollutants are registered. A system for compiling and announcing the emission volumes and travel distances of hazardous chemicals.

*5 : VOC : Stands for volatile organic compounds. Regarded as a cause for chemical sensitivity syndrome and sick building syndrome.

Global warming prevention (product development)

Amada supplies its customers with products (industrial goods) including metalworking machines, consumables and software, together with maintenance services and other products. We offer low carbon emission products, because we believe that most effective strategy to reduce our products' lifecycle contribution to global warming is to control CO2 emissions by reducing power consumption during customer use.

Product assessment system and Amada ECO PRODUCTS certification system

The Amada Group has put in place two systems for evaluating product environmental performance: the product environmental assessment system and the Amada ECO PRODUCTS certification system.

Carried out as part of the design review (DR)* at each step of the development process, the product environmental assessment aims to ensure that we do not supply products with a severe environmental impact. The assessment of product environmental performance consists of 25 assessment items in 8 categories, including energy consumption during customer use (CO2 emissions) and non-usage of restricted chemical substances.

All new products in development undergo this assessment, and our rule is that, in principle, any product failing to meet the assessment criteria must not be marketed.

Like the product environmental assessment, the Amada ECO PRODUCTS certification system is part of the Design Review and is intended to appeal to customers as an evaluation of our products' environmental performance (energy efficiency) and improved productivity.

Certified products are granted the Amada ECO PRODUCTS mark.

Introducing Amada ECO PRODUCTS

◆ FLC-AJ series

The FLC-AJ series of 3-axis linear drive laser machines is equipped with the latest fiber laser technology and has been developed for optimal suitability to a variety of factories and contexts. Combining the flexibility of the 3-axis linear drive with the features of fiber lasers, the FLC-AJ series provides 70% electricity savings and 35% production cost savings.



FLC-3015AJ

◆ LC-C1AJ series

The LC-C1AJ series of integrated-process combined laser machines for variable-mix/variable volume production and quick-delivery orders incorporates the latest fiber laser technology that opens up new territory for metalworking. With fiber combination for high processing efficiency and high speed machining of thin sheets, and a table cabin for laser light shielding to ensure both operability and safety, the LC-C1AJ provides 81% electricity savings, 34% production cost savings, low-noise operation and an improved work environment.



LC-2515C1AJ

◆ HG series

The HG series of descending-action bending machines utilizes a new hybrid drive system combining high-efficiency bi-directional piston pumps with AC servomotors and featuring dual-capacity pumps.

While being equipped with motors of the same size as previous machines, this series allows faster upstroke and downstroke, and provides 8.5% electricity savings and 4.3% production cost savings.



HG-8025

ECO PRODUCTS Mark



Trademark
#4631897

The green color symbolizes the protection of the environment, while the mark depicts a new leaf bud formed from the letters 'E' and 'P' (standing for 'eco products').



Resource-Saving Machine: Indicates a machine that saves natural resources by consuming less oil, gas etc. than conventional models.



Low-Noise Machine: Indicates a machine that produces less noise during use than conventional models.



Energy-Saving Machine: Indicates a machine that saves energy by consuming less power than conventional models.

*Design Review: In order to develop products that satisfy our customers, all the relevant business divisions assess the design plans created by our design teams from various perspectives and request improvements as necessary.

◆ EG-6013AR

The EG-6013AR is an automated bending system featuring a high speed, high accuracy servo bending machine with a dual servo press (DSP) mechanism, combined with a robot optimized for bending processes.

This system enables faster operating speeds by using a single robot to perform operations previously performed by a pair of robots, thus providing 45% electricity savings and 20% higher productivity.



EG-6013AR

Eco Information Mark



Trademark # 5107472
5188839

Amada has started the Eco Information Mark system from August 2007. We understand the importance of providing information, and this is a way for us to provide information on environmental matters pertaining to Amada products more broadly and specifically. Such information is provided together with the mark, so that we can easily communicate the details of our environmental efforts.

環境への対応は、明日に続くモノづくりのために。



LC-C1NTは、本体のRoHS指令⁽¹⁾対象の有害化学物質について配慮しています。お客様の厳しい環境対応の要求に応えます。さらに、低消費電力と高速化による加工時間の短縮により、使用電力の削減によるCO₂排出削減に貢献します。

⁽¹⁾ 特定有害物質の使用制限についての、欧州連合(EU)による指令

● お客様の製品に接触する部材には、RoHS指令対象物質を使用しておりません

○ お客様が日常行う保守点検時⁽²⁾、廃棄する部品には、RoHS指令対象物質を使用しておりません

⁽²⁾ 取扱説明書記載の保守部品等

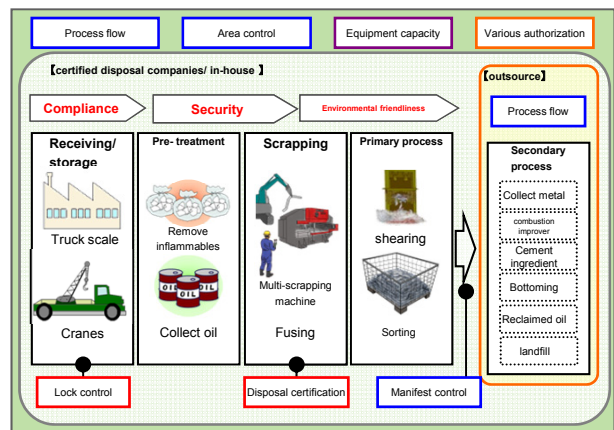


Waste disposal contractor certification system

Based on the principle of Extended Producer Responsibility, we believe that we are responsible for seeing our products through to their proper disposal when they finish their product life. This is why we established our “disposal certification system for used products” in FY2008, and have been giving certification to waste processors who dispose of used products based on our standards.

Currently, six facilities of two partner companies have been certified throughout Japan to provide proper disposal. The recycling plants at our certified facilities ensure compliance of all laws and regulations such as the “Waste Management Law” and the “Fluorocarbons Recovery and Destruction Law.” Furthermore, in addition to ensuring security, we also provide “disposal certification” to verify functional disposal of used parts.

We will continue to increase the number of certified waste processors.



Flow of used product disposal process

Processors are certified based on our standards related to area control, capacity, and various permits.

CO₂ emissions during disposal phase

We conducted research on the amount of CO₂ emissions and the environmental load during the disposal phase of used products, as a part of the LCA (life cycle assessment) of products. The CO₂ emissions for the disposal of 1 laser machine weighing 7 tons, for example, was 163 kg-CO₂. This equals to the disposal of approximately 5 personal computers. Our findings also show that the environmental load at the disposal phase is low with a high recycling ratio of 99%.

Global warming prevention (business activities)

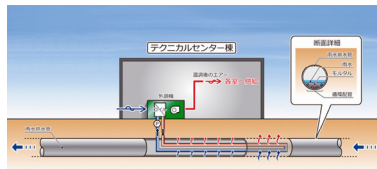
To reduce CO2 emissions, we promote the saving of energy and resources in our business processes, and we present here some of our most notable CO2 reduction initiatives. However, we believe that sustained efforts within each business process are crucial to achieving significant results.

Environmentally friendly factory (Toki Works)

The design of Amada Machine Tools Toki Works, which comprises a Development Center, manufacturing plant and Technical Center (Sales and Service), is based on the concept of 'harmony with nature'. The Technical Center is intended to be a zero-carbon building, so its energy needs are met by solar electricity and other natural energy sources, and it incorporates all-LED lighting, a thermal energy storage tank and other energy-saving features.

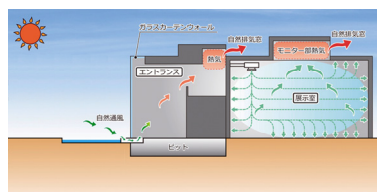
◆ Thermal energy usage system

Underground storm drains on the site are used to draw up geothermal heat which is then used as the heat source for the air-conditioning system.



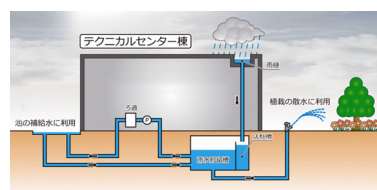
◆ Natural ventilation system

The building's design uses the chimney effect of the high ceiling of the entrance to the Technical Center. After the breeze blows in through the ventilation opening, which is beside the pond, it passes through ceiling ventilation shafts and up the chimney above the corridors, thereby allowing heat to escape through an exhaust vent.



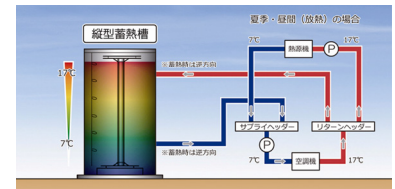
◆ Rainwater usage system

Rainwater falling on the roof of the Technical Center building is stored in a storage tank and then used for watering plants on the site or as supplementary water for the pond.



◆ Heat storage tank

The upright heat storage tank in the energy building uses electricity to store chilled water during the night; this water is used for the factory's air conditioning system during the day.



Solar power output reaches 1,000 MW

Here are 1,700 solar panels on the roofs of the Technical Center, the office building and the plant. The electricity that these generate every day is used to supply power throughout the Works.

Solar power generation at Toki Works began after construction was completed, in June 2011, and on January 24, 2014 the cumulative electric power generated reached 1,000 MW.



