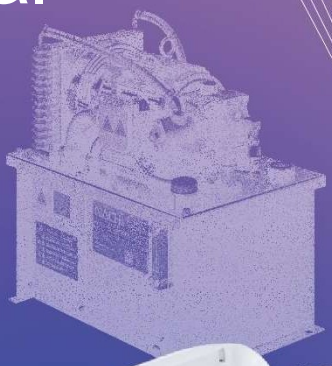
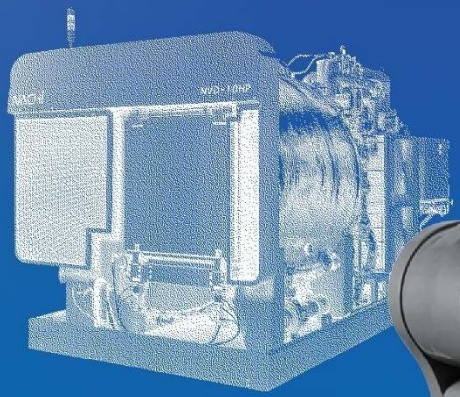
NACHI

NACHI-FUJIKOSHI CORP.

Environmental report 2026





Environmental Policy of NACHI-FUJIKOSHI Toyama, Namerikawa, and Higashi-Toyama Plants

Recognizing the importance of coexistence with the global environment, NACHI-FUJIKOSHI Toyama, Namerikawa, and Higashi-Toyama Plants will promote improvement activities for a better global environment by “contributing to the progress of the world of product manufacture” in cutting tools, machine tools, robots, bearings, hydraulic equipment, automotive hydraulics, special steels, and Thermo-Tech.

1. **We will consistently be aware of the environmental impact of our business activities and continuously improve our environmental management system (EMS) to prevent pollution, promote the use of sustainable materials, and mitigate climate change.**

2. **We will continuously improve our EMS to enhance our environmental performance.**

3. **We will focus on the following key issues as our environmental targets and goals and periodically review their progress:**
   - **(1) Development of environmentally friendly products**
   - **(2) Contribution to a decarbonized society**
   - **(3) Contribution to a recycling-oriented society (reduction of landfill waste and promotion of recycling)**
   - **(4) Managing and reducing environmentally hazardous materials**

4. **We will comply with environmental regulations and agreements applicable to our business activities and establish and control our voluntary standards, as needed.**

5. **We will inform all employees working at/for our facilities of the importance of our environmental policy and raise their awareness through environmental education and in-house information activities.**

6. **We will externally disclose our environmental policy to improve communication with regional communities.**

December 1, 2025

NACHI-FUJIKOSHI CORP.

Environment Administrator Shinichi Momonoi

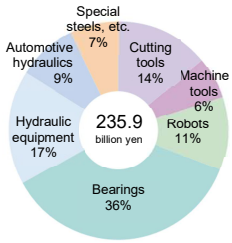
Corporate outline

Outline

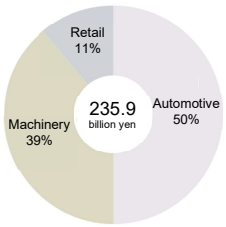
Company name	NACHI-FUJIKOSHI CORP. Trademark NACHI
Established	December 21, 1928　Accounts settled on November 30
President	Naritoshi Nakamura
Head office	〒105-0021 1-9-2 Higashi-Shinbashi, Minato-ku, Tokyo Shiodome Sumitomo Bldg. 17F Tel.03-5568-5111
Major offices	Toyama Plant 〒930-8511 1-1-1 Fujikoshi-Honmachi, Toyama Tel.076-423-5111
Capital	16.0 billion yen
Consolidated net sales	235.9 billion yen (including overseas sales 119.9 billion yen)
Consolidated subsidiaries	48 companies including 22 domestic companies (comprising 3 engineering companies, 5 sales companies, 12 manufacturing companies, and 2 service companies) 26 overseas companies (comprising 12 sales companies and 14 manufacturing companies)
Consolidated number of employees	6,500 with 49 companies (including 3,000 with parent entity)
Major products	Mechanical equipment: Cutting tools, forming tools, cutting saws, machine tools, and machining systems Robotics: Robots and robot systems Components: Bearings, hydraulic equipment, and automotive hydraulics Materials: Special steels, coating, and industrial furnaces

Breakdown of net sales (consolidated)

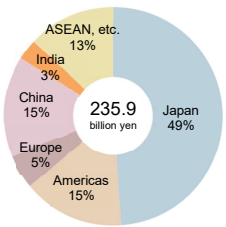
<By product>



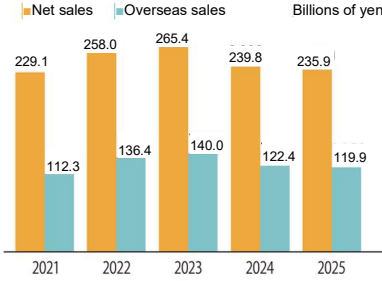
<By market>



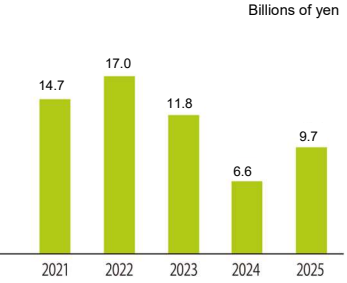
<By region>



Net sales (consolidated)



Operating income (consolidated)



CONTENTS

Values created by NACHI

Act with unwavering determination to realize

As a comprehensive machinery manufacturer with the robotics business at its core, NACHI-FUJIKOSHI will provide various solutions and contribute to the progress of the world of manufacturing.

Mechanical equipment

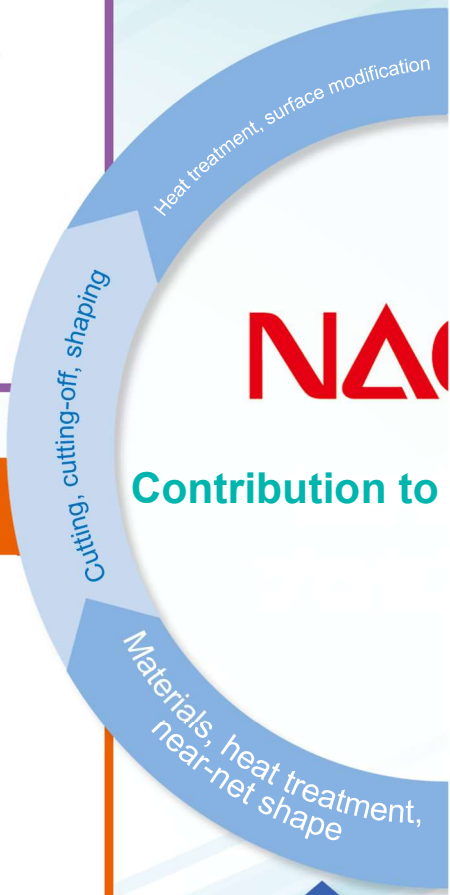
Cutting tools

Machine tools

Materials

Special steels

Thermo-Tech



Corporate mission

Contribute to the progress in the world of product manufacturing

“world-class manufacturing technology”

Grinding, ultra-high precision machining

Essential components

Assembly, welding, transfer

CHI

manufacturing processes

Components

Bearings

Hydraulic equipment

Automotive hydraulics

Robotics

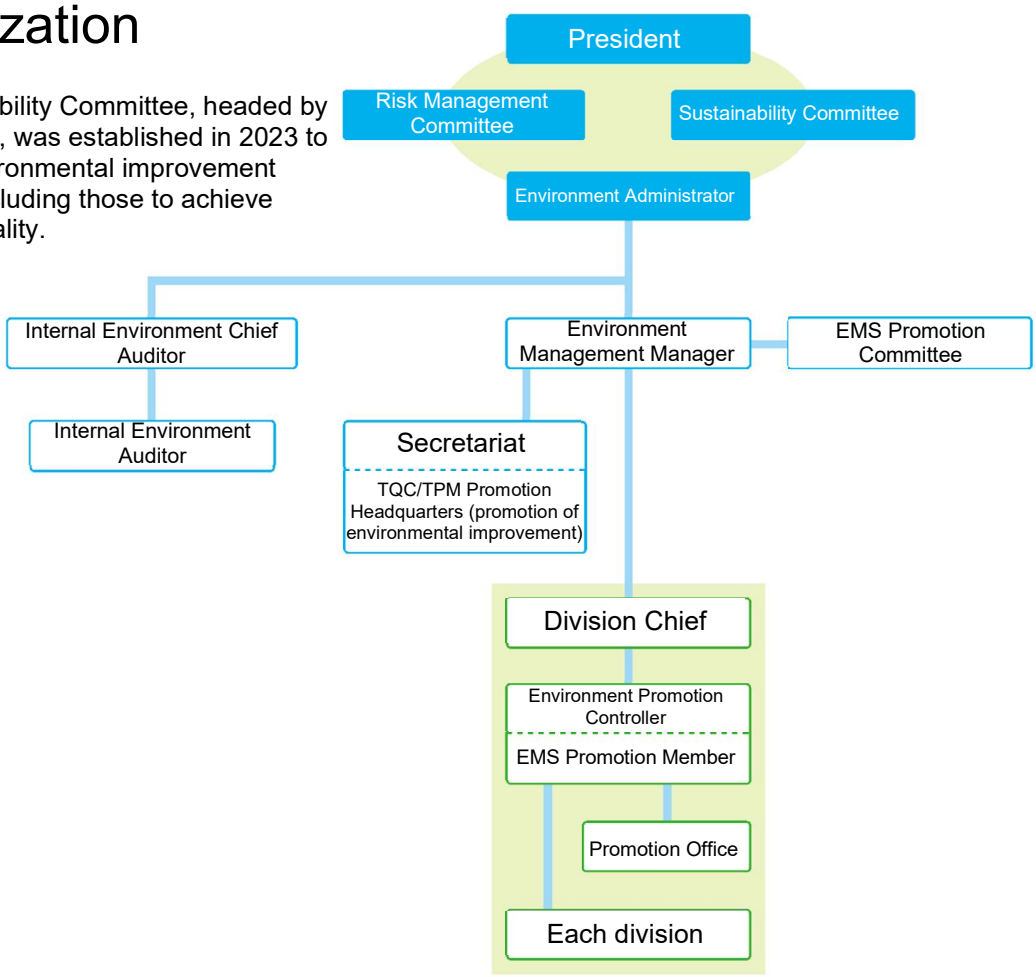
Robots

Contributing to the development of a sustainable society through manufacturing

Environmental management

Organization

The Sustainability Committee, headed by the President, was established in 2023 to promote environmental improvement initiatives, including those to achieve carbon neutrality.



