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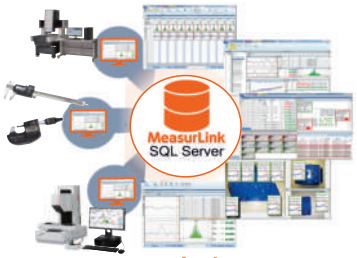

IoT Solutions



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3D Coordinate Measurement

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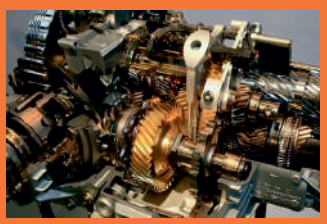

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Forging Screw press

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Differential gear Teeth NO machining

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Our presses are used in a wide range of industries, including aircraft, agriculture, electric power, and EV components, as well as for processing materials such as ceramics. All processes—from development and design to machining and assembly—are carried out in-house, and the finished products are supplied worldwide under the ENOMOTO brand.
We are the only manufacturer of forging screw presses in Japan. Approximately 80% of our products are exported overseas, mainly to India and other Asian countries, where they are highly regarded.
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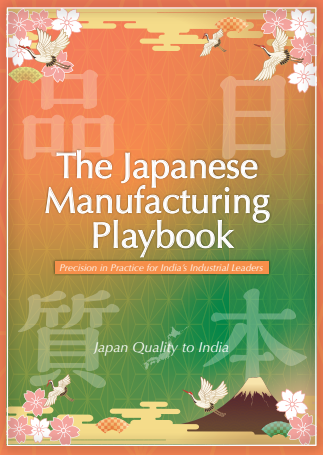

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14-1 Nihonbashi-Koamicho, Chuo-ku,
Tokyo 103-8548, JAPAN
Contact : k-info@media.nikkan.co.jp
URL : https://corp.nikkan.co.jp/p/english/index

The Japanese Manufacturing Playbook

The Japanese Manufacturing Playbook (LinkedIn)

CONTENTS

5 Embassy of India,TOKYO Message from Ambassador-designate of India to Japan
7 Japanese Die & Mold are the Best in the World
11 Boosting Skills for Shop Floor Leaders
43 Easy to understand Die & Mold
47 Be sure to dress well to ensure safe work
55 Let's Learn About Production Management

The Japanese Manufacturing Playbook

Precision in Practice for India's Industrial Leaders

Introducing Japanese fine Products and Technology to India

22 Amada (India) Pvt. Ltd.
24 Komatsu Industries Corp.
26 Cadmac Co.,Ltd.
28 YASDA PRECISION TOOLS K.K.
30 TKE Co., Ltd.
32 Daido Machinery Corporation
34 SANKYO SEISAKUSHO CO.
36 NS TOOL CO., LTD.
38 ACTY SYSTEM INDIA PVT. LTD.
40 Japan Die & Mold Industry Association.
10 Yamanaka Engineering India Pvt. Ltd.
42 Hiraoka Industries Co., Ltd.
42 Futaba Corporation
64 FUSO MACHINE & MOLD MFG.CO., LTD.

Advertisers' Index

Inside Front Cover
The 33rd JAPAN INTERNATIONAL MACHINE TOOL FAIR (JIMTOF 2026)
Inside Back Cover
RIKEN KEIKI NARA MFG.Co.,Ltd.
Outside Back Cover
TKE Co., Ltd.
1 Mitutoyo South Asia Pvt. Ltd.
2 ENOMOTO MACHINE CO.,LTD.
4 AIDA INDIA PVT. LTD.
6 ROBO NEXT 2026
20 MISUMI INDIA Pvt. Ltd.
46 International Plastic Fair(IPF JAPAN 2026)
54 AKAGANE INDIA Pvt. Ltd.
62 Die&Mould INDIA 2028

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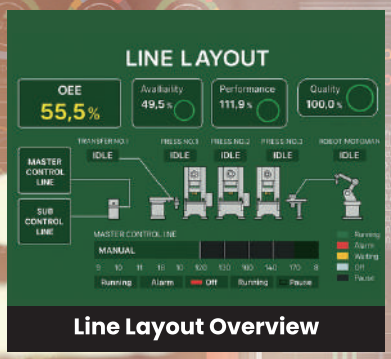
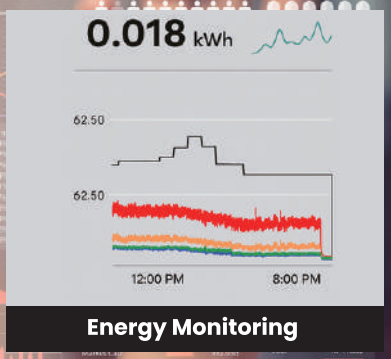


Line Layout Overview



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Embassy of India, TOKYO
Message from Ambassador-designate of India to Japan



Ms. Nagma M. Mallick

I am delighted that The Nikkan Kogyo Shimbun is bringing out the 'The Japanese Manufacturing Playbook' , introducing Japanese industry and technology to Indian entrepreneurs.

Information is key to enabling and building trusted partnerships. The Special Strategic and Global Partnership between India and Japan is rooted in mutual trust, shared values, and deep people-to-people connections. It is also one of the most forward-looking economic partnerships in the Indo-Pacific. The leaders of India and Japan have time and again acknowledged the importance of our economic relationship. We have a target, set at the highest-level, of achieving ¥10 trillion (USD 67 billion) private-sector investment from Japan to India.

The Next Generation Economic Partnership envisioned by our countries can become a reality when driven by the energy and momentum residing in our respective private-sector industries. For this, deep linkages between our industries is key. Efforts such as this Playbook will help the Indian industry acquaint themselves with potential partners in Japan. The complementarities in our economies are many. Marrying the Indian scale and potential to Japanese quality is a win-win for both our countries.

That an established media house such as The Nikkan Kogyo Shimbun is pioneering this effort is also a welcome sign of the interest that Japan has in India, our current capabilities as well as our capacity for growth and scale. India and Japan are long-term partners with shared interests in our respective economic growth and economic security.

I welcome this effort and commend the publishers for developing this Playbook. I extend my best wishes to all readers and firmly believe that your efforts will strengthen the India-Japan Next Generation Economic Partnership.

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Japanese Die & Mold are the Best in the World !

出典　真説・日本の金型産業論　一般社団法人　日本金型工業会　金型産業戦略会議編
横田悦二郎著　日刊工業新聞社発行

Japanese Die & Mold are the Best in the World

The Japan Die & Mold Industry Association uses the slogan "Japanese Die & Mold are the Best in the World!" for the global market. However, Japan does not boast the world's highest mold production volume or the largest number of mold companies. Those quantitative figures are likely lower than those of China or India. The number of people employed in the mold industry is similar and is not the highest in the world.

Then, the questions arise: "Why can we say 'Japanese Die & Mold are the Best in the World!'?" and "Why can we confidently use that as a slogan?" Actually, the reasons we can confidently say "Japan's molds are the best in the world!" are the following two points:

- The variety of molds/dies manufactured is the largest in the world!
- The breadth of the mold customer base (industries) is the largest in the world!

The reason why the Japanese mold industry was able to reach this situation lies in the history of Japanese manufacturing (Monozukuri).

History of Japanese Manufacturing

Usually, the evolution of industrial development progresses through the stages shown in Figure 1 For any emerging country, the first industries start with "manufacturing export textiles" utilizing cheap labor and "manufacturing daily miscellaneous goods" for domestic demand. Next, after the motorcycle and bicycle industries, which produce higher value-added products, develop, the manufacturing industry for electrical appliances such as home appliances becomes the center of the industry by utilizing that manufacturing technology base. As the country's economy grows further, the industrial structure shifts to the electronics industry, which has higher added value than home appliances, and finally to the "automobile industry," which is positioned as the star industry among manufacturing industries.