Solar panels



Power generation output is controlled via a monitor

Adoption of task and ambient lighting (Fujinomiya Works)

As part of electricity-saving measures at Fujinomiya Works, a task and ambient lighting system with 275 LED lamps has been installed. The adoption of this system was intended to improve the efficiency of the office lighting, and thus reduce CO2 emissions by 32.5 metric tons per year and costs by at least 1,000,000 yen per year.

Effective use of resources

Amada will contribute to a recycling-oriented society by promoting the effective use of resources. We are making various efforts in energy-saving and resource-saving by applying the ideas of employees on the front lines.

Zero-emission factories

Zero-emissions is “a philosophy that aims for a society without waste, by recycling the waste discharged from a particular industry” (advocated by the United Nations University in 1994), and each company applies this by its own standards. Amada’s zero-emission standards are “we will keep the waste that eventually ends up in landfills under 1% of the total weight, and this must continue for over a one year period.”

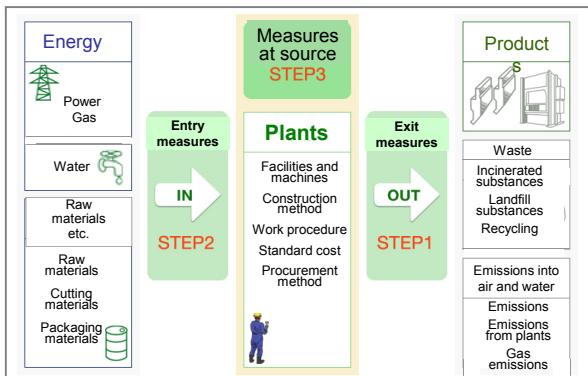
One of our specific activities is “exit control,” which is “producing no waste.” We do this by finding recycling options for waste. Another activity is “entrance control” which is “keeping waste out,” and we are promoting the use of returnable cases and packaging material reduction.

As a result, the Fujinomiya Works has achieved the zero-emission standard in May 2008 and Isehara Works in March 2009, and the works have since maintained this status.

The Third Factory at Fujinomiya Works is the world’s largest assembling plant of laser machines, and it meets the standards of a Clean Factory.

This factory fully uses the Yatai booth production method*, where each Yatai booth is a mini factory. All parts necessary for assembly are provided in a kit, and with all the necessary tools within the operators’ reach, they can continue working without interruption.

Furthermore, dust can cause trouble during laser machine assembly, so the production line has come up with creative ideas, such as changing the “air cleaners” to vacuums, and making the air compressor rotors ceramic in order to allow the use of water instead of oil.



Steps towards achieving zero emissions at our plants

Usage of recycled packaging materials

Amada Group uses bubble wrap to pack shipped products and parts, in order to protect painted components from abrasion, prevent scratching on machined parts, absorb mechanical shock and so on.

In May 2013, we switched to using bubble wrap made from recycled materials.

Making use of products derived from used items, milling waste and other scrap materials promotes the effective use of resources, contributing to a recycling-oriented society.

Clean Factory (Fujinomiya Works)

Clean Factory is an environmentally-friendly factory that reduces the environmental load generated by production, which includes zero-emission (reduction of waste) activities as well as energy-saving efforts. It also includes the reduction of CO₂ emissions to prevent global warming, and the reduction of VOC (Volatile Organic Compounds) used in factories.



Old bubble wrap (light brown)

New bubble wrap (light blue)

* Yatai booth production method: a production method that realizes clean and digital manufacturing through the use of an IT production control system. The parts are supplied to the booth JIT. One booth is approximately 80 square meters, and each booth is equipped with gas, air, water, and power, which are centrally controlled. Dust is also controlled to maintain a clean environment. (Yatai = portable stall in Japanese)

Chemical substances control

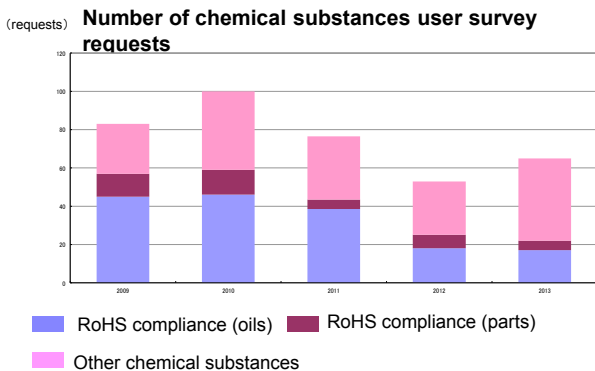
Amada is reinforcing initiatives for controlling regulated chemical substances. We are committed to providing safe machines made of safe materials.

Green Procurement

Amada positions “green procurement,” procuring materials with small environmental loads, as one of its important environmental preservation activities for providing environmentally-friendly products to customers.

We request our suppliers for chemical substance analysis and information on materials being used in parts based on the “Amada Group Green Procurement Guidelines” that we established in April 2004.

Our products, including sheet metal machines, are not applicable for the RoHS directive*1 enforced in July 2006, but we promote the non-use of RoHS regulated chemical substances because they may come in contact with our customers’ products processed with our machines.



◆ Chromate Treatments

Amada is currently changing from hexavalent chromium, which has a large environmental load, to the more environmentally-friendly trivalent chromium for the surface treatment of Amada designed mechanical parts.

◆ Lead-free solder circuit boards

Lead-free solder circuit boards were developed as the electronic circuit board in the control section of Amada machines. They are used in our FLC-AJ series, LCG-AJ series and other new products.

◆ Oils

All oils marketed by the Amada Group, including hydraulic fluid, lubricants and cutting oil, are RoHS-compliant. Information on their GHS*2 physical and health/environmental hazard classifications is stated on the MSDS*3.

Amada-designated parts for recovery system

Among our products, there are some that contain chemicals that are now designated as regulated chemical substances because there were no materials available that could technically serve as substitutes at the time that they were manufactured. Normally customers do not come in contact with parts like this, but it wouldn't be good for the environment if they were disposed of with the others. This is why we collect the parts that are replaced after their life cycle and dispose of them appropriately as a responsible manufacturer, according to the “Amada-designated parts for recovery” system that we established in 2003.

For instance, the light focus lens (coated with selenium compound) used in laser machines applies to this case, and after collection, we determine whether they can be reused, and if not, we dispose of them properly.

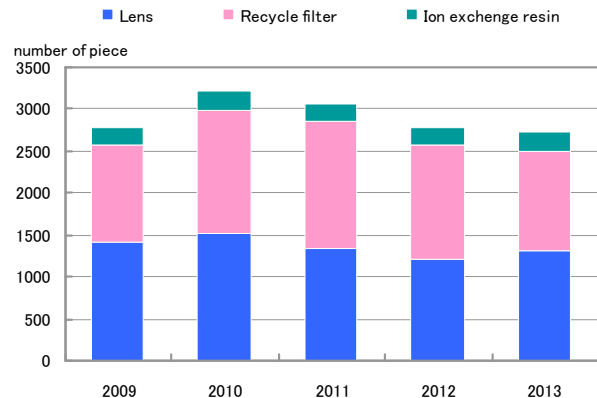


Trademark #4778275



Light focus lens for laser machines (includes selenium compound)

Number of recovered Amada-designated parts



*1 RoHS directive: a European derived initiative in which the elimination of certain hazardous substances in electrical and electronic equipment is the key objective.

*2 GHS: abbreviation for “Globally Harmonized System of Classification and Labeling of Chemicals”

*3 MSDS: A Material Safety Data Sheet (MSDS) is a document mentioning the hazardous and harmful chemical substances of a product, and is delivered when the product is given or provided to another company.

Biodiversity

Amada will help conserve and regenerate biodiversity, to pass on a country even richer in natural blessings to the next generation.

Spotbill ducks hatching at Isehara Works

There are several ponds on the Isehara Works site, and these are occasionally visited by migrating spotbill ducks and herons. In 2013, a spotbill duck laid eggs on an island of floating weeds on the pond at the rear of the Forum 246 building.

The eggs hatched on the afternoon of June 12, and eleven chicks in total could later be seen swimming energetically on the pond.



Newly hatched spotbill chicks



Swimming practice on the pond under Mother's watchful eye

Protecting rare species (Amada UK)

Redevelopment work on the offices and technical center at an Amada overseas subsidiary, AMADA UNITED KINGDOM LTD (Amada UK) was completed in April 2014.

During the redevelopment, hibernating specimens of the great crested newt (a species of newt with a large crest) were discovered. Conserving these rare animals, a protected species in the UK, had to take priority over proceeding with the work as planned, and so part of the site was sealed off to allow the newts to move to a safe place when they came out of hibernation.

This held the work back, but allowed the newts to be provided with a new place where they could hibernate safely.



A great crested newt

Green curtains

◆ Fujinomiya Works

Goya (bitter melon) plants have been used to create green curtains on the walls at Fujinomiya Works,

where heat from the afternoon sun was reducing the effectiveness of the air conditioning system. The shade from these curtains has lowered the temperature within the office, making the air conditioning work better. Employees have commented that they feel more comfortable and like to observe the daily growth of the Goya plants through the windows.

After being planted in late May, the seedlings grew into curtains over four meters in length by early August and yielded approximately 500 gourds. These were cooked in the staff canteen and served to the employees.



Green curtains at Fujinomiya Works

◆ Nicotec Miki Plant

At Miki Plant, goya have been sown outside the windows on the west side of the factory in an attempt to reduce the accumulation of heat in the building's exterior walls. Fallen leaves on the site are composted and used as leaf mold for these green curtains.