Audit and assessment

Through internal audits performed by our own staff and external audits performed by a third-party organization, we continuously strive to reduce our environmental footprint and enhance our improvement activities.

Internal environment audit	Once a year, our internal auditors mutually audit each workplace to verify the implementation situation of environmental management programs, and maintenance and inspection of environment-related facilities.
ISO 14001 periodical audit by an external audit organization	To date, our Toyama, Namerikawa, and Higashi-Toyama plants have obtained ISO 14001 certification from the Japan Audit and Certification Organization for Environment and Quality (JACO).
Training of internal environment auditors	We cultivate internal environmental auditors and enhance their capabilities through internal and external training and education.

Number of qualifiers in environmental management (as of January 2026)

(Unit: Number of persons)

Qualification name	Qualified persons	Required number
Pollution Control Manager (Air)	17	4
Pollution Control Manager (Water Quality)	27	4
Pollution Control Manager (Noise)	29	4
Pollution Control Manager (Vibration)	28	4
Pollution Control Manager (Dioxin)	9	1

Qualification name	Qualified persons	Required number
Licensed Electrical Engineer (Class 2 and 3)	25	5
Qualified Energy Manager	22	6
Certified Environmental Measurer (Concentration)	3	1
Specially Controlled Industrial Waste Control Supervisor	20	6

NACHI's efforts to date

1991	Our cutting tools and vacuum heat-treatment furnaces received the Award of the Director-General of the Agency for Natural Resources and Energy.
2000	We published our Environmental Basic Policy and established the Environmental Manual.
2001	Our Toyama Plant obtained ISO 14001 certification. A grinding sludge solidification system was introduced.
2002	The Toyama and Namerikawa plants obtained ISO 14001 certification.
2003	Our Toyama, Namerikawa and Higashi-Toyama plants obtained ISO 14001 certification.
2004	Our 10 domestic subsidiaries obtained ISO 14001 certification.
2005	We established NACHI-FUJIKOSHI Corp. Citizen Rules, created the Chemical Analysis Office, and abolished the use of chlorine cleaner.
2008	Our hydraulic variable pump units received the JMF President Award for Excellent Energy-Efficient Machinery from Japan Machinery Federation (JMF). The Toyama Plant received the Toyama Prefectural Governor Award for Excellent Energy Management Factory.
2009	The Higashi-Toyama Plant's Material Plant received the Toyama Prefectural Governor Award for Excellent Energy Management Factory.
2010	The Toyama, Namerikawa, and Higashi-Toyama plants and 10 domestic subsidiaries received the third periodic audit and renewed their ISO 14001 certification.
2011	We started disclosing data in our environmental report on CO_2 emission reductions achieved by our customers when they use our eco-friendly products.
2012	We received the Special Incentive Award for excellent environment-conscious companies from the Japan Machine Tool Builders' Association. We received the Sixth Environmental Contribution Award (Eco-Factory Division) from the Japan Solid Cutting Tools' Association (JSCTA).
2013	We received the Seventh Environmental Special Award (prevention of global warming) and Environmental Contribution Award (Eco-Products Division) from the Japan Solid Cutting Tools' Association (JSCTA).
2014	We received the Eighth Environmental Contribution Award (Eco-Products Division) from the Japan Solid Cutting Tools' Association (JSCTA).
2015	We received the First Environmental Activity Award (reduction of landfill disposal rate for industrial waste by expanding recycling of grinding stone) from the Japan Solid Cutting Tools' Association (JSCTA).
2016	We received the Second Environmental Special Award (99% achievement of Zero Emissions) and Environmental Activity Award (deoiling treatment of oil-based metal grinding powder) from the Japan Cutting & Wear-resistant Tool Association (JTA).
2017	We received the audit for the new ISO 14001:2015 version and the certification. We received the Third Environmental Activity Award (reduction of groundwater consumption by introducing circulation systems) from the Japan Cutting & Wear-resistant Tool Association (JTA).
2018	Our screw parts for fluoropolymers received the "CHO" MONODZUKURI Machinery & Robot Component Award. We received the FY2018 Environmental Activity Award (reduction of air conditioning energy by sprinkling water over factory roofs) from the Japan Cutting & Wear-resistant Tool Association (JTA).
2019	Our collaborative robot CZ10 received the Monozukuri Award of the Best 10 New Products Award. Our ultra-small compact robot MZ01 received the Monozukuri Award of the 2019 Best 10 New Products Award. We received the FY2019 Environmental Activity Award (energy conservation by switching to LED lighting in plants) from the Japan Cutting & Wear-resistant Tool Association (JTA).
2020	Our carbide drill AquaREVO Drills Oil-Hole received the Encouragement Award of the "CHO" MONODZUKURI Innovative Parts and Components Award.
2021	Our small robot MZ25 received the Monozukuri Award of the Best 10 New Products Award.
2022	Our high-speed, high-precision robot MZ F series/ultra-compact controller CFDq received the Monozukuri Award of the Best 10 New Products Award.
2023	Our carbide endmill Aqua REVO Mill for Stainless Steel received the Encouragement Award of the "CHO" MONODZUKURI Innovative Parts and Components Award. Our high-speed, high-precision robot CMZ05/Teaching system Nachi Tablet TP received the Monozukuri Award of the Best 10 New Products Award.We established the Sustainability Committee.
2024	Our tool Burrless Series received the MONODZUKURI Nihon Conference Co-Chair's Award of "CHO" MONODZUKURI Innovative Parts and Components Awards. Our energy-saving hydraulic unit with synchronous motor, the NS Pack type-S, received the NIPPON Brand Award of the Best 10 New Products Award.
2025	Our hydraulic unit NS Pack type-S and vacuum degreasing equipment NVD-10HP received the Energy Conservation Center, Japan Chairman's Award. Our Plastic Insert Insulated Bearings received the Mobility Related Component Award of the "CHO" MONODZUKURI Innovative Parts and Components Awards.

ISO 14001 certification

Registered businesses	Development, design and manufacture of tools, machine tools, bearings, hydraulic equipment, robots, solenoid valves for automobiles, industrial furnaces, coating, and special steels
Registered organization	Japan Audit and Certification Organization for Environment and Quality (JACO)
Registration No.	EC01J0025
Registered facilities	Toyama Plant, Namerikawa Plant, Higashi-Toyama Plant, NACHI Machinery Engineering Co., Ltd., and NACHI Hokuriku Co., Ltd.


JACO
UKAS
JAB
COPY
NACHI-FUJIKOSHI CORP.
Toyama・Namerikawa・Higashitoyama Plants
1-1-1, Fujikoshi-Honmachi, Toyama City, Toyama, Japan
CERTIFICATE
Certificate No.: EC01J0025
ISO 14001:2015・JIS Q 14001:2015
Development, design, manufacture and relevant services of Tools, Machine Tools, Bearings, Hydraulic Equipment, Robots, Solenoid Valves for Automobiles, Industrial Furnaces, Coating and Special Steels

FY2025 performance and environmental targets for FY2026

Achieved Not achieved

	Theme	FY2025 target	FY2025 performance	Rating	FY2026 target
1	**Development of environmentally friendly products**	**Development of environmentally friendly products** Eco-friendly products **11 or more certified products** (207 or more products in cumulative total)	**Development of environmentally friendly products** Eco-friendly products **11 certified products** (cumulative total of 207 products)	☺	**Development of environmentally friendly products** Eco-friendly products 11 or more certified products
2	**(1) Contribution to a decarbonized society**	**Reduction of CO_2 emissions** **Per unit emissions** **0.97 t-CO_2/million yen or less** (Emissions: 112,706 t-CO_2/year or less)	**Reduction of CO_2 emissions** **Per unit emissions** **0.98 t-CO_2/million yen** (Emissions: 108,186 t-CO_2/year)	☹	**Reduction of CO_2 emissions** **Per unit emissions: 0.97 t-CO_2/million yen or less** [1% decrease from FY2025 performance] (Emissions: 119,910 t-CO_2/year or less)
	(2) Reduction of groundwater consumption	**Reduction of groundwater consumption** **Groundwater consumption** **1,645,000 t/year or less**	**Reduction of groundwater consumption** **Groundwater consumption** **1,745,000 t/year**	☹	**Reduction of groundwater consumption** **Reduce groundwater consumption to 1,655,000 t/year or less**
3	**Contribution to a recycling-oriented society** Reduction of landfill waste and promotion of recycling	**Company-wide landfill disposal rate** **0.7% or less** (Final disposal: 114.2 t/year or less) Waste yard evaluation score 5.8 points or higher (out of 6)	**Company-wide landfill disposal rate** **0.56%** (Final disposal: 98.4 t/year) Waste yard evaluation score 5.8	☺	**Company-wide landfill disposal rate: 0.7% or less** (Final disposal: 130.1 t/year or less) Waste yard evaluation score 5.8 or higher [The impact of changes in production is taken into consideration]
4	**Managing and reducing environmentally hazardous materials**	**Per unit consumption of PRTR-designated substances related to coating** **3.22 kg-substance/t or less**	**Per unit consumption of PRTR-designated substances related to coating** **3.24 kg-substance/t**	☹	**Per unit consumption of PRTR-designated substances related to coating: 3.17 kg-substance/t or less**
5	**Developing eco-conscious communities/ human resources**	- Liaison meeting with neighborhood associations: once a year or more/Cleaning of factory surroundings: three times a year - Environmental education Environmental education: four times a year Environmental news: six times a year or more - Disclosure of environmental information - Promotion of participation in external environmental activities: at least once a year - Due execution and review of emergency drill - Regular environmental patrols	- Liaison meeting with neighborhood associations: twice a year Cleaning of factory surroundings: three times a year - Environmental education Environmental education: four times a year Environmental news: seven times a year - Disclosure of environmental information - Participation in tree planting and beach cleaning activities - Execution and review of emergency drill - Regular environmental patrols	☺	- Liaison meeting with neighborhood associations: twice a year Cleaning of factory surroundings: three times a year - Environmental education Environmental education: four times a year Environmental news: six times a year or more - Disclosure of environmental information - Promotion of participation in external environmental activities: at least once a year - Due execution and review of emergency drill - Regular environmental patrols

Note 1: CO_2 equivalent is consistently based on the following rate: [0.360 t-CO_2/1,000 kWh]

Mission 1

Development of environmentally friendly products

We utilize a wide variety of technologies accumulated over the years to provide high-quality, eco-friendly products that meet various automation needs at manufacturing sites.