This "automobile industry," which can also be called a final product industry, continues to grow as functions are added year by year, and once the automobile industry becomes the core industry of a country's manufacturing, its position continues without declining. Therefore, every country will continuously implement policies to "establish an automobile industry" as its ultimate goal. Japan has achieved development exactly according to this theorem of industrial development.

Japan after its defeat in the war was a burnt-out ruin, completely in a state of having "nothing!", lacking even the pots and pans to cook daily meals. The history of reconstruction that started from there and the history of mold manufacturing overlapped, and Japan followed the path of industrial development shown in Figure 1 With each stage of that development, companies that make the molds necessary for new industries were born. A country that has walked such a history is rare in the world.

With the progress of the global economy, a trend has taken root where, rather than starting with low value-added textile or motorcycle industries, countries make the electronics industry (like smartphones)—which has high added value despite a small number of parts—their core industry from the beginning, or they focus on manufacturing the products in highest demand at the time through assembly-centric (knock-down) industries while supplementing necessary parts through overseas procurement.

As a result, the way of thinking became, "It is inefficient to make all parts from molds domestically. If the volume is small, it is better to import the parts," eliminating the need to make many types of molds within their own country. Therefore, although it is not well known, in the automobile industry sector, the astonishing situation is that "Japan is the only country in the world capable of mold manufacturing that

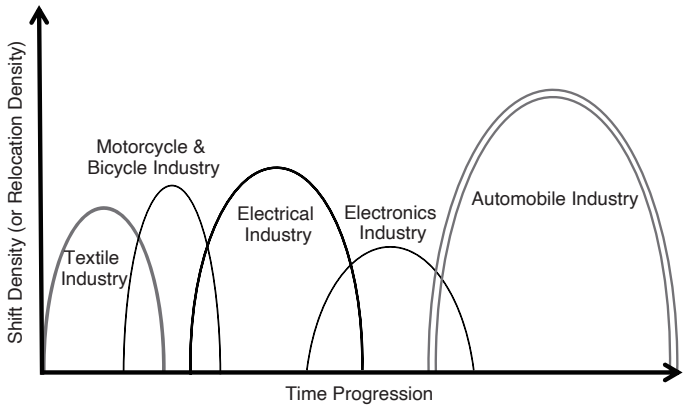


Figure 1 Trends in Industrial Shift

can make all of the 30,000 parts that make up an automobile."

For example, even for tires, which are indispensable components of an automobile, the countries capable of manufacturing molds for those tires are limited. Even in Brazil, which produces nearly 3 million cars a year, there are no tire mold manufacturing companies. "There is no mold that cannot be made in Japan!" This is Japan's pride and an absolute "World's Best in a position of absolute superiority!" that must never be let go.

A Wide Variety of "World's Best"

Moreover, this "Japanese Die & Mold are the Best in the World!" is not just about the large variety of molds. In each mold field, there are many "World's Best!" companies. Examples of these are introduced below.

■ The World's Highest Quality Plastic Molds

Plastic products used for high-end cosmetics containers are expected to be of the highest grade not only in design but also in everything from surface quality to tactile feel, and within the mold industry, it is positioned that "molds for cosmetics containers are among the molds requiring the highest quality." World-famous luxury brand products, in particular, are particular about the quality of their containers, and almost all container molds for these global luxury brand cosmetics are made in Japan.

The reason for this is partly the high reliability that "Japanese mold companies will absolutely not leak confidential information about new products," but also because the "highest-grade plastic molds" required for luxury brand cosmetics can only be manufactured in Japan.

■ Ultra-Precision Motor Core Dies

In the past, refrigerators and air conditioners inevitably made a harsh "buzzing" noise as soon as they were switched on. Today, when motor performance has improved and "quietness and energy saving" have become essential elements for high-end home appliances, motors that produce noise have become rare.

Also, in the early days of development, EVs had issues with harsh motor noise and cruising range, but these have now been resolved. Rather than saying motor performance has improved, this is due to the improved precision and performance of the press dies used to make the motor cores that constitute the motor. The ultra-precision motor core dies used to manufacture these top-grade motor cores are dies that can only be made in Japan (Photo 1).

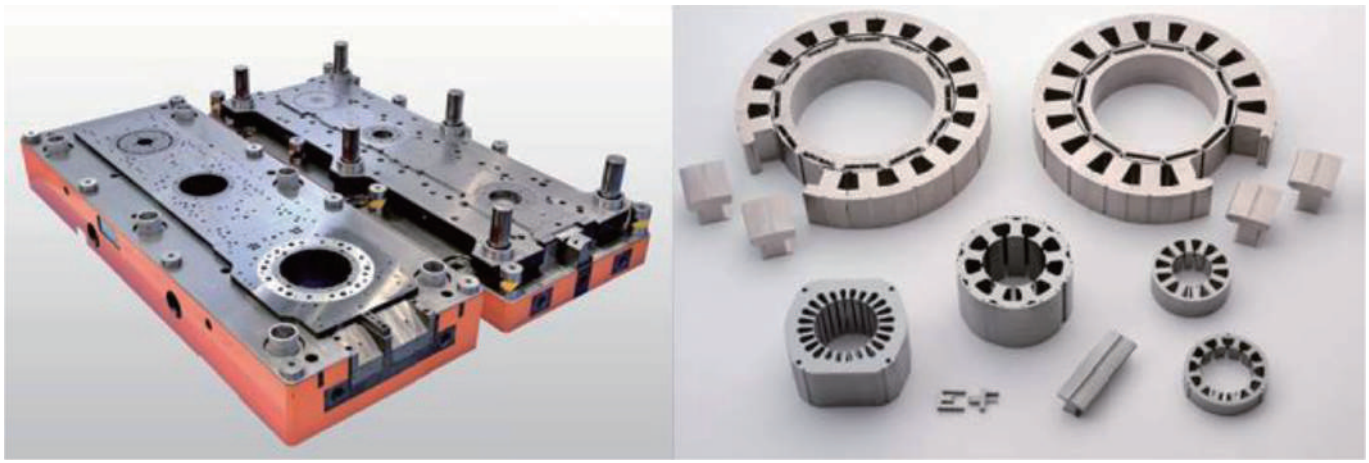
■ Molds for Top-Grade Housing Equipment

Recently, having high-end modular baths and high-end modular toilets is a prerequisite for a luxury home. That luxury extends not just to design, but also to "meticulous considerations" unique to the Japanese, such as "floors that drain well and are not slippery" and "mirrors that don't fog up." It is Japanese molds that are able to provide these modular products for luxury homes, and only Japanese mold companies can keep up with the constantly evolving demands for luxury housing.

■ The Mold for the "Painless Syringe Needle" Also Originated in Japan!

It is famous that the "painless syringe needle" was successfully developed by Masayuki Okano of Okano Industrial Corporation, a downtown mold shop (Sumida, Tokyo), utilizing precision mold technology. Unfortunately, for medical devices required in massive quantities like syringe needles, commercialization is difficult unless it is by a major company with financial strength and global sales capabilities. Therefore, he completely transferred the rights to the major medical device company he co-developed it with, but there is no doubt that the technology was created by a mold company representing "Japan's proud downtown factories (machi-koba)."

The evolution of this "painless syringe needle" toward the next generation continues even today, and by using Japanese



Provided by: KURODA PRECISION INDUSTRIES LTD.