Green curtains at Miki Plant

Efficient use of wood from thinning (Fujinomiya Works)

In April 2012, wood from konara oak trees thinned on the Fujinomiya Works site was used for planting three kinds of mushroom (shiitake, mukitake and cloud ear). Reportedly, the mushrooms need three years to become harvestable, but shiitake were harvested from some of the wood by October 2013, eighteen months sooner than expected.

Thinned wood from cypress and cedar, not suitable for shiitake cultivation, was used as wood chips.



Planting mushrooms

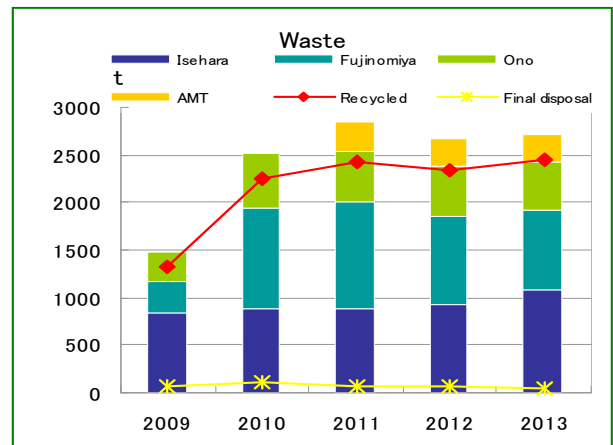
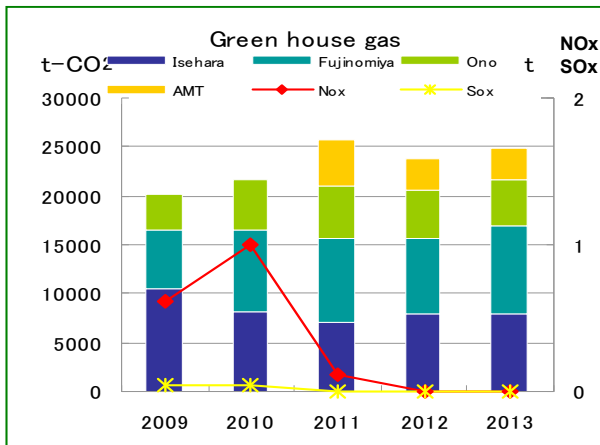
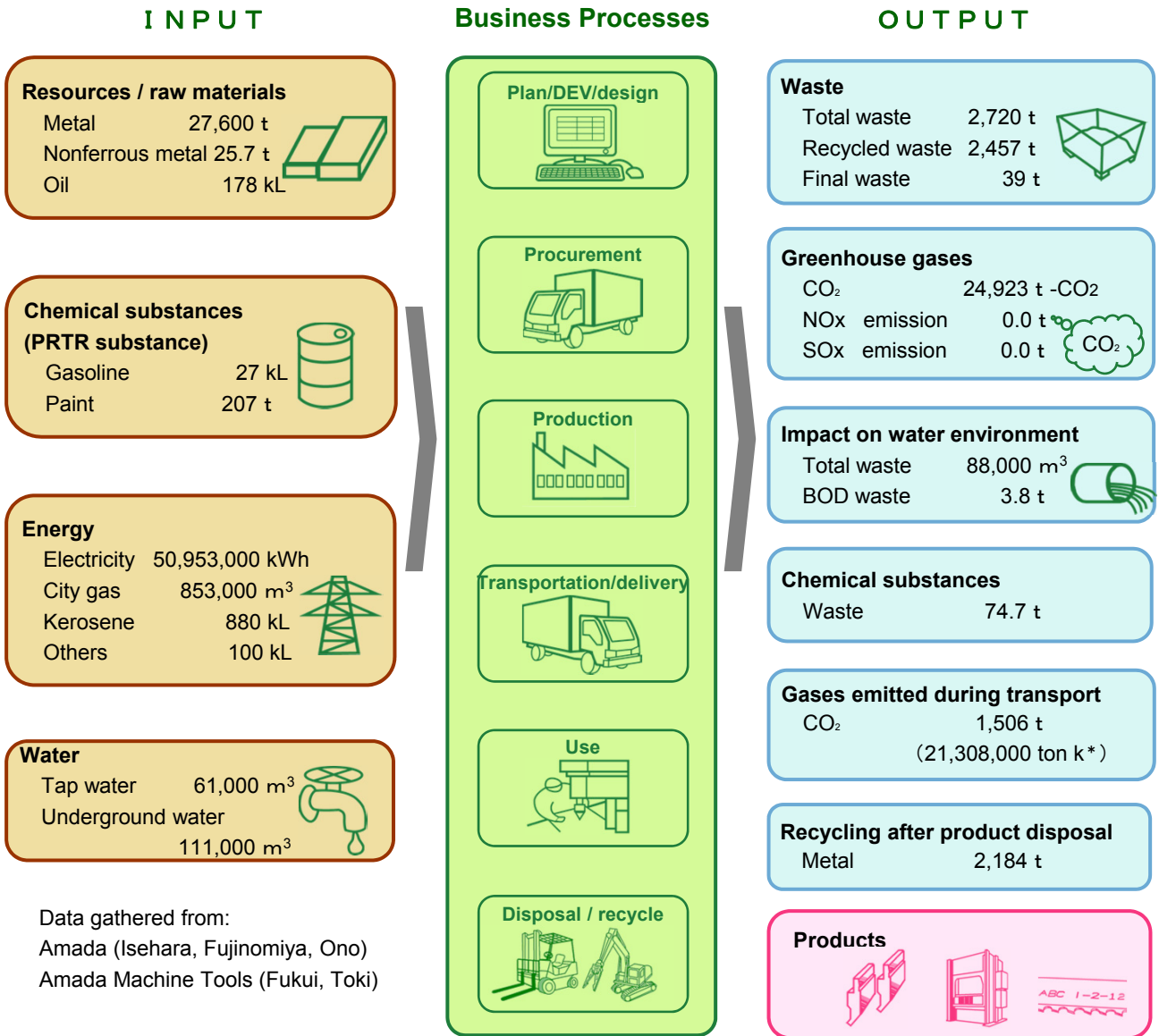


Mushrooms grown on konara oak trees

Material balance

We quantitatively grasp and analyze the environmental impact of our products throughout their life cycle, and we apply the results to our environmentally-friendly business activities.

<Domestic>



*Calculated with METI's revised CO₂ calculation method ton / kilo Alternative method B.

<Detailed Data>

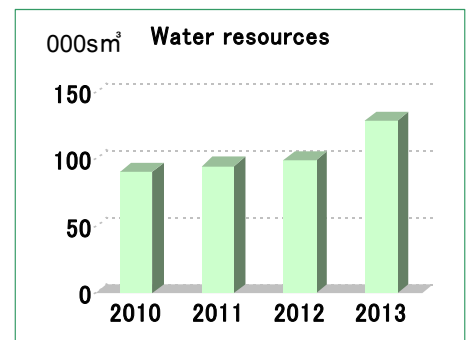
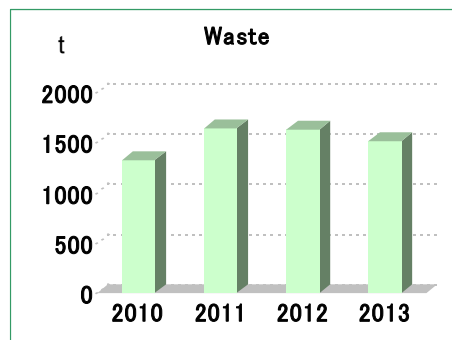
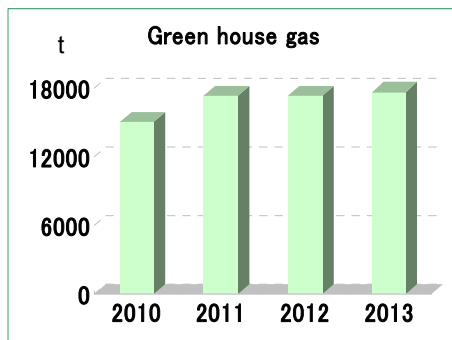
		2009	2010	2011	2012	2013
CO ₂ intensity	Isehara Works	0.0372	0.0386	0.0340	0.0375	0.0384
	Fujinomiya Works	0.3966	0.2194	0.1645	0.1776	0.1709
	Ono Plant	1.8592	1.5527	1.4831	1.8145	1.6142
	Toki Works	0.6157	0.3693	0.4183	0.3480	0.2639

		2009	2010	2011	2012	2013
PRTR-reportable chemical substances in tons	Isehara Works	0.001	0.0012	0.0011	0.0048	0.0049
	Fujinomiya Works	42	63	70	50	44
	Ono Plant	0	2	0	0	0
	Toki Works	20	39	31	24	26

		2009	2010	2011	2012	2013
Amount of water resources used in 000s m ³	Isehara Works	70	69	62	65	70
	Fujinomiya Works	56	65	63	73	77
	Ono Plant	10	7	9	9	8
	Toki Works	84	98	59	13	17

		2009	2010	2011	2012	2013
Impact on the aquatic environment (waste) in 000s m ³	Isehara Works	35	39	36	43	44
	Fujinomiya Works	21	39	26	30	27
	Ono Plant	10	7	8	7	4
	Toki Works	116	94	54	8	7

<Overseas>



Environmental accounting

Amada has adopted environmental accounting to use for reasonable decision making by understanding the costs and benefits related to environmental preservation activities.