Robotics

CONCEPT

To respond to various automation needs at production sites, we offer a lineup of industrial robots for a wide variety of applications, helping to sustain a broad range of manufacturing sites, from automobiles to industrial machinery.
In addition to developing pioneering products such as the new collaborative robot MZS05, we pursue energy conservation by downsizing equipment, increasing operational speed, and reusing electricity. We will continue to develop eco-friendly products and contribute to automated manufacturing in various fields, including electric and electronic products, EMS, and industrial machinery.

Energy-saving Unit for FD20 Controller

Features

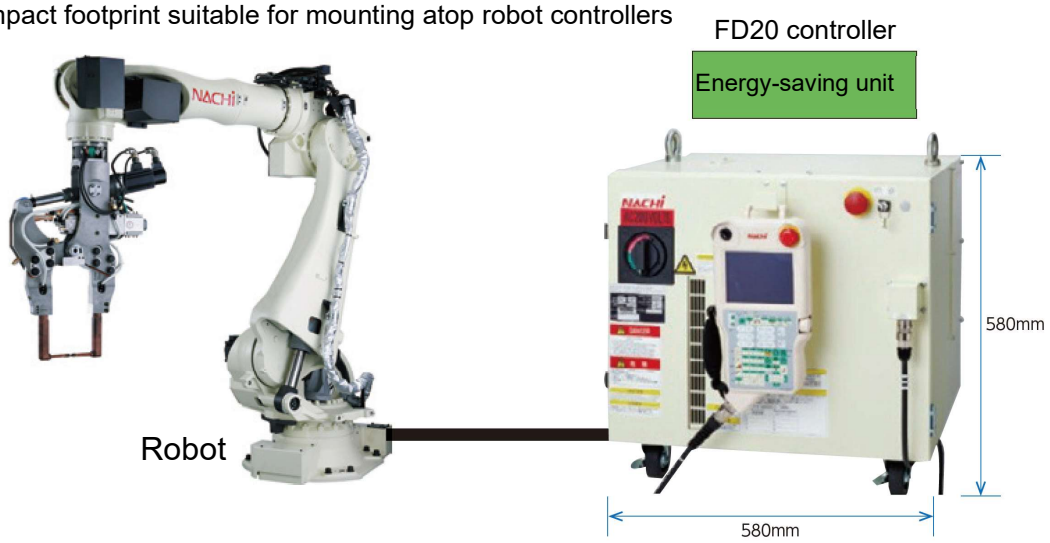
The unit reduces power consumption by capturing regenerative energy, which is normally dissipated as heat via a discharge resistor, in a capacitor and using it for robot motion.

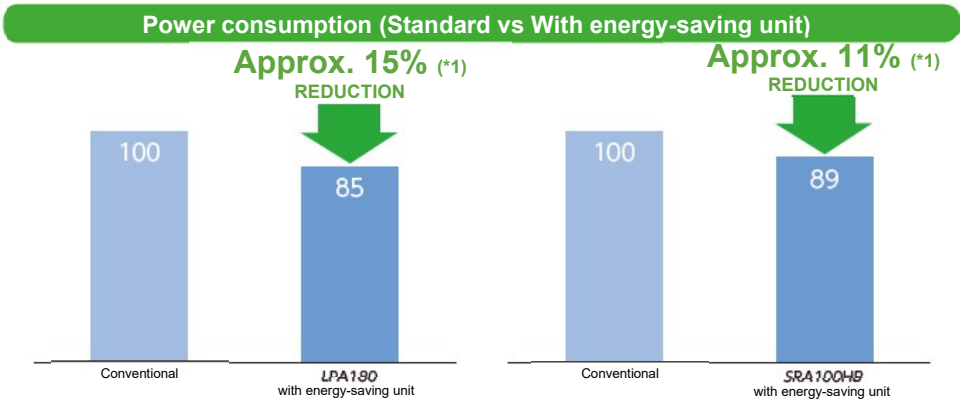
Low power consumption

➡ Power consumption is reduced by 11–15% by using regenerative energy

Compact design

➡ Compact footprint suitable for mounting atop robot controllers





*1: Power consumption reduction varies depending on the robot motion pattern.

Mechanical Equipment <Cutting Tools>

CONCEPT

Manufacturing sites are constantly striving to meet diverse needs, including improving production efficiency, reducing costs, and performing high-precision machining.
In the field of cutting tools, NACHI-FUJIKOSHI contributes to the improvement of productivity by developing/commercializing high-precision and high-functional tools that can streamline processes. We also provide high-speed and high-feed tools that can raise processing efficiency.

LA AquaREVO Drills

Features

LA AquaREVO Drills' overall length is optimized for CNC automatic lathe constraints, saving on carbide material.

Reduced carbide material waste

➡ In CNC automatic lathes, conventional tool lengths often interfere with the holder, necessitating manual cutting before mounting.
Designed to fit CNC automatic lathes perfectly, LA AquaREVO Drills eliminate the need for trimming and reduce carbide material consumption.

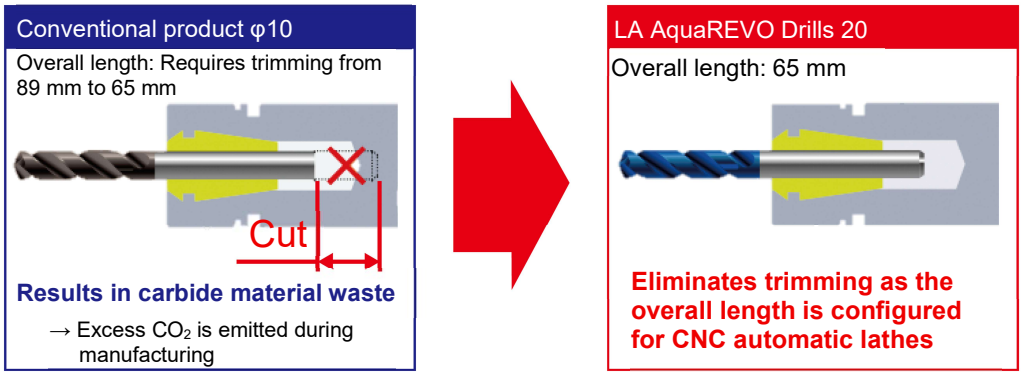
Long life

➡ Utilizing the same tip geometry, material, and coating as AquaREVO Drills, the LA AquaREVO Drills deliver excellent wear resistance and longevity.

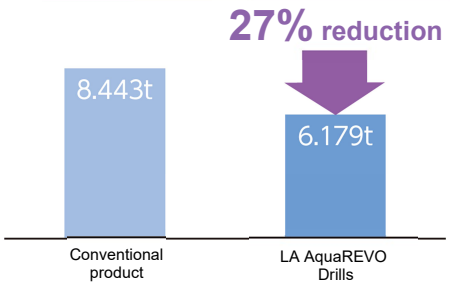
CO2 reduction

➡ LA AquaREVO Drills reduce CO_2 emissions by 27%.

The CO_2 emissions for 10 h x 240 days/year are 6.179 t, a reduction of 27% compared to conventional product.



Annual CO_2 Emissions



CO_2 Emissions Reduction Results

	Conventional product	LA AquaREVO Drills	Results
Carbide material length (mm)	89.5	65.5	▲24.0
Weight (kg/drill)	0.108	0.079	▲0.029
CO_2 emissions (t/year)	8.443	6.179	▲2.264

Mechanical Equipment <Cutting Tools>

LA AquaREVO Mills Four Flutes (LARVM4G20P)

Features

While maintaining exceptional usability on the cross gang tool posts of CNC automatic lathes, these Mills allow for mounting tools with diameters ranging from small to large at a uniform protruding length.
The combination of unequal spacing, a variable lead, and a small relief reduces chatter on the machined surface and minimizes chipping caused by vibration, enabling high-efficiency machining and extended tool life.

Excellent vibration damping performance

➡ Chatter vibration, which is prone to occur on low-rigidity automatic lathes, is suppressed through a combination of unequal spacing, a variable lead, and a small circumferential form relief, facilitating high-efficiency machining.

Stable machining and long life

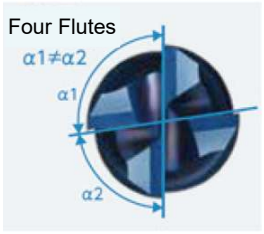
➡ Excellent vibration damping performance achieves stable machining and long tool life by suppressing chipping and fractures even during grooving.