Photo 1 Motor Core Die (Mold)

mold technology, the day is not far off when an incinerable plastic "painless syringe needle" will appear, instead of metal needles that pose problems as medical waste. In fact, Sayama Mold Manufacturing Co., Ltd. (Saitama Prefecture) is developing production molds for resin syringe needles for insulin. The types of medical devices are enormous and various developments continue, but the product development is supported by Japanese mold companies capable of providing "meticulous attention tailored to the patient."

■ Lead Frame Dies that Bring Cutting-Edge Semiconductor Products to Life

No matter how excellent a semiconductor is manufactured, its functions cannot be demonstrated without a "lead frame," which serves as the lead wires connecting the semiconductor chip to external circuits and the frame fixing the semiconductor package to the board. Lead frames are components that support the high integration and high functionality of semiconductor devices, and are usually made by ultra-precision press dies called lead frame dies.

Since the precision of this die determines the performance of the semiconductor, highly reliable Japanese-made dies are used, and in this aspect as well, Japan is the "world's greatest lead frame die manufacturing powerhouse."

■ Other "World's Best Molds/Dies"

There are many other examples of "world's best molds/dies" in Japan. For example, creating molds for dialyzers (dialysis machines) that even German mold meisters couldn't make, molds for manufacturing aluminum cans represented by beer and coffee cans, cold forging dies that brought about a major revolution in automobile parts manufacturing, and fine blanking dies (dies for thick metal materials) that can process thick steel plates without burrs (unintended "protrusions," "jagged edges," or "thorns" generated during metal processing). Not only these, but in all fields, such as special molds using "decorative technology" to create special patterns, almost all molds called "top-class molds" are made in Japan.

PRECISON FORGING TOOL

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Boosting Skills for Shop Floor Leaders

出典　新装版「工場管理」基本と実践シリーズ　現場リーダースキルアップノート
現場リーダースキルアップ研究会編　日刊工業新聞社発行

1. Protecting Safety with Pointing and Calling

POINT

You only realize the value of safety after an accident occurs. "Pointing and calling" originally started as a safety action by drivers of the former Japanese National Railways; it is a work confirmation action immediately before work to protect safety. Even knowing it's a good practice, it fades away before you know it. How can we make it take root?

Q

Leader Koishi is racking his brains over how to ensure thorough confirmation in on-site operations. He gives specific warnings every day until he is hoarse, but he cannot eradicate misunderstandings and careless mistakes. Recently, an operational error nearly caused a major accident.

A

An effective method in this case is "Pointing and Calling" (Shisa Kosho).

(1)Confirm firmly at key points of the work

Workers gaze at the object they need to confirm at key points in their work, point firmly, and call out loudly to confirm, for example, "Lathe, workpiece secured, okay!"

(2)Make it a habit for everyone

Train everyone to tackle it together, blowing away any feelings of hesitation, until the habit of doing it proactively is acquired. It is good to follow the next steps.

①Confirmation of the significance and method of pointing and calling

Significance: It is a method to prevent errors by concentrating consciousness through vision, pointing action, vocalization, and hearing to confirm at key points of work.

Method: Confirm, correct your posture, point clearly at the object, tighten your stomach, and briskly point and call out as loudly as possible, "XX, okay!"

②Selection of key points of work

Select key points of work that are problematic, such as areas prone to omission of confirmation. It is best to decide on these together with all on-site workers.

③Demonstration of a model by a representative

④Implementation by each person

If inadequate, make them redo it. Then, patiently repeat the training until everyone can do it with confidence. To ensure thoroughness, the factory manager must show a resolute determination, and the entire workplace must implement it. It may also be good to appoint a loud-voiced subordinate as an execution leader. Even after it has taken root, conduct occasional checks.

Commentary

(1)How to read "Shisa Kosho" (Pointing and Calling)

Depending on the workplace, it is pronounced "shisa koshō" or "yubisashi koshō". It is also called Shisa Kanko or Shisa Shoko.

(2)Necessity of confirmation

Humans are animals prone to making mistakes due to assumptions and misunderstandings. Especially as they get used to things, it becomes a rut and confirmation becomes negligent. When a worker starts their work, a firm confirmation action is necessary.

(3)Effects of pointing and calling

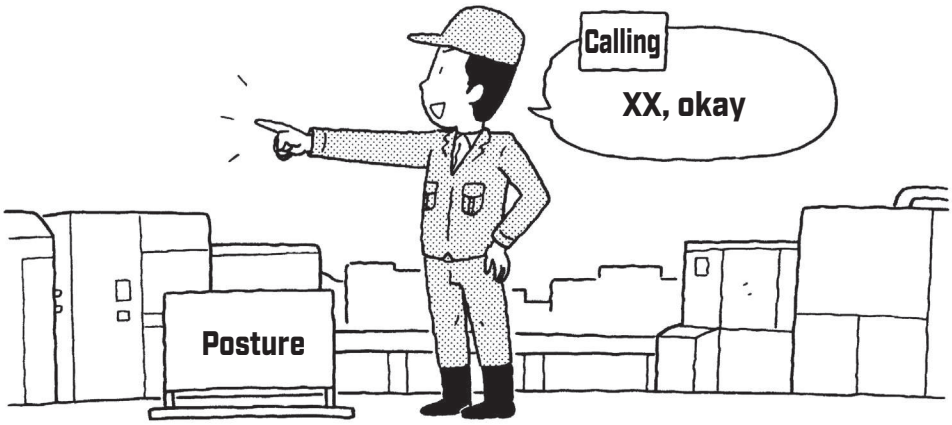
It is a good confirmation action that each worker does when facing their work to prevent operational errors. It prevents malfunctions in the thinking and judgment circuits in the brain. Immediately before work, not only by visual confirmation but also by pointing, one strongly focuses their consciousness on the target, further vocalizes it, and confirms that voice audibly. Multiple neural circuits are mobilized to firmly confirm.