The adoption of environmental accounting

Amada has adopted environmental accounting since FY2005 for the purpose of understanding the costs and the economic impact associated with environmental preservation measures, and providing information useful for decision making by stakeholders.

Coverage was increased to include the Ono Plant from fiscal 2008, the Fujinomiya Works in fiscal 2009 and the Toki Works (Amada Machine Tools) in fiscal 2011.

To summarize the cost and economic impact (profit of actual results) associated with the environmental preservation measures, an "environmental accounting" item was added to the monthly accounting system for automatic calculation.

◆ Environmental preservation cost

The main areas in the conservation costs of the fiscal year of 2012 were the research and development costs related to the Amada Eco-friendly Products, and the resource circulation cost.

The research and development costs comprise not only the costs relating to current eco product certified models, but in addition the costs for new products requiring recognition as eco-friendly products are also included in the calculations. The cost of test materials and the manufacture of jigs form a large part; but the test research expenses and the man-hours of the staff involved in development are not included.

In FY 2013, the focus on developing eco products equipped with fiber lasers resulted in development costs three times higher than those for the previous year.

◆ Economic impact associated with environmental preservation measures

The main economic impacts for fiscal 2012 were business income, including income from recycling waste products of business activities, and capital investment.

The main sources of recycling income are metals such as iron, aluminum and stainless steel.

Unit: 1000 yen

Environmental accounting items		Fiscal2009	Fiscal2010	Fiscal2011	Fiscal2012	Fiscal2013
Environmental preservation cost	Cost	456,854	882,927	850,541	540,557	1,257,432
	Investment	0	5,325	263,759	8,207	1,233
	Total	456,854	888,252	1,114,300	548,764	1,258,665
Economic impact accompanying environmental preservation measures		17,299	31,516	35,479	23,403	32,640

Environmental accounting items		Unit	Fiscal 2010	Fiscal 2011	Fiscal 2012	Fiscal 2013
The material effects related to the environmental conservation policy	CO ₂	Tonnes of CO ₂ per year	235.2	361.97	645.26	957.0
	Waste	Tonnes per year	21.37	50.35	22.84	57.5

Interview with the General Managers of AMADA LIANYUNGANG MACHINE TOOL CO.,LTD.

Located in China, AMADA LIANYUNGANG MACHINE TOOL received ISO14001 certification in FY 2008, and is extremely pro-active in terms of environmental activities. Forest-In Office interviewed both the General Manager and former General Manager of the company with the purpose of understanding the significance of conducting environmental activities overseas, and what such activities actually consist of.

Q. What inspired your company to obtain ISO14001 standard certification?

We had obtained ISO9001 in 2002 and 6 years later, we decided to advance one step further. At that stage, in the field of eco-consciousness, we planned to obtain ISO14001 certification, considering that if we do not strengthen and systemize eco-consciousness by such efforts as waste separation and elimination of oil rejects, we could not leave a good environment to emerging new generations. Seeing that employees had begun to develop an awareness that they are the ones who ultimately carry out the directives of the company was rising, we initiated the ISO14001 development program together with our employees.

Q. In a non-Japanese country where habits and values are so different, isn't the development of waste separation a very hard issue?

From some years, we had already performed the industrial reject separation within the framework of our 5S activities. Though such activities might be difficult to implement from one day to the next, as we had acquired the routine of waste separation in our 5S initiative, we just chose the option to perform waste separation within the sorting-disregarding-cleaning operations. As we have adopted ISO standards, we have investigated the smoke and water rejections in terms of environmental contamination. For this reason, we realized progressively to which level we should achieve our investigations to attain the ISO standard, and strived to pass the standard. Concerning garbage treatment, we used to throw all waste inside a container to be transported outside by contractors, but little by little, people in our factories realized that they should be aware of the necessity to separate the reusable wastes from the landfill ones.

Q. Which initiatives did you undertake besides waste separation?

We introduced LED fixtures for the factory lights outside. We produce electric power with solar panels and this generates sufficient light during the night: once charged, the batteries can produce power for up to three days, which is sufficient for the total of 30 lighting fixtures outside the factory.

In addition, 70 of the lighting fixtures inside the factory are LEDs. As the service life of mercury-vapor lamps is estimated to three years, we change them to LEDs as soon as they are out of service. This is a three year program.



Mori former General Manager (left) with Tokimoto General Manager (right)

Q. Could you describe the future plans of your company?

In terms of equipment, in May 2014 we added a new turbine blast machine to the existing one installed in 2012. By replacing the 5 air compressors with turbine types, we can reduce the total number of compressors to 2, and cut our power bill by half. Apart from this, as the world production of solar panels is currently concentrated in China, we plan to install solar panels on the roof in a similar way as the Ono works of Amada in Japan.

Q. Finally, from your point of view, what is the significance of pro-active environmental achievements in present China?

LIANYUNGANG is being currently developed as a smart city, in other words an environmentally optimized town. In this context, Japanese companies are encouraged to take the lead in such activities. In addition, by obtaining ISO14001 certification, we can stress that we are a company strongly motivated about environmental protection, and we can develop a trusting relationship with neighboring local communities. Also, when we wish to expand our industrial activities in the future, we will probably be considered to be a reliable company by the neighboring companies. Locally, some people have a negative opinion about Japanese companies, but we are prepared to take all necessary steps with simple honesty and integrity in order to be better understood.

Amada overseas subsidiaries' CSR activities

Amada is a global company with sales hubs and manufacturing sites in every country of the world. Each of our subsidiaries throughout the world is making its own contribution to local society.



AMADA UNITED KINGDOM

Support for the fastest vehicle of the world

AMADA UK continued its support of the Bloodhound project. The division produced titanium stringers for the fuselage of the vehicle, using the full range of machines in showroom. The project is to develop a vehicle for an attempt to break the world land speed record.



Attending the world skills 2013 in UK

Amada UK attends this event to promote our industry and the Amada brand for the engineers of the future.

Amada UK was a 'Lead Competition Sponsor' of the skills Exhibition, supplying an F1 Laser and 2 x HFEII Press Brakes.

The company was visited on its stand by the UK deputy prime minister Mr Nick Clegg.



Sponsored activities

Amada UK is sponsoring and mentoring Kids grove University Academy school in collaboration with Amada's customer KMF. The competition involves the pupils building an electric Green-Power race car.

Amada UK sponsored a local children's Rugby team who won a regional competition and represented Worcester at the home of Rugby (Twickenham) in London.



Europe



AMADA EUROPE S.A.

Employees Awareness campaign on environmental protection

To promote a detailed environmental analysis of the factories' activities, Amada Europe reinforced its waste sorting procedures and presented them to its employees through training sessions.

AESA also trained its employees on the procedures to use in case of chemical products accidentally spilling on the ground.



Employees Awareness campaign on professional risks

To promote a detailed health and safety risk assessment in relation to the factories' activities, AESA rope organized specific training sessions to remind its employees of major risks. During these trainings, participants were reminded of several risks and corresponding methods to reduce risk (safety rules, operating process, etc.) and to protect the health of employees (obligation to wear some specific protective equipment). Main risks presented: Noise, chemical products, electrical risk, fire risk, manual handling, mechanical handling, and so on.



Collaboration with professional training for students :

AESA Charleville factory signed a partnership with a regional high school. This partnership consists in welcoming and training young people for their future jobs.

Among the companies involved in this partnership, the AESA Charleville factory representative has been awarded by the regional high school for his active participation which helped students to obtain their job qualification.





AMADA TOOL AMERICA

Career support for students

As a liaison between the local businesses and the schools, to help students choose a career and to make choices that will allow them to pursue the career of their choice, Amada Tool America organized the Business Education Alliance (BEA) tours and meetings.

At this occasion the company attended and met with area businesses and school officials to promote machining education classes in the 3 county areas, while hosting a meeting and providing a tour afterwards.



AMADA TAIWAN

Executive MBA students visited Technical Center

In 30th October, 21 Executive MBA students and a professor visited the Technical Center in AMADA TAIWAN.

AMADA TAIWAN introduced the current trends of sheet metal business, strategy of AMADA and the latest manufacturing process by using VPSS.

Also, we discussed about the Japanese management philosophy and promoted further exchanges among the different industries business persons.



University students visited Technical Center

In 9th December, 2 professors led the 48 students who were job-hunting for Technical Center tour in AMADA TAIWAN. AMADA TAIWAN gave a presentation to have interest in in sheet metal industry, the current and the vision for the future.



Asia

America



AMADA MACHINE TOOLS (THAILAND)

Donation to an orphanage at Panus Nikhom, Chonburi

AMTT employees have donated food, drinks and other items to a Foundation that works with HIV-infected people.



Fire prevention training

In December, AMTT has implemented a fire prevention training. 29 employees joined it. First aid and fire evacuation procedures were rehearsed, as well as the proper use of fire extinguishers. The fire prevention training was carried out based on the simulation of fire and the fire brigade of the participants gained experience with actually using fire extinguishers.



With our customers

In a bid to grow with our customers, the Amada Group makes social contributions by providing solutions for product creation.

Nurturing the next generation

◆ Junior Management College

JMC (Junior Management College) offers management courses that enable managers to get a wider view of their role as a manager and gain practical know-how. We have over 30 years' experience and 870 students have graduated since our first course in 1979.