CO_2 reduction

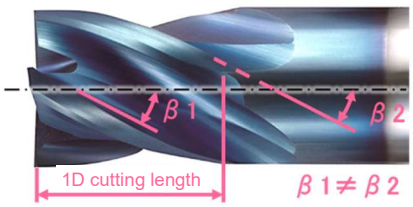
➡ CO_2 emissions reduction by 35.3%

The CO_2 emissions for 10 h x 240 days/year are 0.325 t, a reduction of 35.3% compared to conventional product.

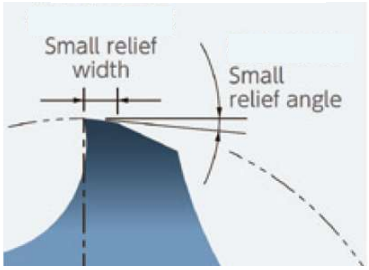
Unequal spacing and variable lead



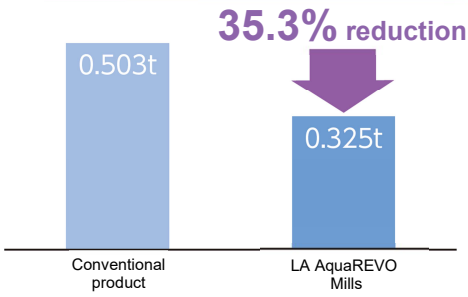
Short groove and high rigidity



Small relief



Annual CO_2 Emissions



CO_2 Emissions Reduction Results

	Conventional product	LA AquaREVO Mills	Results
Power consumption (kWh/year)	897.6	579.2	▲318
CO_2 emissions (t/year)	0.503	0.325	▲0.2

Mechanical Equipment <Cutting Tools>

Air Skiving System

Features The system significantly improves tool life and lowers processing costs.
It also reduces environmental impact with no cutting oil required.

Long life

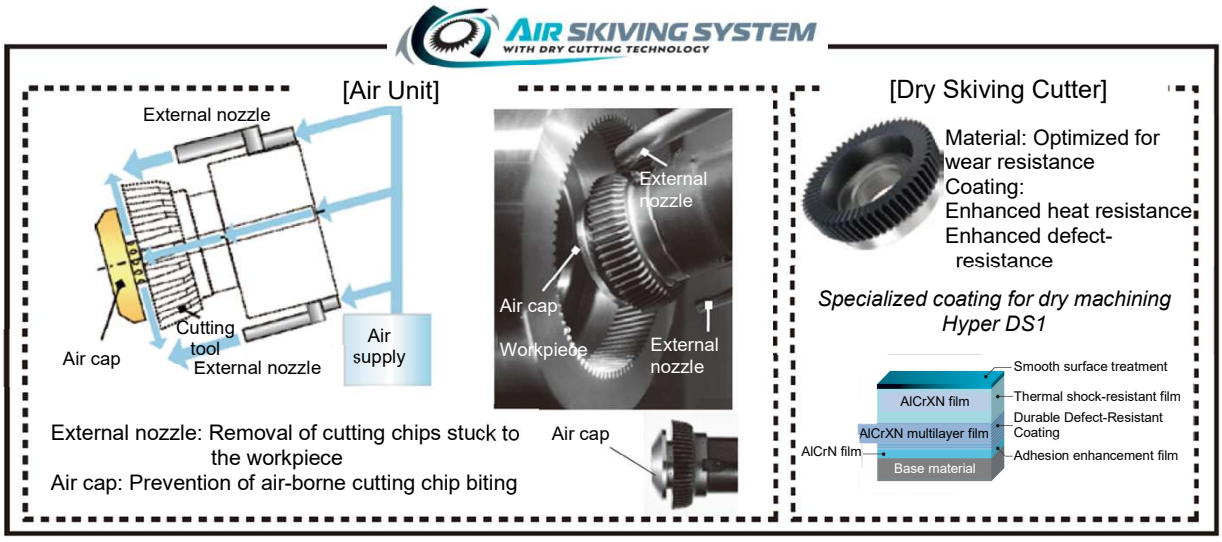
➡ While gear skiving often faces tool life issues, the Air Skiving System significantly extends tool longevity in dry machining.

Compatible with various workpiece shapes

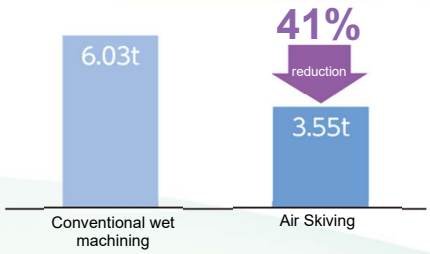
➡ Applicable workpiece shapes include external gears, internal gears, stepped gears, and blind holes.

Resource-saving

➡ Dry machining improves the work environment and contributes to lowering costs and environmental impact by eliminating the need for cutting oil.



Annual CO_2 Emissions



CO_2 Emissions Reduction Results

	Conventional product	Air Skiving	Results
Power consumption (kWh/year)	8,566	6,456	▲2,110
Cutting oil waste volume (L/year)	450	0	▲450
CO_2 emissions (t/year)	6.03	3.55	▲2.5

Mechanical Equipment <Machine Tools>

CONCEPT

We have pursued human- and eco-friendly, high-speed advanced machine tools,
and developed Japan's first broaching machines and various machine tools that are essential for ever-evolving production systems.
We have integrated our comprehensive technologies - drawing on our expertise in grinding and machining - to effectively meet increasingly diverse processing needs.

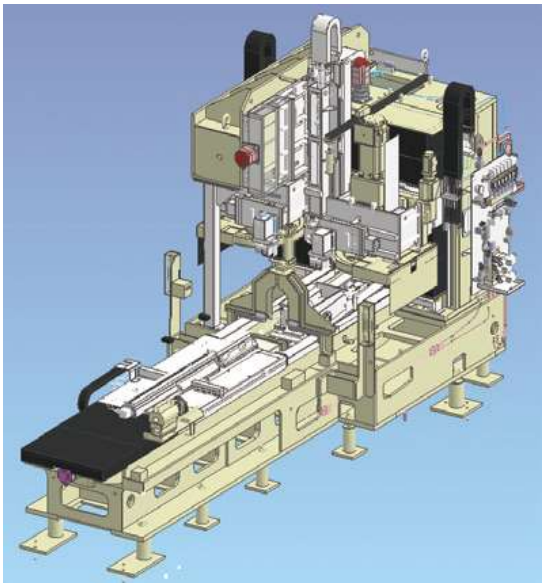
Bandsaw Cutting Machine BSR30N

Features Enhanced mechanical rigidity enables high-speed cutting of silicon ingots, making BSR30N ideal for mass production.

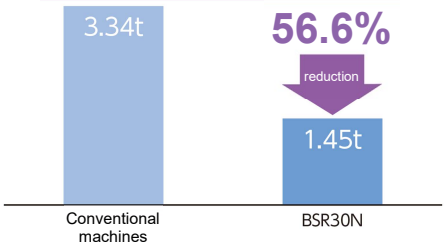
CO_2 reduction

➡ CO_2 emissions reduction by 56.7%

* The amount of reduction is calculated in comparison with conventional machines after converting power and oil consumption into CO_2 emissions.



Annual CO_2 Emissions



CO_2 Emissions Reduction Results

	Conventional machines	BSR30N	Results
Power consumption* (t/year)	3.24	1.39	▲1.85
Oil consumption* (t/year)	0.10	0.06	▲0.04
Total* (t/year)	3.34	1.45	▲1.89

* CO_2 equivalent (tCO_2)

Components <Bearings>

CONCEPT

Bearings are components that enable smooth and precise movement of a machine's rotating parts. Bearings are used in a wide range of mechanical equipment: transport equipment such as automobiles, Shinkansen trains, ocean-going vessels, and aircraft; household appliances such as air conditioners; FA equipment such as robots and machine tools; as well as large industrial equipment and satellites, substantially contributing to the reduction of energy loss caused by friction in rotating parts. NACHI-FUJIKOSHI offers products that contribute to various fields, including automobiles and industrial machines, by leveraging its technologies to extend bearing life, achieve high efficiency, and downsize products.

Three-point Contact Ball Screw Support Bearings (TABZ Series)

Features Lower torque and reduced weight were realized through the replacement of conventional injection molding bearings with three-point contact ball bearings.

Development objectives

➡ Along with the trend toward higher operational speeds for electric injection molding machines, manufacturers are increasingly transitioning from spherical roller thrust bearings to ball screw support bearings. However, the high loads placed on these rotary bearings are managed by utilizing multi-row ball screw support bearing configurations.

By replacing existing models with these newly developed three-point contact bearings, reductions in both weight and torque were achieved.

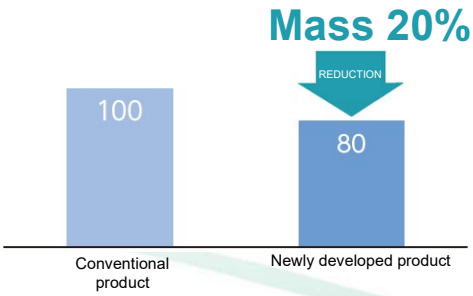
Weight reduction

➡ Row reduction (weight and space savings) via increased load capacity of ball screw support bearings

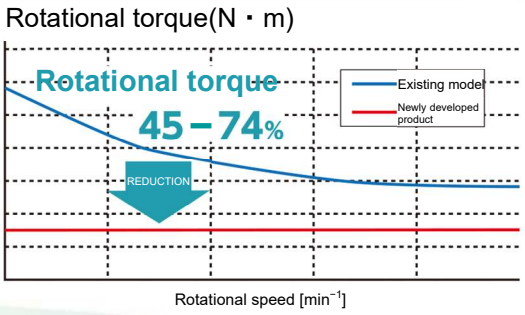
Torque reduction

➡ Lower torque by replacing spherical roller thrust bearings

Weight Reduction



Torque Reduction



Components <Hydraulic Equipment>

CONCEPT

As a comprehensive hydraulic equipment manufacturer, our Hydraulics Division produces and sells various types of hydraulic equipment and offers products for various industries, ranging from machine tools to molding, forging press, and construction machines, etc.
Based on the concept of energy conservation, compactness, and high functionality, we offer eco-friendly hydraulic equipment that meets the needs of every industry.