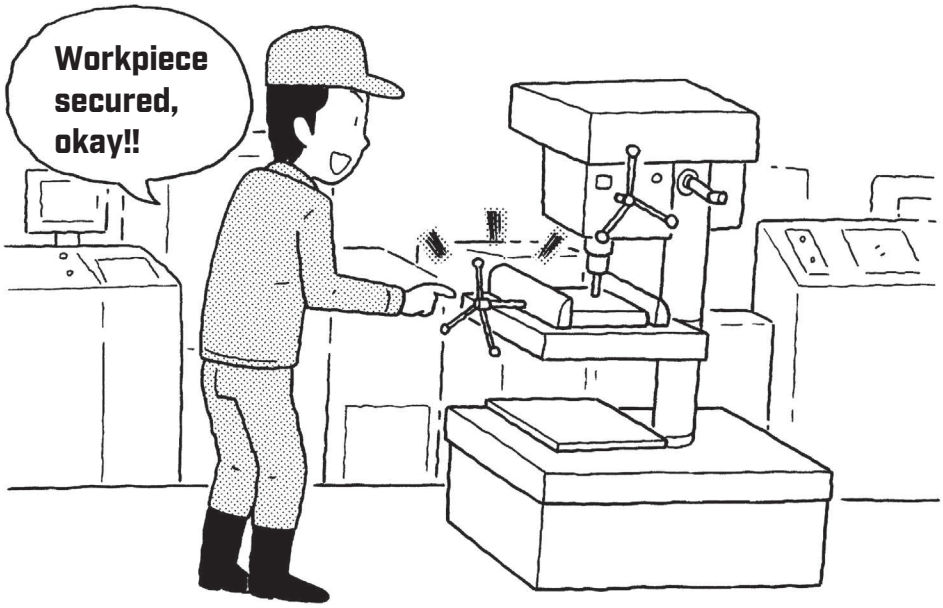
(4)Reliability of pointing and calling

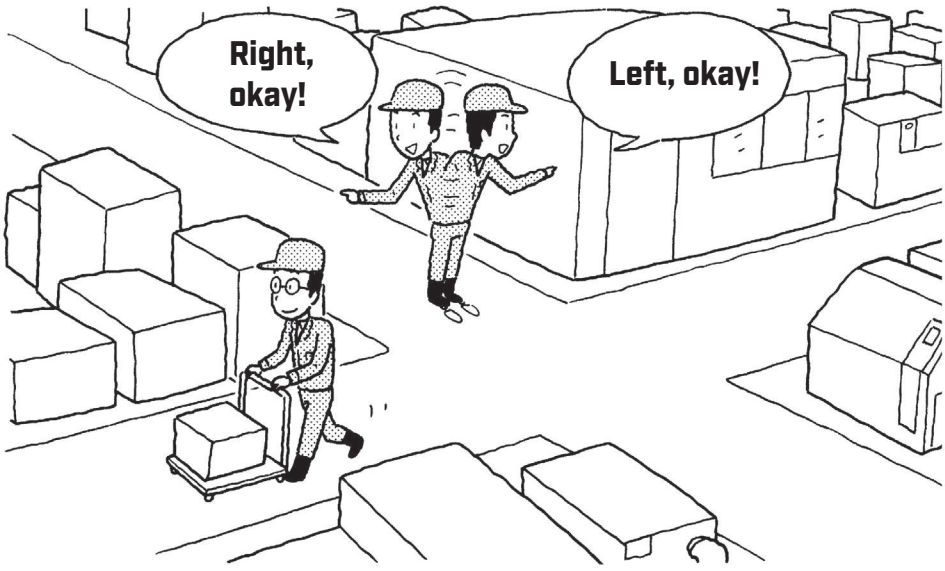
According to some statistics, there is data showing that compared to confirmation by visual inspection alone, calling out aloud halves the errors, and furthermore, adding a pointing action to the calling reduces errors to one-fourth. Of course, pointing and calling alone does not result in 100%

reliability. Along with the promotion of pointing and calling, we must not forget to improve the level of safety awareness.

Yasuhiko Inoue (Professional Engineer (Chemistry, Comprehensive Technical Management))







2. Advantages and Disadvantages of Line Production

POINT

The line production method is a system suitable for low-mix high-volume production, but for small-lot production responding to the diversification of customer needs, problems such as decreased productivity and increased inventory easily occur. The Toyota Production System was developed as one method to solve this problem and is being introduced at various companies.

Q

The production method at Leader Koishi's workplace is to arrange lathes, drilling machines, etc., by machine, and produce according to orders while watching the availability of each machine. Leader Koishi has increasingly found himself troubled when a bulk order for assembled parts arrives. Therefore, he wants to know about the line production method, which is suitable for mass production.

A

The belt-conveyor style line production method is a common production method in traditional manufacturing industries, and is suitable for low-mix, high-volume production. In this method, workers, parts, tools, etc. are arranged on both sides of the belt conveyor flow to produce, and the workers' tasks are also limited in scope.

(1)Advantages of the line production method

The characteristics of the production line at Ford Motor Company, the originator of belt conveyor production developed for low-mix high-volume production, lie in product standardization, parts standardization, and subdivision of manufacturing processes. These characteristics are still carried on today, and there are advantages as follows:

①In single-product or low-mix production, production speed can be increased, improving productivity.

②Standardization of parts and assembly simplifies work, prevents assembly errors, and stabilizes product quality.

③Subdivision simplifies work, allowing non-skilled workers to handle it.

④Mechanization and automation are easier for simplified work, and labor costs can be reduced by introducing robots, etc.

(2) Disadvantages of the line production method

Due to the simplification of work and diversification of customer needs, the following disadvantages have arisen in the line production method:

①Because the manufacturing process is extremely simplified, workers are prone to being forced into dehumanizing labor.

②Every time the model is changed, time and effort are spent replacing line jigs, reducing productivity.

③Trying to reduce the number of model changes leads to increased inventory of raw materials, products, and work-in-progress; long-term inventory in particular becomes dead stock and leads to huge losses.

④A massive investment is required to construct a manufacturing line.

⑤Manufacturing new models or new products requires technical staff to study line modifications.

Commentary

The disadvantages of the line production method are as above, but the Toyota Production System was developed to improve this, aiming for zero inventory without dropping productivity even in the case of high-mix production, adopting the following techniques.

(1)Introduction of JIT

Introduce JIT (Just In Time) based on production instructions as shown in Figure 1. This means making "what is needed, when it is needed, and in the amount needed." Reduce setup times to level production, maintaining high productivity even in small-lot production.

(2)Adoption of Jidoka (Autonomation)

Adopt Jidoka. This is not simple "automation (自動化)", but "autonomation with a human touch (自働化)". That is, no human is needed when the machine is working normally; humans respond when it stops due to an abnormality.

Tetsuo Oishi (Oishi Consultant)