Our motto is 'Learn from Example and Gain from Experience'. Reflecting this approach, JMC's basic education principle is to offer on-hand direct experience to students who can work together during the 22-day residential course and learn from each other rather than directly from the teachers. In addition to management-related topics such as the role of the manager, analysis of accountancy and personnel management the syllabus includes corporate PR presentation, Zen meditation and table manners.

By working closely together, the participants - who as next-generation managers all come from a similar management background - motivate each other to achieve good results. Students keep in contact after the course, and not only those graduating in the same year: meetings of former students of different graduating years are held nationwide.



Opening session of the course



Teaching financial knowledge for management

Precision Sheet Metal Technology Fair

Organised by Amada school since 1989, the 26th prize-giving ceremony at the Precision Sheet Metal Technology Fair was held in March 2014.

The purpose of this event is to have participants publicize the symbiosis of processing technologies know-how integrated in each of their entry products, while enhancing better technical knowledge / information exchange in our professional field.

At this event 225 products were on show, including 82 from abroad. Products were divided into five categories of One-piece Objects, Assembled Objects, Advanced Welding, Formative Arts, Student Participation and the following awards were presented: the Minister of Health, Labor and Welfare's Award, the Minister of Economy, Trade and Industry's Award, Japan Vocational Ability Development Association Chairman's Award, the Nikkan Kogyo Shimibun Award, the Judging Committee Special Award and the Amada Award.

The number of participating companies is growing every year together with the quality of the entry products. Many high quality products have been exhibited in the Student Participation.

The steady improvements in high processing techniques and superior processing skills seen at the Technology Fair will help to contribute to the development of Amada's staff, which is one of the company's priorities, while contributing to the development of our sector as a whole.



Assembled objects category:
Minister of Economy, Trade and Industry's Award winner



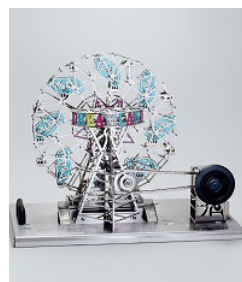
Advanced Welding category:
Minister of Health, Labor and Welfare's Award winner



One-piece objects category:
Japan Vocational Ability Development Association Chairman's Award winner



One-piece objects category:
Nikkan Kogyo Shimibun Award winner



Assembled objects category:
Gold Award winner



Student Participation:
Gold Award winner

Quality Assurance

The Amada Group is committed to assuring a 100% Running Guarantee to Amada customers based on the "Amada Group Quality Assurance Policy."

◆ The Amada Group Quality Assurance Policy

- ① The solutions and services the Amada Group provides globally will satisfy the customer expectations with regard to quality, and are reliable and attractive.
- ② The Amada Group will obey all laws and rules, and strive to continuously improve quality through PDCA.
- ③ The Amada Group will share information, review and check machines according to basic rules, and take proactive measures in order to prevent accidents.

◆ Amada's initiatives on Quality Assurance

The framework of the Amada Group's QA policy lies in the specifications / standards / criteria which incorporate the approach of the ISO9001 international standards. We will continuously improve and enhance quality through PDCA cycles, and pursue customer satisfaction while nurturing our "4 cultures."

◆ Global Quality Assurance

The Amada Group has established the "Global QA Committee" to resolve important quality cases for both Japan and overseas, and respond to global customers through problem solving and data control based on subcommittee meetings related to respective functional departments.



Service Parts Supply

As a responsible manufacturer, the Amada Group has established, and operates under, a system for promptly supplying service parts as long as customers' machines are running.

◆ Parts Center

The Parts Center started its operation in October 2009 as the core facility of our service segment including "before-service*." We are connected online with all our domestic customers, and our computer system, linked with our corporate system, is equipped to process all past maintenance data and a vast amount of daily service data. The service parts we have on supply consist of 1,000,000 pcs / 70,000 items. With maximum storage capacity of 1,300,000 pcs / 80,000 items, the Parts Center is the largest of its kind in the machine industry.

It is a 24/7 facility that supplies to global customers; its target is to improve the rate of immediate delivery to 98%, with urgent deliveries within one day for Japan, and two days for overseas customers.



Amada Parts Center



Bucket with IC chip inside, and picking cart with monitor (Parts Center)

◆ IT Service Vehicles

Since the start of Parts Center operation, we have introduced IT service vehicles with IT devices such as mobile computers and printers, and Amada's special package tools on board. In the past, we could only provide service at service offices, but now our service engineers are capable of viewing digital documents such as web parts lists and machine charts, checking the parts inventory and delivery schedule, creating quotations, and placing orders, all from inside the vehicles.

The mobile eye (collision alarm device), rear monitor and new on-board devices have been features of the vehicle since FY 2013 when the IT service car was replaced. These features secure the seamlessness of our maintenance and service operation while securing the safety of customer service staff.



IT service car fitted with mobile eye

* Before Service: creating machine charts for individual customer machines with service history, and changing the parts before the machine stops running, instead of after the machine stops from failures.

With our local community

The Amada Group participates in various community-contribution activities to foster effective local communication.

Agreement in the use of company facilities in the event of an earthquake disaster

On 10th May, an agreement was made between Amada and the cities of Isehara and Atsugi in Kanagawa Prefecture to the effect that in the event of a disaster citizens could stay temporarily in Amada's facilities.

It was agreed that if a serious disaster, such as a severe earthquake or storm with flood damage occurred, people unable to go home could stay on the first floor of the FORUM 246 lounge building where about 200 people can be accommodated. Lights powered by an emergency generator and toilets with a pump drive can be provided.

Amada signed an Open Evacuation Area Agreement with Isehara city in March of the same year. Prior to this, the designated evacuation points were public facilities in the town, such as primary schools, junior high schools or parks. However, ours is the first private facility to be designated as an evacuation point.



From left to right, Isehara city mayor Mr Takayama, President Okamoto and Atsugi city mayor Mr Kobayashi holding the written agreement

Isehara and Atsugi cities' disaster drill for citizens unable to return home

On 19th February the FORUM 246 lounge was used during a disaster drill for citizens unable to return home, organized in cooperation with the towns of Isehara and Atsugi.

The drill simulated a level 5+ earthquake with an epicenter in western Kanagawa resulting in the suspension of trains running on the Odakyu Line. In an effort to recreate disaster conditions 25 citizens members of Isehara town neighborhood councils walked from Aiko-Ishida station to the FORUM 246 lounge on the first floor. Lights powered by an emergency generator, survival seats and drinks were provided: an authentic life-sized simulation experience.



Advanced Technology Development Special Lecture

The University of Electro-Communications invited a lecturer from Amada to speak to first and second-year MA students. The omnibus-style lecture, which was given during five days in December and January to interested students, aimed to introduce them to the company's development of advanced technology and methods.

Our lecturer developed forefront topics that covered the technologies of processing, of the machines and shift methods, in front of an audience of more than 170 students. On the last day, they came to our Isehara Works Solution Center, to observe the machines in operation.



Kanagawa Work and Skill Experience Festival

On 9th and 10th November Amada took part in the Kanagawa Work and Skill Experience Festival held in PACIFICO Yokohama Exhibition Hall in Yokohama, Kanagawa Prefecture. The purpose of this event was to increase interest among children in product creation through experience of seeing a sheet metal machine in operation and touching the finished products.

The children watched a 3D image of the machine in operation and had a mock experience of the process of product creation through watching a video of an actual machine operating in our customer's factory. Children enjoyed the experience of product creation, by making calipers and Amada-man using a sheet metal kit and by observing the products made through sheet metal processing.



Making Amada-man



Interested children viewing a 3D image of the impressive machine

Amada Automation Systems Fukushima Factory staff attend Nihonmatsu City Industrial Development Seminar

On 27th February an Industrial Development Seminar was held at Nihonmatsu city, Fukushima.

Representatives from Amada Automation Systems (formerly Amada Engineering) were invited, considering that AAS is a company having opened an office after the Great East Japan Earthquake.

The purpose of this seminar was to explore the development of new products, the expansion of markets and to forge strong relationships between companies in Nihonmatsu city. Amada Automation System took this opportunity to introduce the content of its activity, while describing the context, purpose and targeted products behind the construction of the new Fukushima Plant that was scheduled for October.

News coverage of the Aichi Energy-Saving Project at the Toki Works

Aichi Prefecture is encouraging small and medium-sized businesses to adopt energy-saving technology and is promoting examples of such technology on the prefectural homepage.

Representatives from the Toki Works were interviewed by Nikkan Kogyo Newspaper, being considered as one of the 20 corporate examples of energy saving strategies linked to ecology. Toki Works is considered as extremely pro-active in the field of energy saving and energy creation.

Details of the interview is available in a booklet (published by Aichi Energy-Saving Project) and on Youtube.



Explaining energy-saving strategies to the Nikkan Kogyo Newspaper

Miki Plant, Kitaharima, chosen as a model facility in waste-reduction and recycling

The Miki Plant has joined a waste-reduction and recycling project run by the Hyogo prefectural "Kitaharima Kenmin Kyoku" organization.

To promote waste-reduction, facilities such as factories and offices are chosen as models by Kitaharima Kenmin Kyoku and the Miki Plant was one such facility, having pro-actively reduced the emission of waste and their re-use as resources.

In FY 2012, the factory reported reductions of 17.6% in the use of photocopy paper and 39% in burnable rubbish including woodchips. These reductions contributed to Kitaharima Kenmin Kyoku meeting its target of a 20% reduction in waste compared to FY 2006 levels.