Travel Motor for Mini-excavators

Features This motor increased output torque while simultaneously downsizing and reducing weight, resulting in lower crude steel consumption.

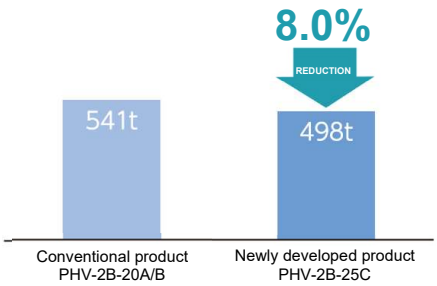
CO_2 reduction

➡ The newly developed product (PHV-2B-25C) is lighter than the existing model (PHV-2B-20A/B), thereby reducing crude steel usage.

	Conventional product PHV-2B-20A/B	Newly developed product PHV-2B-25C	Results
Mass (kg)	25	24	▲1
Overall length (mm)	240	220	▲20
Output torque (kN・m)	2.45	2.80	+0.35
Power density (N・m / kg)	98	117	+19

Product Appearance

Annual CO_2 Emissions



CO_2 Emissions Reduction Results

	Conventional product PHV-2B-20A/B	Newly developed product PHV-2B-25C	Results
CO_2 emissions (t/year)	541	498	▲43

Components <Hydraulic Equipment>

Solenoid Directional Valve with Monitoring Switch (Design 20)

Features Power consumption during use is reduced through enhanced efficiency of the electromagnetic circuit.

Reduces power consumption during use

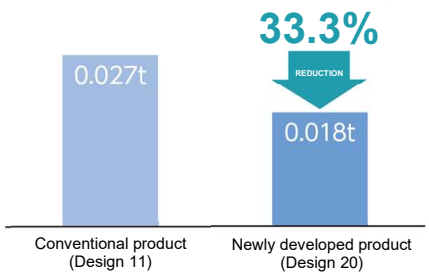
➡ Lower coil power consumption (34% reduction vs. conventional models)

The unit provides flow and pressure precisely matched to the cycle time.

CO_2 reduction

➡ Lower valve power consumption (33.6% reduction vs. conventional models)

Annual CO_2 Emissions



CO_2 Emissions Reduction Results

	Conventional product (Design 11)	Design 20	Results
Power consumption during operation (W/unit)	30.00	19.80	▲10.2
CO_2 emissions (t/year)	0.027	0.018	▲0.009

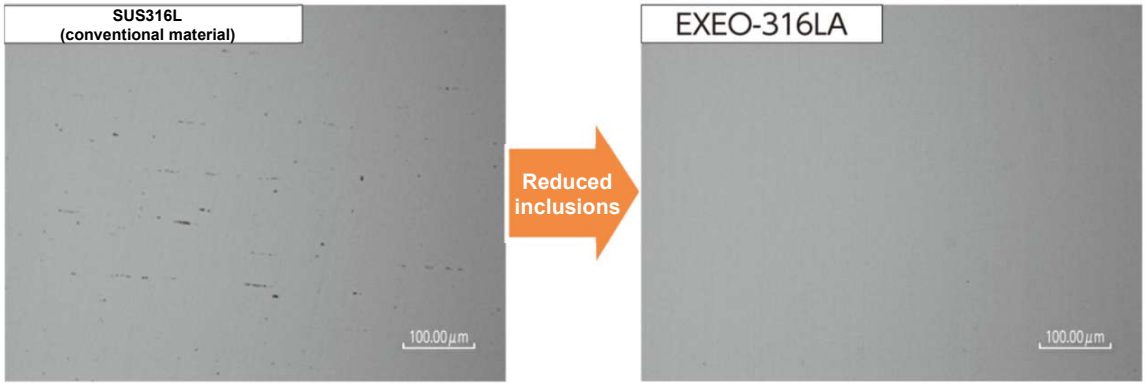
Materials <Special Steels>

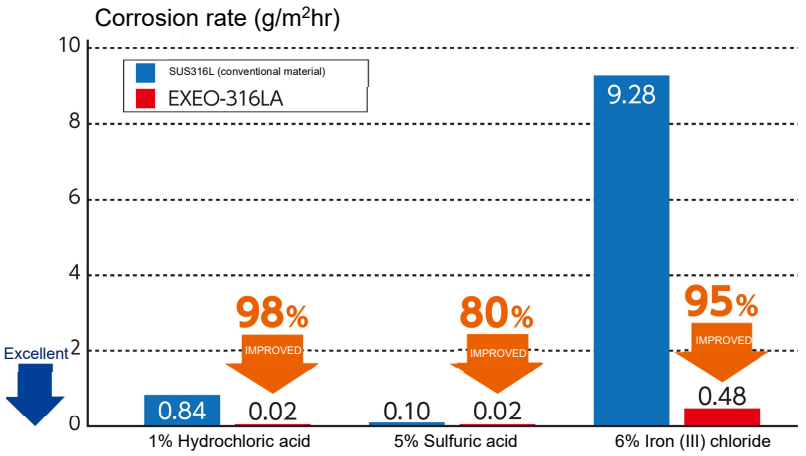
CONCEPT

Our Material Division commercializes precision mold materials, highly functional materials, and other materials by leveraging high-speed tool steel used as raw materials for cutting tools, along with cemented carbide materials and special melting technologies.
In recent years, we have developed materials that meet the technology needs of next-generation vehicles (EV, lightweight, and high-performance parts).

Ultra-high Cleanliness Stainless Steel EXEO-316LA

Features This steel offers significantly higher cleanliness and corrosion resistance than commercially available SUS316L equivalents.





Reference: JIS G 0591 and JIS G 0578

Corrosion rate [g/m²hr]

	SUS316L (conventional product)	EXEO-316LA
1% Hydrochloric acid	0.84	0.02
5% Sulfuric acid	0.10	0.02
6% Iron (III) chloride	9.28	0.48

Materials <Thermo-Tech>

CONCEPT

The Thermo-Tech Division manufactures industrial furnaces that are essential for metal production.
As these products are heat treatment equipment, improving energy efficiency and reducing greenhouse gas (GHG) emissions are our top priorities.
In the development of new products, we leverage our proprietary energy-saving and thermal process optimization technologies to reduce energy consumption and GHG emissions, thereby contributing to the transition to a decarbonized society.

Small-lot Vacuum Carburizing Furnace HDI-050

Features A fully integrated furnace encompassing the entire heat treatment process, from carburizing and quenching to tempering and pre/post-washing. Its compact, frameless design allows for direct placement within existing machining lines.

Energy savings (power consumption and CO_2 emissions)

➡ Power consumption is reduced through waste heat recovery and transfer-free processing.

Efficient liquid circulation system

➡ Exhaust heat is minimized through an oil-based waste heat recovery system.

Zero inter-unit workpiece transfer

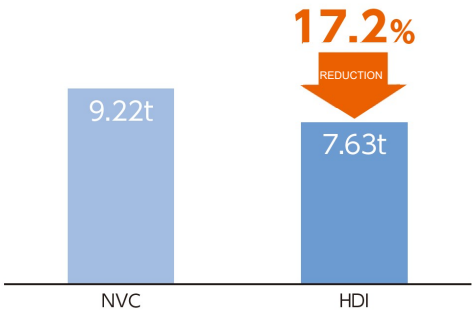
➡ The HDI-050 eliminates workpiece transfer between equipment, improving overall safety.

Zero in-line inventory and transportation

➡ Integrating the HDI-050 into existing machining lines removes inter-plant transport, while small-lot production minimizes inventory accumulation.

Design concept image

Annual CO_2 emissions



Base specifications (for prototype; subject to change depending on effective dimensions and number of chambers)

Processing capacity	50 kg/ch (50 kg/h at ECD 0.7 mm)
Equipment dimensions	W3,400 × L5,500 × H1,650 mm (excluding ancillary equipment)
Processed item dimensions	W450xL500xH400 mm
Maximum operating temperature	Carburizing chamber: 980°C / Quench tank: 200°C
Carburizing gas type	Acetylene
Quenching oil type	Flammable liquids / Hot or semi-hot oil
Washing oil type / quantity	Class III petroleums / 390 L

Mission 2

Contribution to a decarbonized society

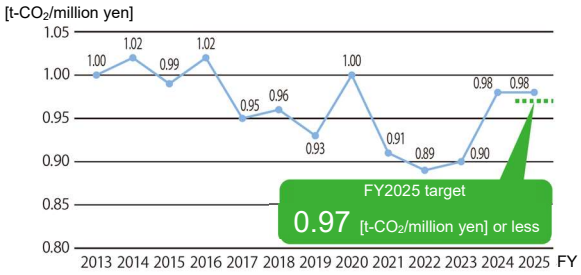
All our plants work to reduce total CO_2 emissions by optimizing equipment operation and installing energy-saving equipment.

In FY2025, we achieved our target for CO_2 emissions. However, per unit emissions exceeded our target, partly due to a decrease in production volume driven by the shift toward EVs.

In FY2026, we will do our best, based on the medium-term energy conservation plan, to make capital investment and conduct energy-saving activities to reduce energy consumption.