Ilustrasi 1　Image of the line production method

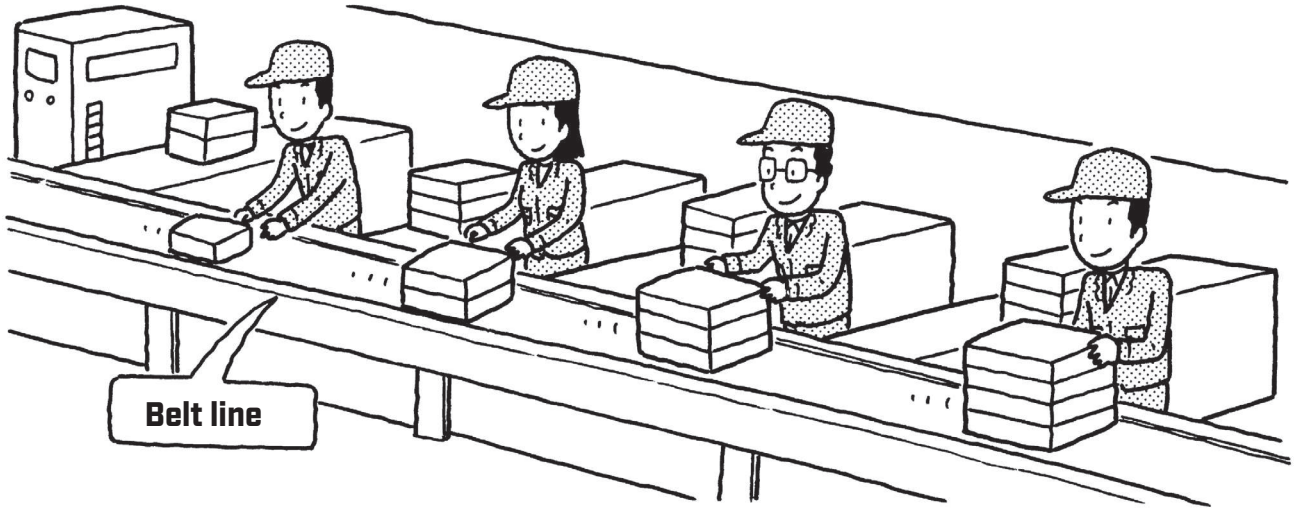
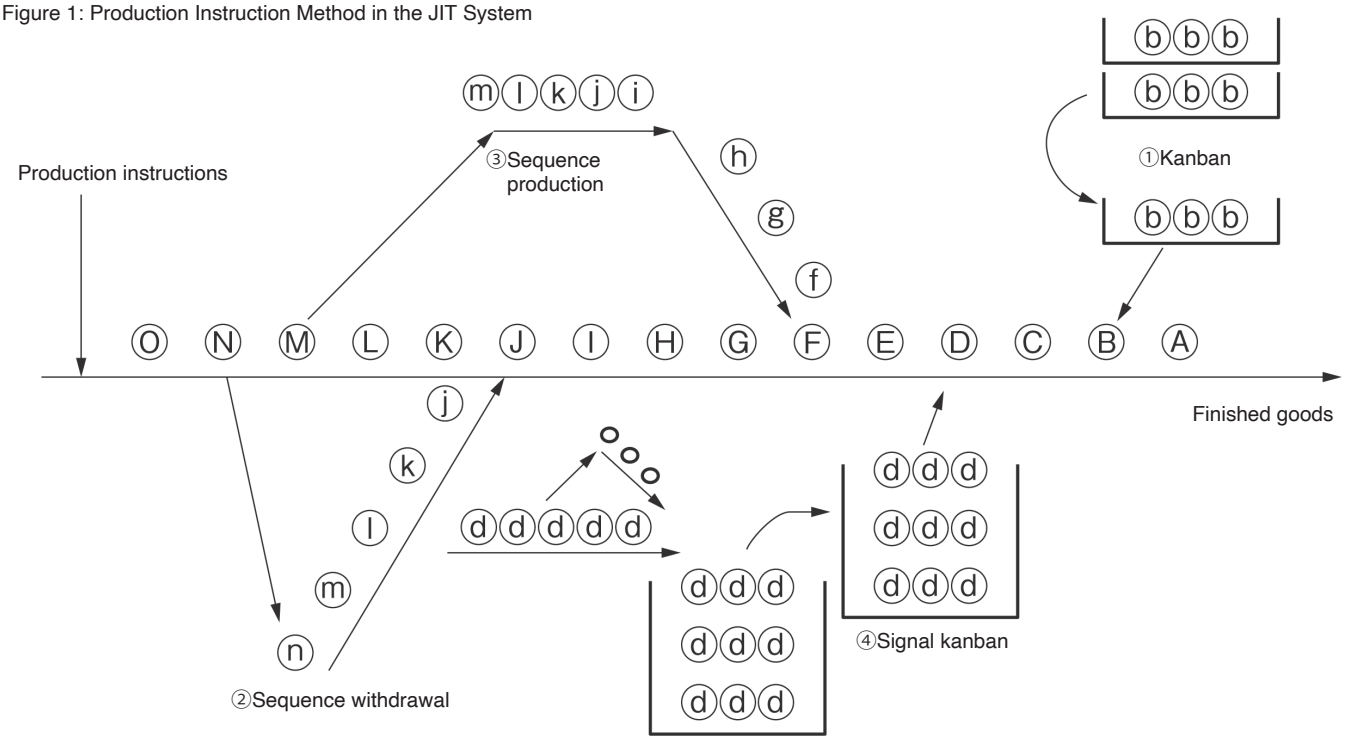


Figure 1: Production Instruction Method in the JIT System



Types and symbols of production instruction information	
Ⓐ、Ⓑ、Ⓒ・・・	：Represents the main body; production instructions are issued to the head of the final assembly line.
①Kanban	：A method where the "kanban" is removed when the parts box is emptied, triggering the next withdrawal. It is the most famous part of the Toyota Production System. Applied to general-purpose parts.
②Sequence withdrawal	：Instructs from the required process on the final line to the head of the sub-line for semi-finished products.
③Sequence production	：Applied to important parts with long production periods.
④Signal kanban	：Applied to auxiliary materials that require lot production.

Sourced from "Production Management Theory" (「生産管理論」) edited by Zenjiro Sawada, Nikkan Kogyo Shimbun, p199 (1998)

3. Advantages and Disadvantages of Cell Production

POINT Cell production is a production method where one person or a team of several people processes and assembles parts from start to finish, and is a system suitable for high-mix low-volume production. To operate this system more smoothly, training multi-skilled workers is important.

Q

Leader Koishi is increasingly asked by sales staff who receive customer requests to produce new models, and is troubled about how to incorporate these into the production process. Therefore, he wants to learn about the cell method suitable for high-mix production, and if possible, consider implementing it.

A

Cell production is a production method where a team of one or a few people handles the processing and assembly of parts from start to finish. In the conventional line production method, switching production models takes time, and if productivity is low at any process, the whole line is constrained by it, lowering overall productivity. The cell method is advocated to solve this problem and respond to variable-mix, variable-volume production and timely product supply.

(1)Advantages of the cell production method

Just by changing the worker's work sequence and parts used, the production item can be easily changed, and fluctuations in production volume can be easily handled by adjusting the number of cells and people. It has the following advantages:

①Productivity can be improved by enhancing worker capabilities.

②Since only the necessary parts are supplied to each cell, work-in-progress inventory can be reduced.

③Since one person or a small team handles a series of tasks, problems and areas for improvement are easy to see, improvement proposals are easier to make, and their effects can be expected.

④Adjusting the number of cells allows handling sudden orders or order changes, reducing product inventory.

⑤Because workers handle a series of tasks, their awareness of quality assurance improves.

(2)Disadvantages of the cell production method

While it is a production method suitable for high-mix production as described above, it is necessary to pay attention to the following points.

①The range of processes handled by the worker is broad, and work efficiency varies depending on the worker's proficiency and ability, making it essential to improve overall capability through training. There is a view that not directly linking individual worker productivity to performance evaluation actually improves the productivity of the workplace as a whole.

②Long-term training is required to master the operations of a series of processes as a multi-skilled worker. In addition, extensive skills as a multi-skilled worker are demanded.

③While the worker's responsibility is clear, it can cause mental stress for some workers.

Commentary

As shown in Figure 1, the cell production method can basically be classified into the following three types. By properly selecting or combining these methods, productivity can be increased.

①One-person method: A method where one worker completes the product; multi-skilled workers are necessary.

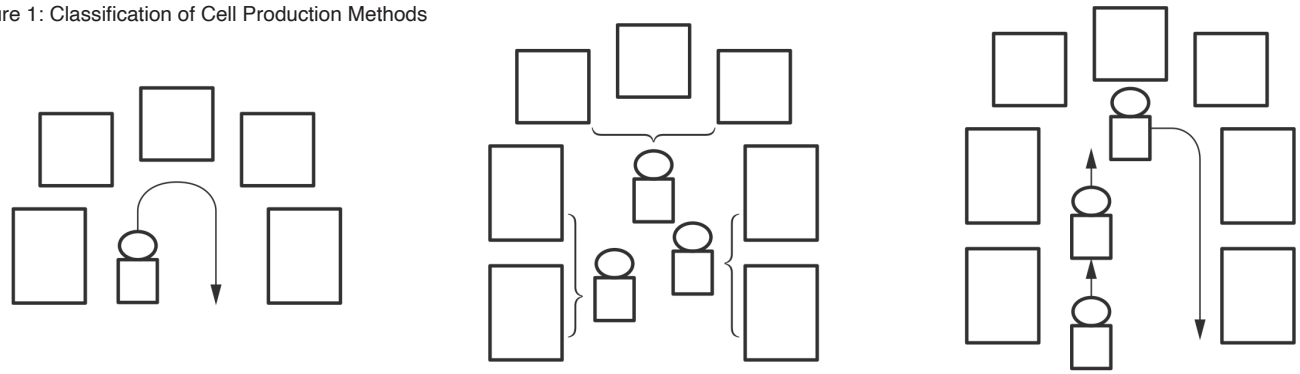
②Division method: A method where the work is shared among several people to complete it; highly multi-skilled workers are unnecessary, but the same problems as line production may occur.

③Patrol method: A method where one worker moves around to assemble.