The Amada Group Clean-Campaigns

The Amada Group actively participates in regional clean-campaigns near to facilities and in local areas. Here are some of the clean-campaigns our group companies are taking part in.

◆ Riverside clean-campaign

Isehara Works took part in the annual June river clean-up organized by Isehara Environmental Conservation Association which took place in 2013 on 25th May. Eight people from three families connected to the Isehara Works participated in the clean-up of the Shibuta River. In addition, employees from the branch office collected rubbish on their way to work four times a year, which is another form of local contribution to cleaning activities.

◆ Fujinomiya Works Lake Tanuki-ko Walk

Employees from the Fujinomiya Works cleaned up rubbish from the shoreline of Lake Tanuki-ko. 134 people took part in the 15th clean-up campaign along the 4km-long lake perimeter. Their plan is to continue until the shoreline is rubbish-free.



Staff and their families who took part in Lake Tanuki-ko walk

◆ Ono Plant clean-campaign

A cleaning campaign was held in June and November by employees from the Ono Plant. A total of 120 people took part in the clean-up of the area around the factory. Every year the amount of rubbish collected is reducing.

◆ Beautification at the Toki Works

In June, August and October, employees at the Toki Works spent their lunch break cleaning up around the office and weeding. 400 staff members took part and 100 bags containing rubbish and weeds weighing 730kg were collected.



* Isehara Local Environmental Protection Group: A group made up of the City of Isehara and companies within it, with the aim of promoting environmental conservation in the local community.

Plant Tours

The Amada Group encourages local schools and community groups to come to visit the premises. We will briefly outline some of them here.

◆ Primary school children's visit to the Isehara Works for their Social Studies

Isehara Works welcome primary school children. In FY 2013 forty nine third and fourth-year children from local schools visited.

◆ School children and citizens visit the Fujinomiya Works

41 fourth-year students from two schools in the city visited the Fujinomiya Works to view the eco-friendly factory dedicated to laser technology. They learnt the importance of recycling and preserving the Earth in our Environment dojo.

In November and March, our Fujinomiya Works hosted some of the factory visits organized by Fujinomiya city and approximately 50 citizens visited the laser-dedicated factory, the Parts Center and the Fujinomiya Works Environment Dojo.



Fujinomiya city mayor at the Fujinomiya works

◆ Factory visits to the Toki Works

The Toki Works aim to achieve a net zero-carbon facility that does not emit CO₂, through energy saving and energy creation initiatives. This endeavour has attracted widespread interest in the business community as a whole, beyond our specific industrial sector. In FY 2013, companies, as well as the Industrial Machinery Division of the Ministry of Economy, Trade and Industry and representatives from Automobile Manufacturers Association visited the factory.

Ono Cherry Blossom Festival

On 7th April, the fourth Ono Cherry Blossom Festival was held.

This festival started in 2009 as a communication venue between local people and the company. Part of the factory was opened and the company's business and environmental activities were outlined. Beetle larvae and flower seedlings were given to the visitors and a concert was held.



Work-experience

Amada group is accepting students on work-experience, as explained in the following section.

◆ Career seminar for high school students at the Fujinomiya Works

A career seminar for students wishing to enter the workplace directly after high school was held. 27 second-year high school students attended and were able to learn about and experience for one day the world of work and know what it means to be part of the society. After visiting the factory they learnt about business manners, such as how to use the language of politeness, appropriate greetings and protocol for exchanging business cards.

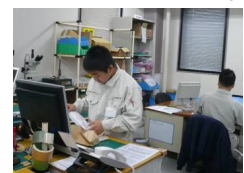


◆ Work-experience for junior high school students at the Miki plant

The Miki plant accepted one junior high school student on work-experience for five days from 11th to 15th November. The student learnt about eco-friendly activities and experienced hole saw and sheet metal processing.

◆ Junior high school students work-experience at the Noda Plant

As part of Noda city's career education project, local junior high school students undertook work-experience at the Noda Plant for three days in December. They eagerly performed a quality inspection and learnt about the world of work.



◆ Presentation of beetle larvae to school-children

On 26th April, beetle larvae grown in leaf mold at a "worm farm" in our Isehara Works were given to local schoolchildren.

For their science class, a third-year class received 10 larvae and three were given to a special needs class. Students wrote a report on the growth of the larvae. On their report, they gave names to their larvae and wrote down the stages from larva to pupa and pupa to beetle.



With our employees

Through our activities, we value each of our employees, their families, and everyone associated with the company, in a bid to become a better company.

Facility tours for employees' families

Each plant arranges a yearly visit for the families of its employees. Staff members appreciate this and their families feel closer to the company as a result of the visits.

◆ Kansai Technical Center

In June 2013, two years after the completion of the Kansai Technical Center, local people and staff families visited the Center for the first time.

There were sessions in the morning and afternoon. In the morning session local government representatives, students from a local engineering high school and local citizens totaling 21 people visited an exhibition for the purpose of meeting each other.

In the afternoon session, 41 staff family members visited an in-house exhibition held for the staff families. They enjoyed an introduction to the company, watching a demonstration of a new machine in operation, fortune-telling and drinks in the seminar room.



◆ Isehara Works

On 3rd July, a visit for staff family members was held at the Amada Solution Center, Isehara Works.

Amada staff took a day off to attend this, since Saturday is a working day, and 157 people from 41 families took part. They observed the process of sheet metal manufacture and joined a digital sheet metal factory tour from which they learnt about the VPSS (Virtual Prototype Simulation System). The tour proved to be popular.



◆ Ono Plant

On 11th May, a Family Thanks Day was held at the Ono Plant and 22 people from 10 families took part.

The event took place during office hours so the staff could show their work place to their families, and spend some enjoyable time with them. One attendee said, "I think it was a happy experience for the children".



My parents and I at the Kansai Technical Center,

by Tomoko Taniya, administrative Promotion Group at the Amada Kansai Technical Center

Though I asked my parents to attend the company visit, I felt slightly shy but I wanted them to see how I work every day. At first, I was more nervous than them but they didn't notice me, being more interested in the machines. I didn't expect my mother to be so impressed. It reminded me of the time when I first saw the machines for myself. I was glad to see her happy face. It was good that she could see the P&P layout and the samples that I have been designing.

I feel very grateful that this opportunity was given to me to allow my parents to visit my workplace. Thank you very much.



The sample designed by Ms. Taniya



Observing the sample and machines with her parents

Facility tours for employees' families

Amada honored by the Encouragement Prize of “Kanagawa Grand Prize for Children and Child Education Assistance”

As part of the "Kanagawa Grand Prize for Children and Child Education Assistance" initiative implemented by Kanagawa Prefectural Government's "Next-generation Education Service", Amada was awarded the Encouragement Prize on September 29, 2013.

This prize is awarded to businesses, individuals and/or groups contributing to the region by their action for children and child education. Since Amada implements workplace experience for neighboring primary and secondary school children, visits to the company for the employees' families, and other measures supporting child education, such as special leave for employees to attend their child's class observation day - in other words measures to promote child education beyond the company's in-house measures - Amada received this honorable prize.

At the awarding ceremony, Kanagawa Prefecture Governor Mr. Kuroiwa presented the Award with a citation and the mascot “Kanagawa Kintar?” dropped in for the occasion.



The award ceremony



Work-life balance initiatives

In terms of corporate effort to provide a better environment for children's education, we arrange for staff members with children undergoing national compulsory education to have a day off to attend their children's school Parents' Observation Day. In addition, Amada offers “next generation education allowance” and one-off payments on their children entering a new school. In this way, we can support the education of the next generation.

Personnel system

The Amada Group implements a stable salary upgrade system for young and mid-career employees.

We also have an assessment system for employees who have been newly appointed to management positions such as group leaders and managers, in which randomly picked bosses, junior staff members, and colleagues assess them “from 360 degrees”. This allows us to make fair and appropriate promotions.

Employment of persons with disabilities

Amada Group employs people with disabilities, to assist them to be autonomous and participate in the social community.

Although we fell short of the required target, as of FY 2013, 1.7% of our workforce comprises of people with disabilities. We accept students with learning difficulties on the work-experience programs of special needs schools and employ such people on a trial basis, which may lead to employment at Amada or other companies.



An employee under instruction polishing a planter

Diversified employment system

At Amada, we have a reemployment system for senior employees based on employee evaluation during the two years before retirement (at age 60). The re-employed employees will work to pass on the experience and knowhow that they have accumulated during their employment to their junior associates, and to serve as role models for the younger generation.

We also have a “permanent staff appointment system” for appointing nonpermanent employees to a permanent status.

As for permanent employees, there are a variety of employment patterns available such as “special area” and “limited assignment” type permanent positions.

Global human resources development

To nurture and train human resources capable of competing in the world arena, the Amada Group holds the TOIEC test twice a year for any Group employees who wish to take it, and we cover expenses for employees who achieve scores in the middle range (460 to 660 points).

Also, we have just started providing new recruits to the company with 20 minutes per morning of English study time, and the Human Resources Division runs an English study group once a month to help new recruits improve their English level.

Staff Development Educational initiatives

Amada Group regularly holds Staff Development sessions to improve staff knowledge and emergency procedures.

Restructure of the Environment Dojo

In June 2011, the Environment Dojo, where people can enjoy learning about the environment, was opened. Staff can enlarge their knowledge through examination of various documents and exhibits and have a hands-on experience at the Experience Corner.