Trends in total CO_2 emissions (per year)

Trends in per unit CO_2 emissions (per year)

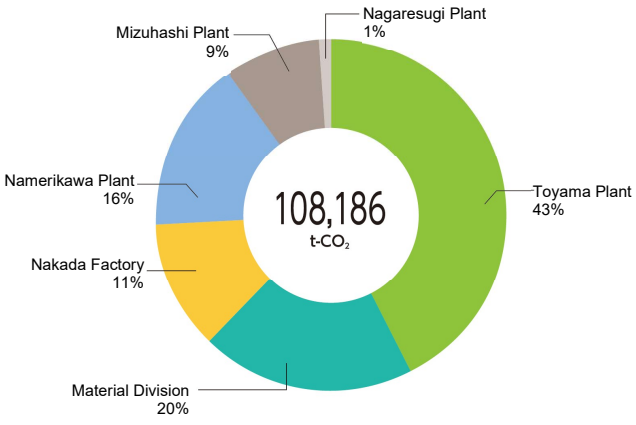


[FY2025 performance]

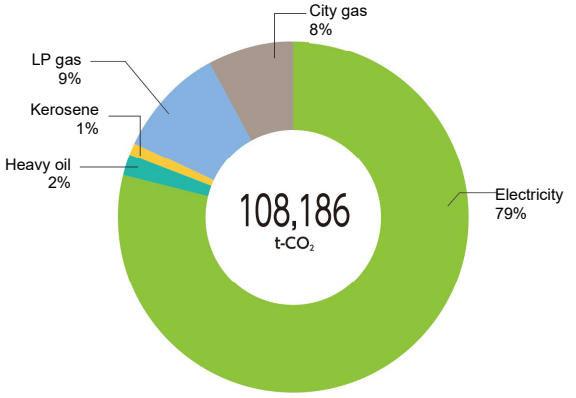
CO_2 emissions	Per unit CO_2 emissions
108,186 t-CO_2/year	0.98 t-CO_2/million yen
(−4.0% compared to the plan)	(+1.0% compared to the plan)

We achieved our target for CO_2 emissions.
We did not achieve our target for per unit CO_2 emissions.

Ratio of CO_2 emissions by plant (FY2025)



Ratio of CO_2 emissions (FY2025)



[Energy conservation efforts]

- Implementation of on-site energy-saving diagnosis at five factories per year
- Start of solar PV generation at the gear cutting tool factory in June 2025 (reduction of 195 t-CO_2/year)
- Repair of 429 air leakages per year (reduction of 64 t-CO_2/year)
- LED lighting retrofits, unused equipment de-energization, inverter installation for coolant systems, etc. (reduction of 52 t-CO_2/year)

TOPICS

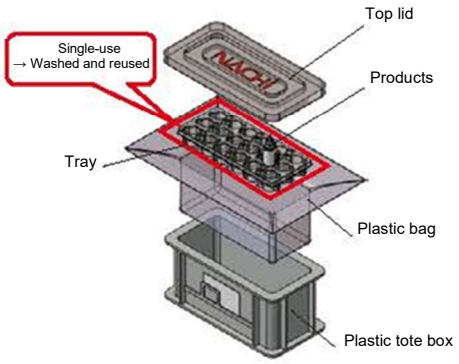
Measures for carbon neutrality

As a contribution to a decarbonized society, efforts beyond the level of conventional energy conservation are required.

(1) Measures for CO_2 reduction through packaging reuse

Features

Plastic trays are reused to reduce CO_2 emissions.

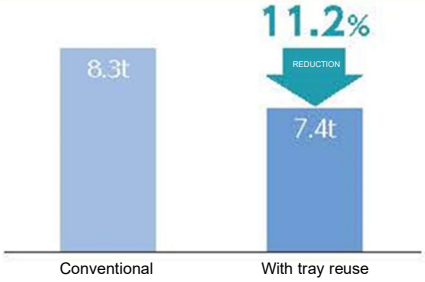


CO_2 reduction

➡ Plastic trays previously treated as single-use items are now washed and reused.

➡ A reduction in tray usage lowered CO_2 emissions during plastic production by 11.2%.

Annual CO_2 Emissions



CO_2 Emissions Reduction Results

	Conventional method	With tray reuse	Results
CO_2 emissions during tray manufacturing and washing (t/year)	8.3	7.4	▲0.9

(2) Installation of solar panels on the roof of hazardous materials facility

Solar panel installation is a highly effective strategy for CO_2 reduction. However, structural constraints often complicate rooftop mounting on existing hazardous materials facilities.

Following an evaluation based on the Guidelines for Safety Measures, Etc., when Installing Solar Photovoltaic Power Generation Equipment issued by the Fire and Disaster Management Agency, in 2025, we installed 1,152 solar panels (552.96 kW) on the Hazardous Materials Facility (Cutting Tools Division) at the Toyama Plant. The installation is expected to reduce annual CO_2 emissions by approximately 240 t*. In recognition of this initiative, we received the FY2025 Environmental Activity Award from the Japan Cutting & Wear-resistant Tool Association (JTA).

* The estimated CO_2 emission reduction was calculated in accordance with the Guidebook for Calculating the Effects of Global Warming Countermeasures (Global Environment Bureau, Ministry of the Environment; revised in March 2025).

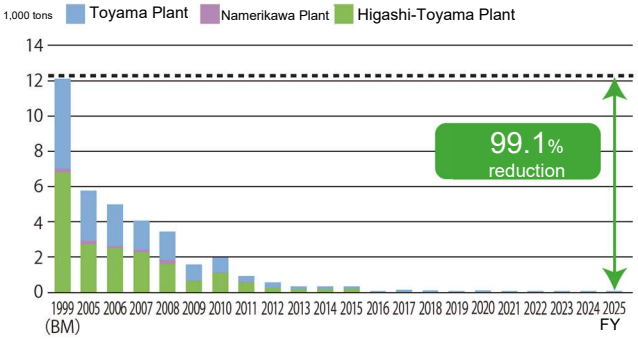
Contribution to a recycling-oriented society

(Reduction of landfill waste and promotion of recycling)

Continued and enhanced efforts for recycling

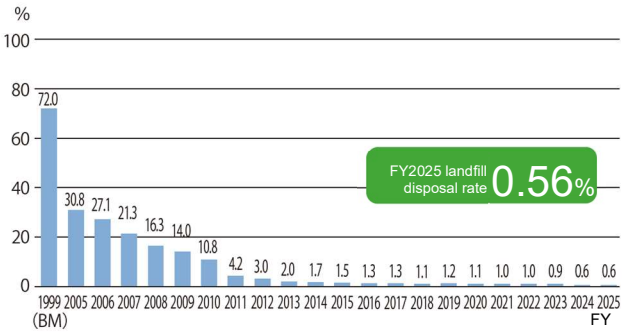
The waste collected from green stations (primary segregated waste storage within each factory) installed at each workplace is sorted and transported to the green yard (final segregated waste storage within the factory). From there, the waste is consigned to the contracted companies for disposal.
Nearly 100% of the grinding sludge - the largest volume of waste generated - is recycled using an in-house dehydration press.

Trends in waste landfill disposal (per year)



To effectively use resources and save landfill space, we are working to minimize the landfill disposal volume. In FY2025, we successfully reduced the volume of landfill disposal by 99.1% compared to the benchmark (BM).

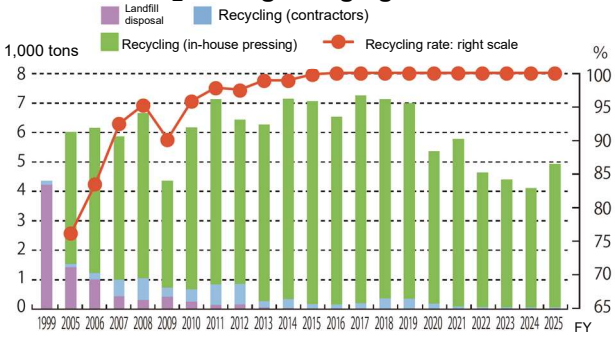
Trends in waste landfill disposal rate* (per year)



The landfill disposal rate* is substantially reduced from 72.0% (BM) to 0.56% through continued efforts including the reduction of residuals enabled by changing the intermediate treatment methods for waste liquid and sludge, dehydration presses for grinding sludge, and the recycling of soot dust.

* Definition: Landfill disposal rate = (Landfill disposal volume / Total waste generation volume) × 100 (%)

Trends in grinding sludge generation and recycling (per year)



Promotion of recycling by strictly segregating grinding sludge

Grinding sludge accounts for nearly one-third of the total waste generated. We recycle 99.1% of our grinding sludge by solidifying it within our company and consigning the remainder to external contractors. We continue to recycle 100% (no landfill disposal) of metal grinding powder.
In preparation for unexpected stoppage of press machines, we supplied spare parts and carried out maintenance in a planned manner to recycle metal grinding powder and contribute to profits.

In-house recycling of metal grinding powder = In-house solidification (valuables) / Metal scraps generated (metal grinding powders)

Recycling of metal grinding powder = Recycling by contractors (waste) + In-house solidification (valuables) / Metal scraps generated (metal grinding powders)

Metal grinding powder sludge is recycled as a steel material.

Main measures to reduce the residual landfill rate

(1) Measures to enhance waste plastics recycling rates

The sale of waste plastics (tote boxes, pallets) was promoted. We identified additional recycling partners to increase the volume of sales. As a result, 19.2 tons of waste plastics were sold as valuable resources annually.
Economic value: 1,057,400 yen/year

(2) Measures to reduce glass scrap in landfill disposal

Glass scrap recycling was promoted at the Toyama Plant. This effort led to an annual recycling volume of 2.9 tons.
Economic value: 161,300 yen/year

Encouragement of taking environmental qualification exams

To address a rapid decline in qualified personnel due to an aging pool of certificate holders, we actively promoted participation in environmental qualification exams.

(1) Environmental committees advocating for taking exams
(2) Information dissemination via periodic environmental newsletters
(3) Inserting exam promotion leaflets into company newsletters to highlight the benefits

Going forward, we will continue to provide relevant information to increase exam participation.

Assessment of management status of GY (green yard)/GS (green station) and efforts to raise environmental awareness

GS and GY managers, primarily comprising management-level staff, assess the management status of waste storage areas three times a year.