Figure 2 shows a hybrid of the conveyor line and cell methods.

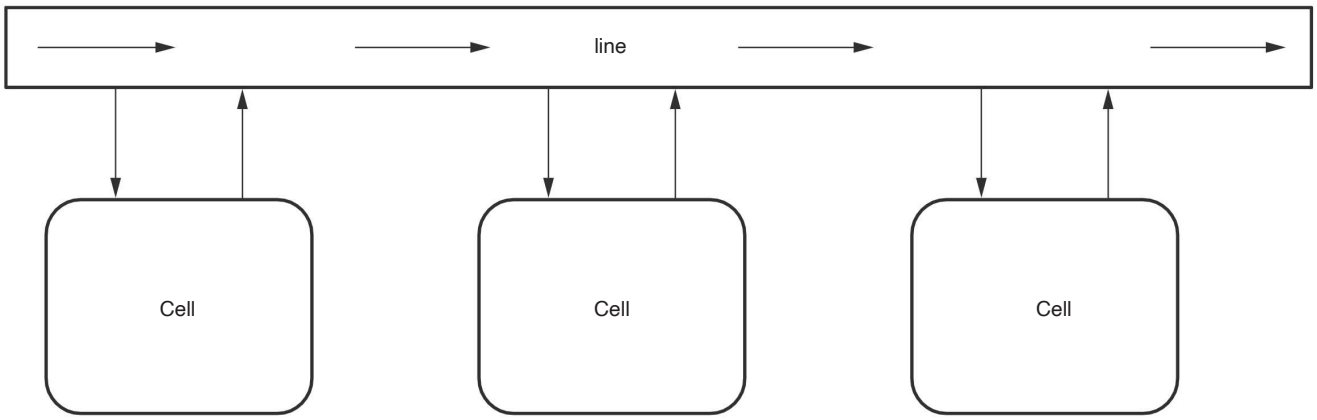
Tetsuo Oishi (Oishi Consultant)

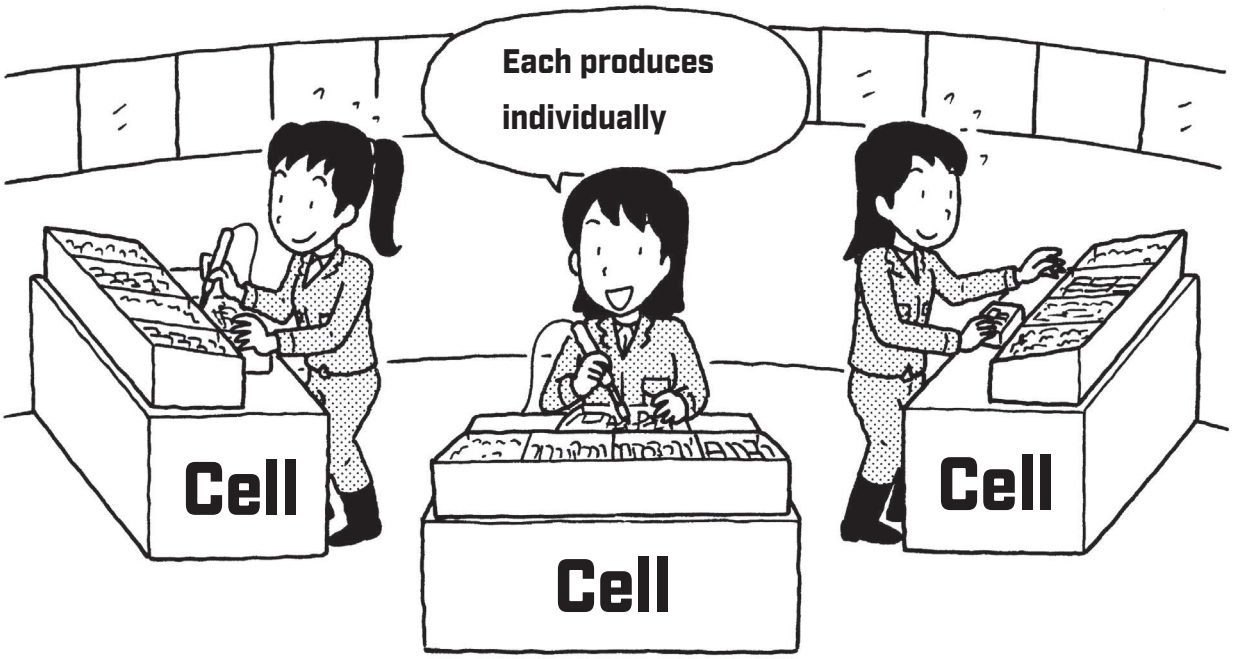
Figure 1: Classification of Cell Production Methods



①One-person method　②Division method　③Patrol method

Figure 2: Hybrid of Conveyor Line and Cell Methods





4. How to Use Kanban

POINT A "kanban" is an indispensable tool for Just-In-Time devised by Taiichi Ohno of Toyota Motor Corporation, inspired by supermarket operations and product management. The "Kanban System" is one management method within the Toyota Production System (way of making things).

Q

Leader Koishi wants to learn about how to use "kanban."

A

(1) Kanban

To realize "Just-In-Time," making what is needed, when it is needed, and in the amount needed, Toyota Motor Corporation adopts a system where the subsequent process goes to the preceding process to pick up parts. The tool used when going to pick them up is the "kanban."

When the subsequent process takes 10 parts with a slip called "kanban," it becomes work instruction information at the preceding process instructing that line's slip to make 10 parts. Item name, part number, quantity, transport container, production volume, transport timing, preceding process, subsequent process, etc., can be immediately understood by looking at the kanban.

(2)Kanban System

According to a book by Taiichi Ohno, when he went to America around 1951-52, there were several pictures of supermarkets where there was only a woman at the exit, and customers pulled a cart like a baby carriage, buying as many goods as they wanted and paying at the exit. This served as a hint for the idea of going to the preceding process to pick up parts to be used in the subsequent process, and it is said that they started doing it under the name "Supermarket System" at the time.

(3) Types of Kanban

①Withdrawal kanban: Represents the type and quantity of parts when the subsequent process withdraws products made in the process from the preceding process, serving as delivery instructions.

②Production instruction kanban (Shikake kanban): When the subsequent process withdraws products from the preceding process, they remove the "production instruction kanban" and attach the "withdrawal kanban." In the preceding process, this becomes a production instruction to make the number of parts indicated on this "production instruction kanban."

③Subcontractor kanban: A kanban attached upon delivery from a supplier; since the subsequent process withdraws it, it serves as a "withdrawal kanban."

(4)How to Use Kanban

Rules are necessary to circulate kanban smoothly.

①Do not send defective products to the subsequent process.

Everything withdrawn by the subsequent process must be non-defective. The subsequent process is the customer.

②The subsequent process comes to pick up.

When the subsequent process comes to pick up, they must not do so without a kanban. They must not withdraw more than the number of kanbans. Also, always attach a kanban to the actual item.

③Make only the amount withdrawn by the subsequent process.

What is important here is not to produce more than the number of kanbans. It is also important to produce in the order the kanbans were issued.

④Level production.