November 2013 saw the fifth restructuring of the Dojo, which will increase staff knowledge and awareness of environmental issues.

The original purpose of the Dojo was to raise awareness among staff but since the recent restructure the facility has been opened to the public, including school children studying the environment. The facility is increasingly used as a venue for meetings with stakeholders. We will continue to offer this space to all sorts of “eco-learners”.



The space used for environmental staff development



Local school children visiting the Environment Dojo

Road Safety Education at the Toki Works

To completely avoid traffic accidents, as part of new employees' induction, we provide road traffic education for them at the Toki Works.

From FY 2013, in addition to watching the customary DVD and slide show we have included a simulation exercise in co-operation with a third-party insurance company.

Inductees could go through three educational experiences: a driving suitability check that measures driver response, a vision ability test, and a driving simulation. They could get a better grasp of such dangers as that of children running into the road.



The driving simulator

Lifesaving class

◆ Isehara Works

An emergency first-aid class using AEDs on dummies is held every month at the Isehara Works. 20-30 regularly attend.

Presently, AEDs are installed at six locations in the site in order to provide treatment to customers and staff as quickly as possible. Our target is for all staff to attend these classes.



Practicing the use of the AED with dummies

◆ Toki Works

In February, Toki fire station staff were invited to hold a lifesaving session at the Toki branch. 16 members of the disaster prevention organization in the company (responsible for coordinating relief in the event of a disaster) took part in this class and learnt how to use AEDs and practice cardiopulmonary resuscitation techniques.

Local cable TV covered this event in the process of filming the Toki fire station staff at work.

After the class, one of the participants remarked, “If there was a person in front of me who needed relief, I feel rather confident I could help them”.

Following the success of this class, we are planning to hold it annually.



Learning cardiopulmonary resuscitation



TV crew filming the class

Handling hazardous materials: training at the Miki Plant

Since we handle materials at the Miki Plant designated as hazardous by the Fire Protection Act we provide training for staff on their correct handling. Staff acquire a basic knowledge of the dangers through watching a DVD made by the fire service of the town.

Initiatives for the prevention of fire

In response to the Great East Japan Earthquake that occurred on March 11, 2011, the Amada Group has reaffirmed the importance of day-to-day initiatives for the prevention of fires, and we are implementing training based on this.

◆ Disaster Prevention Drill at the Isehara Works

On 12th October, a general disaster prevention drill was held at the Isehara Works.

This was the first occasion for all the staff of Isehara Works(1,640 people), including those from FORUM 246, to take part. FORUM 246 has been chosen as a temporary facility where local citizens can stay in the event of a disaster.

The drill simulated conditions following a level-7 earthquake, including simultaneous burning buildings at 7 locations. Training was performed following a real situation scenario: Maintenance of the functions of important equipment, inspection of facilities' equipment, measures to take for staff unable to walk home and establishment of a center for the co-ordination of emergency management.



Disaster Prevention Drill for all staff at the Isehara Works

◆ Fire, disaster and emergency response training at Ono Plant

On 7th December 90 people took part in a fire and emergency drill at our Ono Plant. During the drill, staff experienced the use of water fire extinguishers.

The drill simulated a situation where oil waste is being moved during a fire. After learning about the correct steps to follow under such an emergency, staff used an absorbing mat to absorb water (in place of oil waste in a genuine emergency).

On 28th December, 157 staff members took part in a second fire drill that simulated conditions after a severe earthquake. After learning whether or not conditions were safe, staff reconfirmed the procedure for gathering at the evacuation point according to the defined itinerary.



Oil waste collection drill

◆ Fire hose application, emergency and fire evacuation drill at the Toki Works

On 25th September, a fire hose drill for 25 staff members from the Disaster Prevention Division was held. Staff practiced how to act calmly and efficiently during a fire and for this purpose experienced the use of extinguishing pumps, and how to apply water correctly.

On 14 and 16th November, an emergency drill was held for approximately 60 staff members from related departments. They learnt what tools to use and how to use them in the event of oil waste or paint running into run-off gutters.



Drill simulating conditions in the event of an overturned oil can



Taking a lecture from a specialized company on how to use equipment

◆ Fire hose application and emergency drill at Miki Plant

On 27th May, a compulsory fire drill took place (obligation under Fire Service Act).

◆ Fire drill at Noda Works

On 13th November a fire drill took place at the Noda Works. After training on correct evacuation procedures staff evacuated the facility under the direction of designated personnel and practiced the fire extinguishing and fire hose application methods under the guidance of a local fire officer.



Applying water at the drill

Amada men's team wins fire extinguisher competition; women's team placed 4th

On 10th October, a men's and women's team from the Fujinomiya Works took part in the 22nd fire extinguisher competition held by Fujinomiya city Fire Safety Association. Participants showed the results of their usual company training: the men's team gained a victory over an unbeaten team that won every year, won the "fire extinguisher section" of the competition and were placed second in the "fire hose section".

The women's team gained a respectable fourth and third position respectively in the extinguisher and fire hose sections.

The men's team's victory in the extinguisher section was the first since 1996.



Team participating to extinguishers' competition






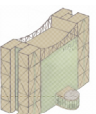
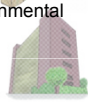












Our history of environmental activities

Amada has always deployed advanced environmental activities as a leading manufacturer of metalworking machines.

Amada and the environment

Amada has addressed the environment from the very early days of the machine industry, and it's been 14 years since the Isehara Works (where the headquarters is located) acquired the ISO14001.

We will introduce our history since the company was established, and our 13 years of environmental activities.

1948	JUN	Amada Seisakusho (limited company) founded	
1955	JAN	First contour machine born	
1961	AUG	Isehara Factory built in current Isehara City, Kanagawa Prefecture	
1964	JAN	Company name changed to Amada Co., Ltd.	
1969	APR	Headquarters relocated from Nakano, Tokyo to Isehara, Kanagawa	
	AUG	Joined the first section of Tokyo and Osaka stock exchange markets	
1978	MAY	Amada Machine Tool Plaza built as 30 th anniversary event	
1979	APR	Headquarter building built	
1987	SEP	Fujinomiya Plant (currently Fujinomiya Works) established in Fujinomiya, Shizuoka	
1991	JUL	Clean Campaign activities started	
1992	APR	New Amada Machine Tool Plaza opened as 45 th anniversary event FORUM246 (training center) opened Software Center Building built	
1994	FEB	AMADA SFERA, symbol of Amada's environmental activities created	
1996	SEP	ISO 14001 certification started	
1998	SEP	Product assessment manual established (assessment of products' environmental impact)	
	DEC	Isehara Works ISO14001 certified	
2001	OCT	Amada Eco Products certification system started	
2002	SEP	Fujinomiya Works ISO14001 certified	
2003	SEP	Press announcement for "Amada designated parts for recovery system" (recovering used parts that include regulated chemical substances)	
	DEC	Press announcement for "Amada designated parts for recovery" system (recovering used parts that include regulated chemical substances)	
2004	MAR	Wind power plant installed (for generating power for foot lights)	
2005	FEB	Kyoto Protocol put into effect	
	APR	Press announcement regarding response to RoHS directive (EU's regulation on restricting the use of Hazardous Substances)	
	JUL	RoHS directive applied	
2007	MAR	Development Center and Laser Factory completed at Fujinomiya Works	
	JUL	Amada Eco Information Mark established (environmental information on products for stakeholders)	
	SEP	Amada Eco Information Mark established (environmental information on products for stakeholders)	
2008	DEC	Ono Plant ISO14001 certified	
2009	JUN	Environmental report "Forest-In-Office" first issue posted on website	
	OCT	Parts Center at Fujinomiya Works opened	
2010	APR	<i>Amada Group Environmental Declaration</i>	
	SEP	ISO14001 group certification for Isehara Works, Fujinomiya Works, and Ono Plant	
2011	NOV	Opening of Toki Works in Toki-shi, Gunma Prefecture Conversion of Technical Center into a zero-carbon facility	
2012	NOV	ISO14001 group certification for Isehara Works, Fujinomiya Works, Ono Plant, Toki Works and Kansai Technical Center	
2013	Nov	Integration of Nikotec Miki Plant ISO 14001 certification	

(green letters: global movement on the environment)

Third party opinion



Hideki Nakagome, Doctor of Engineering
Professor at Graduate School of Chiba
University
(Speciality: Environmental energy research)

The “Forest-In Office” naming itself seems to convey that Amada seeks to promote activities that protect and preserve the natural environment. This is the proper stance that Amada group must take –as a corporate body- before its employees can be expected to take like-minded action. Looking forward, I hope the “Forest-In Office” attitude will be kept in the groups’ employees’ minds, and continuously applied to their basic daily activities.

As I noticed by reading Forest-In Office, in addition to its activities in Japan, the company stands as a “comprehensive manufacturer of metalworking machinery” by providing state-of-the-art machines to numerous companies in Europe, United States and Asia. But I felt it was difficult to completely understand what kind of company the average consumer considers Amada to be. However, by having a look at the part called “Products Made with Amada’s Machines” in Amada Group’s homepage, we can clearly see that the group has created machines that are used in so many mechanical components and parts in home environments (portable phones, air conditioners, tableware, and closets), office environments (PCs, desks, lockers, stationery, elevators), and urban environments (bridges, aircrafts, special vehicles, stores, automatic vending machines, heating equipment). All of these are intimately linked to our consumers’ lives. I think that consumers could probably deepen their understanding of Amada Group if, for example, the link between the groups machines and the final products used by the consumer could be expressed somewhere either in the company’s brochure or in the product pamphlets, for example.