For the potential improvement issues identified, we have provided environmental education and guidance on waste separation to improve waste disposal practices and enhance environmental awareness.

In 2025, we met our target of 5.8 points or more with a performance score of 5.8 points.

2025 performance status: 5.8 points or more for environmental target score
Conducted in February, June, and October

Division	1st assessment	2nd assessment	3rd assessment
Cutting Tools	5.9	5.8	5.7
Bearings	5.9	5.9	5.9
Hydraulic Equipment	6.0	5.96	5.9
Automotive Hydraulics	5.8	5.8	5.8
Machine Tools	5.96	5.83	5.9
Robots	5.8	5.9	6.0
Materials	5.8	5.95	5.9
Thermo-Tech	6.0	6.0	6.0
Toyama Function	6.0	5.9	5.8
NME	6.0	6.0	5.9
Technology Development Headquarters	6.0	6.0	No applicable GY (Discontinued)
Overall	5.9	5.8	5.8

Managing and reducing environmentally hazardous materials

Reduction of chemical substances

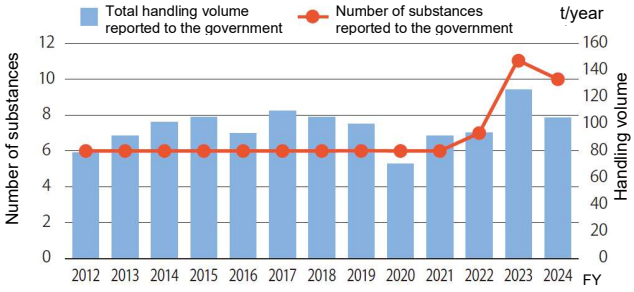
We have consistently worked to reduce the use of PRTR-designated substances. While seven substances were initially reported in FY2001 following the enactment of the PRTR Law, we successfully reduced this number to three (toluene, xylene, and ethylbenzene) by FY2006. This was achieved through measures such as the complete elimination of dichloropentafluoropropane and dichloromethane.

The 2008 revision of the PRTR Law expanded the list of substances to be reported from FY2010 onward, leading to an increase in the number of substances to be managed by our company. As a result, three substances—methylnaphthalene, 1,2,4-trimethylbenzene, and N,N-dicyclohexylamine—were added, bringing the total number of substances reported by our company to six. Until FY2021, the list of reportable substances remained unchanged at six. However, in FY2022, hexane, which is used in processes with increased production, was added to the list.

In terms of the handling volume during this period, coating accounted for the largest share by application, which had a significant impact on the trends of the overall handling volume. In FY2012, the handling volume saw a temporary decrease due to the replacement of certain paints with TX (toluene/xylene)-free alternatives. However, between FY2013 and FY2017, the volume increased as a result of higher production levels. Starting from FY2018, we have made deliberate efforts to resume the use of alternative coating agents and minimize the use of thinners in the coating preparation process. These efforts have yielded some positive results.

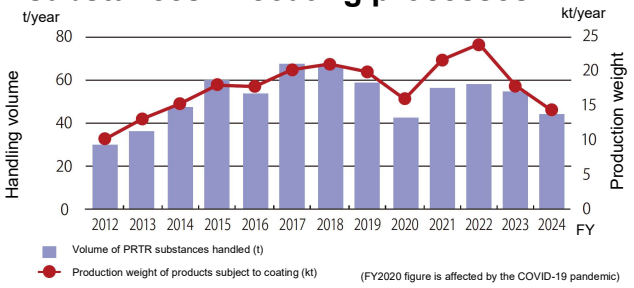
Since FY2023, designated substances have been subject to mandatory notification under the revised 2021 government regulation. Before FY2022, many of the products containing these newly designated substances were used in applications that were not previously covered by the PRTR Law, resulting in a significant shift in the breakdown of substances by application. In FY2023, four new substances were added to our company's reporting list. In FY2024, one of the substances, (2,4,4-trimethylpentene) sulfide, was removed from the list as its handled volume fell below the reporting threshold. Among these additional substances, diethanolamine has an especially high handling volume, the highest of all reportable substances handled by our company. We remain committed to ensuring accurate and complete reporting of all newly designated substances.

Trends in PRTR-designated substances



* Substances associated with metallic melting at Material Plant are excluded.

Trends in the handling volume of PRTR substances in coating processes



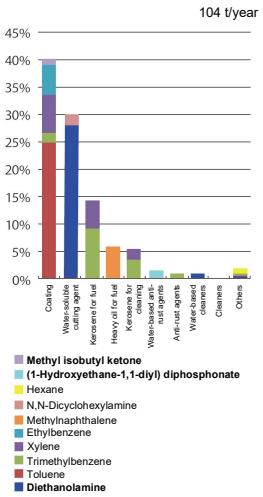
(FY2020 figure is affected by the COVID-19 pandemic)

FY2024 PRTR report summary

(unit: kg)

Subject facility	Chemical substance	Handling volume [kg/year]	Main usage	Discharge to air	Discharge to water	Amount of waste movement
Toyama Plant	Xylene	2,410	Cleaning and painting	2,362	0	1
	N,N-Dicyclohexylamine	1,958	Cutting and grinding	0	0	1,958
	Toluene	5,332	Coating	5,320	0	0
	Methylnaphthalene	1,171	Fuel	6	0	0
	Diethanolamine	30,415	Cutting and grinding	0	0	30,415
	Trimethylbenzene	4,848	Cleaning and rust-proofing	4,788	0	0
Namerikawa Plant	Ethylbenzene	2,241	Coating	2,234	0	0
	Xylene	3,128	Coating and fuel	2,828	0	9
	Toluene	7,624	Coating	7,602	0	0
	(1-Hydroxyethane-1,1-diyl) diphosphonate	1,321	Rust-proofing	0	0	1,321
Higashi-Toyama Plant (Nakada Factory)	Ethylbenzene	3,612	Coating	3,601	0	0
	Xylene	4,529	Coating and fuel	3,612	0	11
	Toluene	13,118	Coating	13,078	0	0
	Hexane	1,081	Others	616	0	465
	Trimethylbenzene	3,143	Fuel and coating	2,798	0	0
	Methyl isobutyl ketone	1,104	Coating	1,101	0	0
Higashi-Toyama Plant (Material Plant)	Xylene	4,201	Fuel	21	0	0
	Methylnaphthalene	4,749	Fuel	24	0	0
	Trimethylbenzene	8,052	Fuel	40	0	0
[Metallic melting processes]	Chromium and trivalent chromium compounds	–	–	0	0	5,392
	Cobalt and its compounds	–	–	0	0	876
	Manganese and its compounds	–	–	0	0	4,791
	Molybdenum and its compounds	–	–	0	0	3,660

Breakdown of substances by application (FY2024)



Substances shown in bold were newly added to the list following the 2021 revision.

Calculation period April 1, 2024 - March 31, 2025
PRTR-designated substance group PRTR Law (Class 1)
Handling volume 1,000 kg or more

* PRTR Law: Act on Confirmation, etc., of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (promulgated in July 1999, enforced in April 2000, and revised in November 2008 and October 2021)
PRTR: Pollutant Release and Transfer Register
Report to the government: designated chemical substances under PRTR Law Class 1 (content: 1% or more; handling volume: 1 t/year or more)

Efforts to prevent pollution

In addition to regulatory requirements, the Toyama Plant and the Higashi-Toyama Plant (Material Plant) have concluded an agreement on pollution prevention with Toyama City. These two plants set limits for wastewater, air, vibration and noise pollution that are equal to or stricter than the regulatory requirements, regularly monitor their emissions, and report the findings to Toyama City. The Namerikawa Plant has also concluded a comprehensive agreement on pollution prevention with Namerikawa City.

Prevention of air pollution

Sulfur oxide (SOx), nitrogen oxide (NOx), soot dust and other substances

Boilers and furnaces in factories generate sulfur oxide (SOx), nitrogen oxide (NOx), and soot dust. In addition to daily inspection of equipment, we periodically monitor and analyze the exhaust air to ensure that limits are not exceeded.
The Toyama Plant is a specified factory with exhaust gases of less than 40,000 m^3/hour, and the Higashi-Toyama Plant (Material Plant) is a specified factory with exhaust gases of more than 40,000 m^3/hour. The two plants do not have a specified facility for hazardous substances.

Restrictions on volatile organic compounds (VOCs)

Some substances contained in paints, thinners, and cleaning oils are discharged into the air as VOCs.
Although we do not have a facility subject to regulatory restriction (100,000 m^3/hour or more), we voluntarily measure VOC concentration at least once a year at our facilities that discharge VOC.
In addition, since a large amount of VOCs are discharged from the coating process, we are making efforts to reduce the amount discharged by considering changing the coating agent used in water-based agents and changing the thinners used for cleaning in water-based cleaning fluids.

Limit agreed with Toyama City

Major measurement items	Toyama Plant		Higashi-Toyama Plant (Material Plant)		
	Liquid-combustion boiler	Gas-combustion boiler	Boiler	Electric furnace	Heating furnace
Sulfur oxide (SOx)	According to the Atmospheric Environment Control Plan of Toyama Prefecture				
Nitrogen oxide (NOx)	180 ppm	100 ppm	130 ppm	–	150 ppm
Soot dust	0.15g / Nm^3	0.08g / Nm^3	0.10g / Nm^3	0.10g / Nm^3	0.20g / Nm^3

In FY2025, we did not exceed the emissions standard.

Prevention of water pollution

Both Toyama Plant and Higashi-Toyama Plant (Material Plant) are specified factories that discharge less than 10,000 m^3/day of wastewater and have specified facilities for hazardous substances.
The primary environmentally hazardous substance contained in waste water is oil. In addition to control measures at the source, we collect and dispose of trace amounts of oil in wastewater using an oil-water separation tank and absorption mat. Other alkaline, iron-rich waste liquids are appropriately treated with neutralization and flocculation before discharging.