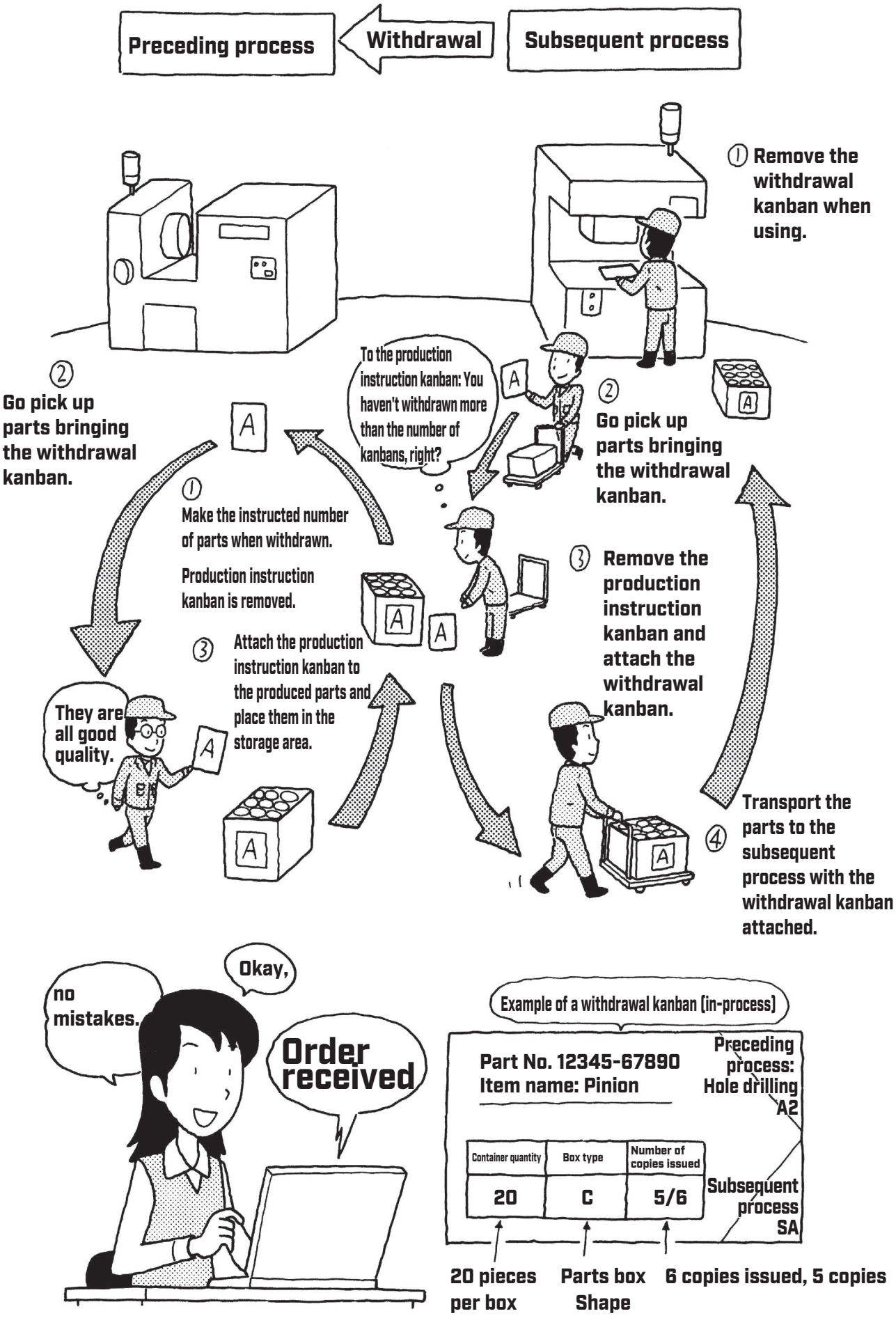
This is a rule to eliminate waiting time and advanced production in each process.

⑤Kanban stabilizes and rationalizes the process.

Commentary

Kanban is work instruction information. It provides information on "what, by when, how much, and by what method to produce and transport." Moreover, because kanban moves with the actual item, it is a tool for "visualization," and its power is demonstrated by how well it is mastered.

Yasuhiro Tomita (TOMIT@ Environmental Consultant)


Preceding process
Withdrawal
Subsequent process
① Remove the withdrawal kanban when using.
② Go pick up parts bringing the withdrawal kanban.
To the production instruction kanban: You haven't withdrawn more than the number of kanbans, right?
② Go pick up parts bringing the withdrawal kanban.
① Make the instructed number of parts when withdrawn.
Production instruction kanban is removed.
③ Remove the production instruction kanban and attach the withdrawal kanban.
③ Attach the production instruction kanban to the produced parts and place them in the storage area.
They are all good quality.
④ Transport the parts to the subsequent process with the withdrawal kanban attached.
Okay, no mistakes.
Order received
Example of a withdrawal kanban (in-process)
Part No. 12345-67890
Item name: Pinion
Preceding process: Hole drilling A2
Container quantity
Box type
Number of copies issued
20
C
5/6
Subsequent process SA
20 pieces per box
Parts box Shape
6 copies issued, 5 copies

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MiSUMi


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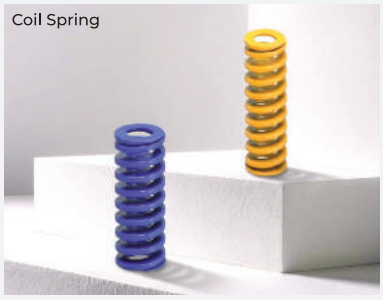
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Future Technologies with AMADA

Amada India, established in 2000, is a 100% subsidiary of Amada Co. Ltd., a Japanese major manufacturer of sheet-metal working machinery. Amada Group is a global leader in manufacturing sheet metal fabricating machines and other metalworking machinery which includes Stamping Press automation systems, Metal Cutting machines, Precision Welding and IoT based Software.

Focus of Amada India is to provide direct sales and service support to Indian customers. The company was first to establish its direct sales and service center in India. They have supplied more than 5000 plus machines including Punching, Bending, Laser, Welding, Presses and Automation products.

In year 2014, a Technical Center with Vocational center was established in Aerospace Park – Bangalore near Airport to support its customers. Since then, this center has welcomed thousands of customers and trainees who were trained by their experienced VC trainers.

Company vision is to contribute towards making India as world's technology and manufacturing hub.



Bangalore Technical Center

After Sales Service in India

Amada India is known to customers for providing exemplary after sales support. With 8 Service centers spread across India and 64 plus service engineers, Amada India has taken several new initiatives to strengthen its service support to next level.

1.Moving towards DX : Service operations are fully integrated into a digital platform powered by Salesforce CRM, ensuring seamless and efficient support.

2.IoT-Based Solutions (V-Factory): This innovative solution will minimize machine downtime by enabling real-time issue visualization and rapid problem resolution.

3.Enhanced Spare Parts Availability: By optimizing its Supply Chain Management, company aim to ensure the fastest possible delivery of spare parts.

Stamping press Launch

Amada India has launched its complete lineup of Stamping press during IMTEX 2026 exhibition.

The AMADA Group was one of the first to develop a digital electric servo-drive stamping press that numerically controls the movement of the press slide. By using various slide motions to press products that were difficult to process with conventional mechanical presses, digital electric servo-drive stamping presses help reduce the number of processes and enable forming with high added value. They additionally offer high quality and energy-saving performance compared to conventional machines, contributing to eco-friendly and high-efficiency manufacturing.

In addition, these machines promote stamping press processing efficiency by combining and systematizing press machines and their peripheral equipment according to the application.

Furthermore, they advance the digital transformation of factories, including the digital networking of presses.

Automation systems unite the operating controls of the stamping press with peripheral equipment such as straightener-feeders and robotics. The AMADA Group is one of the few manufacturers that offer one-stop automation solutions.



Servo Stamping Press SDE Series

Sheet metal Machinery

The complete Sheetmetal machinery range is on display at Amada India' s Bangalore Technical Center located at Bangaluru Aerospace Park. Please contact Amada India team for machine demo and product related queries.