The Japanese power consumption issue can be acknowledged in such documentation as “Energy in Japan 2010”. The figures from this documentation show that 45.3% of Japan’s energy is consumed by the industrial sector, and that the energy consumption increase in FY 2007 compared to 1973 was one fold, in other words, that uncompromising efforts have been devoted by the industrial sector in terms of energy savings. However, compared to this sector, energy consumption of the transport sector, which accounts for 23.3% of the whole, showed a two-fold increase, while the consumption of civil sector, which accounts for 31.4%, showed a 2.5 fold increase.

As electric power occupies approximately 18% of Japan’s industrial energy consumption, we can consider that Amada group’s machines largely contribute to energy savings in this sector. More concretely, I would point out the “Ministry of the Environment’s 2013 Award” granted to Amada for its ACIES series of punch-laser combination machines and for the FOL-3015AJ laser machine model born from Amada’s exclusive development consisting in transforming the previous CO2 laser machines into fiber laser models. Compared to the previous technology, the FOL-3015AJ and ACIES series allow respective power consumption savings of approximately 80% and 50%. These achievements are prime examples of Amada’s contribution in terms of energy savings in the industrial sector.

The company has established its *Amada Green Action*, as a long-term commitment to the environment extending until FY 2020. More concretely, divided in three actual figures: ① 25% average reduction of CO2 emission for all products, ② 25% reduction of CO2 emission in the company’s works and factories (in terms of consumption rate index), and ③ distinctive efforts to preserve and reproduce the biodiversity, for the purpose of giving to the growing generations an even nicer country heritage full of natural bounties. This program can be considered one of the few action schemes among Japanese companies mentioning such precise figures and implementing them one step after the other through concrete implementation plans. For this reason, we should strongly expect that Amada group will continue to strive towards actually realizing these plans. In addition, we should notice, concerning point ③, that only few Japanese companies develop their action programs up to the level of integrating biodiversity in the corporate activities themselves. I wish that such initiatives be considered as a model by other companies.

In the area of product development, Amada has set up two systems: a product environmental assessment system and an Amada ECO PRODUCTS certification system. The assessment system ensures that the company does not sell products that have a significant environmental impact, in terms of energy consumption and regulated chemical substances. The ECO PRODUCTS certification system has been developed for the purpose of certifying products that have met standards with regard to saving resources, noise reduction, saving energy, and productivity enhancements. Here are some specific examples of Amada’s achievements based on these systems. With the 3-spindle linear drive FLC-AJ series of laser machines, the company has realized a 70% reduction in power consumption and a 35% reduction in production costs. With the LC-C1AJ series of fiber laser combination machines, Amada has realized an 81% reduction in power consumption, a 34% reduction in production costs, reduced noise levels, and work environment improvements. With the HG series of downward bending machines, based on a new hybrid system combining AC-servo motors and high efficiency, bi-directional piston pumps, and two-capacity pumps, the company has achieved an 8.5% reduction in power consumption and a 4.3% reduction in production costs. Furthermore, with the EG-6013AR fully automated bending machine that combines a high speed, high precision servo-bending machine—equipped with a dual servo-press mechanism—and a specialized robot optimized for bending operations, Amada has changed the number of robots for this type of bending solutions from the conventional two, to one, and thus realized a faster operation system, with a 45% reduction in power consumption, and a 20% reduction in production costs. In each of these cases, Amada has reduced environmental impact based on substantial energy savings, etc. It seems that there are not many advanced companies that have developed these types of uniform company-wide standards. I definitely hope that Amada will continue with these kinds of approaches over the long term.

* “Products Made with Amada’s Machines” : <http://www.amada.co.jp/products/purpose/index.html>
* “2010 Annual Report on Energy” : <http://www.enecho.meti.go.jp/about/pamphlet/energy2010.html/>

It has become clear that in the area of product development, Amada is working hard to achieve major environmental impact reductions, namely through energy savings. Meanwhile, the company has also introduced many measures aimed at reducing environmental impact in the area of manufacturing processes as well. Such initiatives are based on perspectives such as saving energy, achieving zero emissions, and recycling. These measures include the introduction of photovoltaic power generation and various types of heat utilization methods, the use of lead-free soldering substrates, chromate treatments, safe oils, and the utilization of product disposal entrustment certification systems, zero emission factories, and packaging material recycling. These activities require low-key efforts to be made in a consistent manner on a day-to-day basis. For example, as with Amada's environmental assessment system at the product development level, it seems to be better for the company to establish uniform goals aimed at reducing environmental impact, based on the precise setting of targets and the creation of ways in which to achieve these targets, in relation to daily manufacturing and maintenance activities, as well as the various activities carried out by indirect departments. Perhaps an approach in which various offices set targets on an individual basis and then share the outcomes of such efforts with each other would also be advantageous.

The field of biodiversity includes areas that are not related with primary products and manufacturing processes, such as the protection of rare organisms, green curtains, and the use of timber from forest thinning. The Amada Group is giving shape to such activities, as presented in its "Forest-In Office" report. Amada seems to serve an excellent example of an advanced company that represents Japan.

Looking at "Forest-In Office" from a broad perspective in terms of the reduction of environmental footprint, it appears that Amada is placing slightly too much emphasis on preventing global warming, in other words, reducing the volume of carbon dioxide emissions. For example, the company partially covers topics such as water pollution, air pollution, soil pollution, noise, waste, biodiversity, chemical substances, and environmental hormones, but perhaps does not explain its activities related to these in a systematic way. Since Amada has gone to the trouble of developing a mid-and-long-term environmental plan, it seems that it would be better if the company provided some more detail about activities related to each of these topics.

As for communication activities, it appears that Amada is spreading the scope of its initiatives related to overseas subsidiaries, customers, local communities, employees, and so forth, and is thereby giving shape to its mindset of "taking good care of people and the earth's environment," which is part of the Amada Group's management philosophy. Nevertheless, as I stated at the beginning, since the Group's business activity is to provide a means for the manufacturing of parts that produce final products—for use in products such as automobiles and consumer electronics—it can be difficult for consumers to understand and see the significance of such activity. If, for example, Amada further developed the section entitled "Products Made with Amada's Machines" and was able to show specifically in what parts of final products the Amada Group's machines are used—based on collaboration and cooperation with its client companies—we can expect that the understanding and interest of consumers will deepen significantly.

In the section entitled "With Our Employees" as well, the report covers topics such as its personnel system, employment system, and the fostering of global human resources, and based on the mindset of "companies are only as good as their people," securing even better human resources is essential from the perspective of maintaining and developing the company. Therefore, as I just mentioned, it seems to be very important to inform an even wider range of consumers about the specific relationship between the company and society, and the final products that are made from parts manufactured using the Amada Group's machinery.

Lastly, although this might go a bit beyond the topic of Amada's environmental and social contribution report, I would like to mention two additional points.

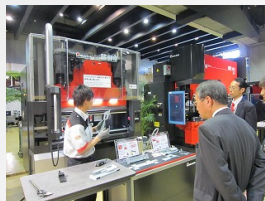
The first is related to the outcomes of research and development. People like us who work in the area of engineering believe that the value of companies—and manufacturers in particular—lies in research and development power, and the ability to develop attractive products. The technical information posted on the Amada Group's website includes contents about fiber laser technologies, pulse cutting, and pressure pulse molding technologies. In particular, when I visited the company's Solution Center, I was deeply impressed when I heard about its press pulse molding technologies, which have enabled conventional machined components to be made with press processing with reduced heat generation through pulse-based molding. I would encourage the Amada Group to proactively share these types of outcomes with the world through technical reports, presentations at academic conferences, academic papers, and so on. I believe that this will lead to improvements in the motivation of the employees actually involved in research and development, and that activities at academic conferences will encourage outstanding students to take a strong interest in the Amada Group.

The second point is related to the desired direction for Japanese industry in the future. Currently most industrial products extensively use steel, and currently compound materials such as aluminum, copper, plastic, and ceramics instead are being used. Nevertheless, it is possible to imagine that, together with foreseeable trends in the industry, the materials that are used will change also. For example, it is likely that automobiles will use a lot of aluminum and plastic, with a view to saving energy. Furthermore, the national government and companies are now vigorously moving ahead with product development in order to achieve a revival of the aircraft industry. Forecasts state that demand for carbon fiber reinforced plastic (CFRP) in automobiles, aircraft, and general-purpose equipment will grow significantly in the future. As a comprehensive manufacturer of metalworking machinery, what will be the future status of Amada in light of these developments? It seems that, at the very least, in order to give a solid foundation to the report, Amada should communicate its stance regarding the future as a comprehensive manufacturer of metalworking machinery that can sufficiently respond to changes in the world, and also provide some insights into its achievement of long-term goals based on its own unique vision. I believe that the degree to which a company can look ahead and respond to changes in the world is a factor of vital importance.

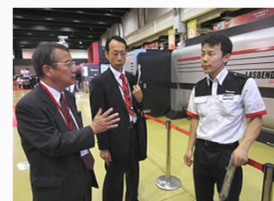
– Visit to the Solution Center on May 29, 2014 –



Checking efficiency and productivity improvements of a fiber laser machine



Observing an operating machine



Confirming the features of a machine and points for improvement



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