(Unit: mg/liter)

Major measurement items	Agreed limit	Voluntary standard (Toyama / Higashi-Toyama (Single figure: shared standard))	Result (normal times)	
			Toyama Plant (Main gate north drainage) Approx. 7,000 m^3/day	Higashi-Toyama Plant (Material Plant) Approx. 3,000 m^3/day
Hydrogen-ion concentration (pH)	6.0 to 8.0	6.8 to 7.8 / 6.5 to 7.8	6.8 to 7.4	7.1 to 7.8
Biological oxygen demand (BOD)	20	16 / 10	1.4 to 14	<0.5* to 1.6
Suspended solids (SS)	50	25	<1* to 5	<1* to 4
Normal hexane extracts content (Mineral oils)	3	3 / 2.4	0.4 to 1.4	0.1 to 1.4
Soluble iron content	3	0.9 / 1.5	<0.1* to 0.7	<0.1* to 1.5
Chromium content	0.5	0.3	<0.2*	<0.2*
Cyanogen compound (as cyanogen) hazardous substance	0.1	0.05	<0.01*	-

There were no deviations from the factory effluent standards in FY2025.

* Smaller than the detection limit

Prevention of noise and vibration

Since the Toyama Plant and the Higashi-Toyama Plant (Material Plant) are situated near residential areas, we conduct regular monitoring of noise and vibration levels along the site boundaries and report the findings to Toyama City.
This measurement is not required by law.
At the Material Plant, in order to detect a sign that leads to abnormal noise during operation at night, regular voluntary noise measurement has continuously been made at fixed points within the premises since FY2018.

* Agreed limit: Regulation value 1: Toyama Plant north side, Higashi-Toyama Plant (Material Plant) east, west and south sides;
Regulation value 2: Toyama Plant east, west and south sides, Higashi-Toyama Plant (Material Plant) north side;There were no deviations from the noise and vibration standards in FY2025.

Legal regulatory limit at the boundary line of the site

(Unit: dB)

Time zone		Regulation value 1	Regulation value 2
Daytime	8:00 to 19:00	70	65
Morning and evening	6:00 to 8:00、19:00 to 22:00	65	60
Night-time	22:00 to 6:00 next day	60*	55

Developing eco-conscious communities/human resources

Received the FY2025 Energy Conservation Grand Prize ECCJ Chairman's Award

At the FY2025 Energy Conservation Grand Prize, organized by the Energy Conservation Center, Japan (ECCJ), our synchronous motor-mounted energy-saving hydraulic unit "NS Pack type-S" and energy-saving vacuum degreasing equipment "NVD-10HP" received the ECCJ Chairman's Award in the Product & Business Model Category. The Energy Conservation Grand Prize is a program that recognizes outstanding energy-saving and decarbonization initiatives by corporations and organizations, as well as highly efficient, advanced products and business models that contribute to energy conservation. The FY2025 award ceremony was held on the first day of ENEX 2026: 50th Global Environment and Energy Harmony Exhibition, which commenced on Wednesday, January 28, 2026, at Tokyo Big Sight (Koto-ku, Tokyo).

The NS Pack type-S is a hydraulic unit engineered for high energy-saving performance and low heat generation. In manufacturing processes, a wide variety of machining equipment, such as lathes and machining centers, utilize hydraulics for purposes including clamping and chucking. Consequently, energy conservation of hydraulic units is of paramount importance. This product achieved a power consumption reduction of approximately 74% compared to our standard units by adopting a synchronous motor, improving pump efficiency, and redesigning the structure to effectively utilize the motor fan. Meanwhile, the oil temperature rise is maintained at 5°C or less above room temperature, consistent with conventional energy-saving hydraulic units, ensuring stable operation.

NS Pack type-S

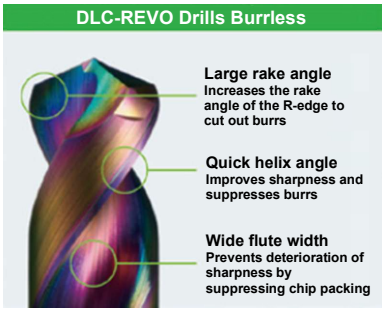
The NVD-10HP is a hydrocarbon vacuum degreasing system commonly used in the metal heat treatment of automotive parts, modified to incorporate an air-source heat pump as its heat source. This system reduces power consumption by approximately 50% compared to conventional models while maintaining the same level of cleaning performance, safety, and dimensions to facilitate replacement. Additionally, it has eliminated the use of thermal oil, optimized tank capacity to reduce nitrogen gas consumption, and improved recyclability for end-of-life disposal, contributing to both resource and cost savings. The NVD-10HP is an advanced cleaning system that combines high energy-saving effects with reduced fire risk through low-temperature operation, offering safety, economy, and energy conservation. We anticipate significant demand for the system in the Japanese market as a solution for replacing and upgrading existing equipment.

NVD-10HP

Certified as JTA Eco Products

- Eco Product certification

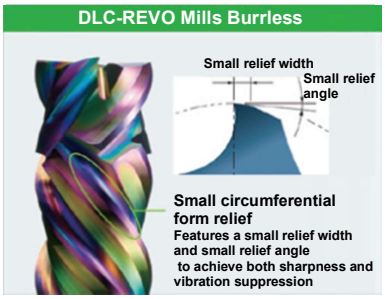
For companies to develop sustainably while remaining environmentally conscious, they are required to procure materials with low environmental impact, pursue efficient production, and manufacture and market environmentally harmonious products. In response to such social demands, the Japan Cutting & Wear-resistant Tool Association (JTA) established the JTA Eco Product Certification System. Through this industry-led initiative, JTA evaluates eco-friendly products to contribute to the sound development of companies and fulfill its social responsibilities.



■ DLC-REVO Drills Burrless
Minimizing through-hole exit burrs without leaving conical chips, even in non-ferrous metals such as aluminum alloys

- ○ Achieves burr-free, single-pass machining even in aluminum alloys, which are prone to heavy burring and tool adhesion.
- ○ The shape is optimized for use in non-ferrous metals, while taking advantage of the Burrless concept.
- ○ The newly developed DLC-REVO coating suppresses adhesion and ensures a burr-free finish.

● Specifically engineered for non-ferrous metals
The geometry incorporates the Radius Edge and Center Point designs of our Burrless Drills.
A large rake angle and quick helix angle enhance cutting performance and suppress burr formation.



■ DLC-REVO Mills Burrless
We have added models for non-ferrous metals such as aluminum alloys to the Burrless series.
Minimizes top burrs in side-milling applications

- ○ Achieves burr-free, single-pass machining even in aluminum alloys, which are prone to heavy burring and tool adhesion.
- ○ The shape is optimized for use in non-ferrous metals, while taking advantage of the Burrless concept.
- ○ The newly developed DLC-REVO coating suppresses adhesion and ensures a burr-free finish.

● Specifically engineered for non-ferrous metals
The geometry incorporates the Double Helical and Connecting Chamfer designs of our Burrless End Mills.
A small circumferential form relief achieves both edge sharpness and high milling stability.

■ SG Spiral Taps Burrless
Burrless Series
No burrs on internal thread crests

- ○ Simultaneously machining the pilot hole surface eliminates burr formation on internal thread crests.
- ○ A left-hand helix option is also available for through-hole applications. Selectable based on the specific internal thread geometry.

● Zero burrs ensure seamless Go-gauge insertion, while the internal diameter perfectly meets thread tolerance standards.

- ○ Zero clearance between the pilot hole and the tap root achieves zero burrs.
- ○ A chamfered rake face suppresses cutting-edge chipping in the full thread section caused by chip pinching.

Received the Mobility Related Component Award of the “CHO” MONODZUKURI Innovative Parts and Components Awards

The “CHO” MONODZUKURI Innovative Parts and Components Award is selected and presented by the Monodzukuri Nihon Conference and the Nikkan Kogyo Shimbun to support the enhancement of the competitiveness of Japanese manufacturing. The award recognizes components and parts that have been developed and commercialized by the applicant companies and that have contributed behind the scenes to the advancement of industry and society.

This time, our Plastic Insert Insulated Bearings received the 2025 Mobility Related Component Award of “CHO” MONODZUKURI Innovative Parts and Components Awards, which is presented by the Monodzukuri Nihon Conference and the Nikkan Kogyo Shimbun.

Participation in Forestation Volunteer Activities

On May 10, June 1, July 26, and September 27, 2025, the OISCA Toyama Branch organized the Green Satoyama Conservation Forest Creation Activity 2025 in the Iwakuraji Tenbayashi district of Tateyama Town. Approximately 90 participants, including Boy Scouts and representatives from local companies, and 13 employees from Fujikoshi, took part in the event. This year marks the 9th anniversary of these activities, and many of the trees planted in the early years have grown significantly.

Participants planted pre-prepared seedlings, including cherry, konara oak, chestnut, beech, and other species.

Fujikoshi remains committed to volunteer activities that contribute to building a sustainable future.

Contribution to Local Environment

With the aim of contributing to the local environment and raising awareness of environmental management, our employees participate in cleaning activities around our plants.

National Examination for Pollution Control Managers

Designated factories are required to improve the layout of facilities that generate noise and/or vibration, and to monitor various environmental pollutants. This includes measuring wastewater and underground seepage pollution levels, the volume of soot and specified dust concentrations, as well as the levels of dioxins present in both exhaust emissions and wastewater. Additionally, entities must appoint a manager who holds a national certification.

While we currently meet the required number of certified personnel, we actively support employees who wish to obtain qualifications in order to address the growing age gap among existing certificate holders. In FY2025, four of our employees successfully passed certification exams, including Class 1 Pollution Control Manager (Air Quality) (2 people) and Pollution Control Manager (Noise and Vibration) (2 people).

NACHI

NACHI-FUJIKOSHI CORP.

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