Fiber Laser Machines – VENTIS-AJe series



Turret Punch Press – EMZ Series



Servo Electric Press Brake – EGBe Series



Fiber Laser Welding – FLW ENSIS



Software Products for DX Manufacturing

Amada (India) Pvt. Ltd.
No.60.KIADB Bengaluru Aerospace Park,Singahalli Village, Budigere Post,Bnagalore,
North Taluk-562129, India
Ph : 080-71100200

Komatsu Industries Corp.

Company Overview

Komatsu Industries Corp. was established in 1994 as a spin-off from Komatsu, building more than a century of experience and technological capability in industrial machinery. We are comprehensive manufacturer of metal-forming solutions, offering wide range of press machines—from compact to large-capacity models—along with advanced sheet-metal processing equipment.

With in-house engineering, sales, service, and retrofit capabilities, we support the production operations of customers worldwide. By continuously incorporating new technologies and anticipating industry trends, we develop machines which stay ahead of market requirements. Our goal to become a trusted partner who contributes improve productivity and addresses diverse customer needs.

Key Strengths

Production equipment that supports the automotive industry is always required to fulfill the demanding mission of “ensuring no unplanned downtime” and “maintaining consistent quality.” Backed by many years of proven performance, advanced technology, and a comprehensive after-sales support structure, our company has continued to meet these expectations. Our ability to provide highly reliable products those achieve high operating rates and stable quality, along with rapid and dependable support that prevents equipment stoppages even in the event of unexpected issues—these two strengths are the reason we have earned strong trust and high evaluations from many customers.

In the field of large press lines for automotive outer-panel production, approximately 90 units are operating in India, supporting the country’s automotive manufacturing sector. As a more advanced initiative, we are also strengthening proposals for predictive maintenance services that utilize IoT technologies. By analyzing data to predict component life cycles and detect early signs of deterioration, we help reduce sudden line stoppages and suggest optimal timing for part replacement, contributing significantly to improved productivity. These initiatives have already been adopted by many customers and have been highly evaluated for their effectiveness.

In addition, our general purpose small servo presses, a linear scale that monitors slide position with micrometer level precision equipped as a standard feature. By incorporating our proprietary fully closed loop feedback control and bottom-dead -center auto-correction function, the system achieves high accuracy of ±0.01 mm at the bottom dead center within ±10 kN for load. By compensating on the press-control side for variations in material properties, thermal expansion of the frame, die expansion, and other minute positional deviations caused by heat or structural changes, the system enables stable mass production processing while achieving improved yield and extended die life both.

Further more, Komatsu Industries’ remote operation management system, “Sanki Komtrax, ”which utilizes IoT technology collects machine operating information through a dedicated device and enables remote monitoring via the internet. By visualizing operating status, production results, and maintenance schedules, it contributes greatly to improving overall factory efficiency and advancing production management.

Through a combination of high reliability, advanced technology, and IoT-based predictive maintenance and remote management functions, we continue to provide strong support to ensure our customers’ production equipment "never stops."



Large Servo Press Line for Automotive Body Panels

Komtrax

Engineering & Technology Capabilities

As a pioneer, we have upheld the motto of codeveloping with our customers to create superior products, having begun commercialization of press machines more than 100 years ago and, more than 20 years ago, having led the world in developing and launching servo presses. Komatsu's servo presses constantly monitor the slide position using linear scales, and through proprietary load control and bottom-dead-center position control based on this sensing, they compensate for variations in penetration amount caused by thermal expansion of the frame and die expansion, thereby maintaining stable product quality. We are now launching an upgraded H1F-2 series (110-ton, 150-ton, 200-ton). The 200-ton model has already been released ahead of the others, achieving a production speed of 57 spm which is a 14% increase over the previous model—to improve productivity. The operator touch panel has also been enlarged to 15 inches, three times the size of the previous model, enhancing operator comfort.

Furthermore, our proprietary IoT technology, "Sanki Komtrax," has evolved. In addition to standard functions such as operation management, maintenance management, event history, and an operation dashboard, the latest update adds an optional "Overload Monitor" has been added, enabling early detection of factors that affect die wear and product accuracy. By visualizing abnormal eccentric loads and breakthrough loads during blanking operations, the system quantifies and standardizes areas whose previously relied upon the intuition and experience of skilled operators.

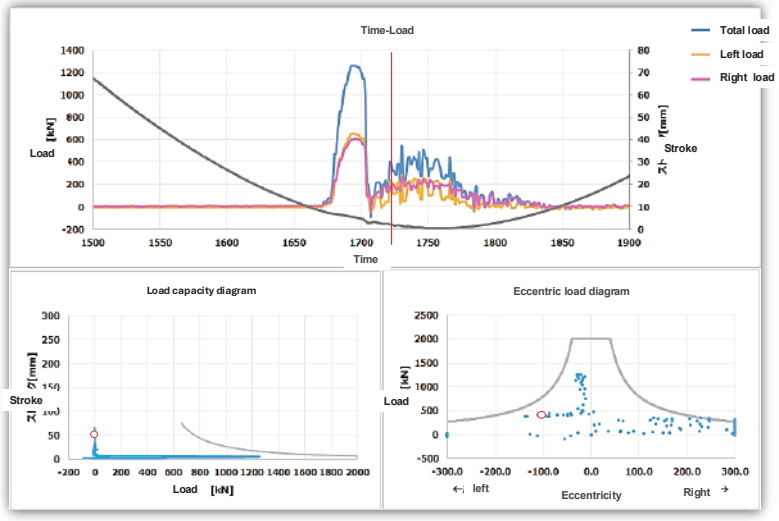
Furthermore, the new tool "Load Trend & Transition (All Shots)" visualizes forming-load transitions for every shot.

This enables the grasp of minute load variations over time, making a significant contribution to early identification of abnormal causes and the prevention of quality issues. All operation and load data for every shot are accumulated and stored in the cloud, allowing users to review extensive historical data and utilize it for long-term trend analysis and more advanced maintenance planning.

By utilizing the "Load Waveform Capture (LWC)," users can identify specific anomalous shots on the load trend and remotely acquire and analyze their corresponding load waveform data. In addition, going forward, we plan to add functionality to centrally manage in the cloud, via API integration, not only the data collected by Komtrax but also customers' production, quality, and equipment data. This will make the tool capable of more advanced analysis that combines equipment and production data and of supporting optimization across entire factories.



New Servo Press H1F200-2



Load Waveform Capture（LWC）

Komatsu Industries Corp.
Address : 1-1 Onomachi-shinmachi,Kanazawa-shi, Ishikawa 920-0225,Japan
TEL : +81-76-293-4202
Established : May 13,1994

Komatsu India Private Limited(Industrial Machinery Division)
Address : No.517–519 5th Floor, Vipul Trade Centre, Sec-48, Sohna Road,Gurugram, Haryana 122004 India
TEL : 0124-419-6900 Contact : 0965-411-5540
E-mail : balveer.y@global.komatsu

Cadmac Co.,Ltd.

Company Overview

Founded in 1993, CADMAC is a Japanese software developer specializing in CAD/CAM solutions for the sheet metal industry. With a strong focus on manufacturing efficiency, the company develops and markets advanced 3D and 2D CAD/CAM systems, including its flagship MACsheet series.

CADMAC's solutions are designed to seamlessly bridge design and production, helping manufacturers reduce errors, streamline workflows, and improve overall quality. Headquartered in Tokyo, with additional offices in Osaka and Sendai, the company combines deep industry expertise with in house development capabilities.

Backed by decades of experience and a clear commitment to supporting "monozukuri"—Japan's manufacturing culture—CADMAC continues to play a vital role in advancing digital innovation across the fabrication floor.



Headquarters office in Tokyo

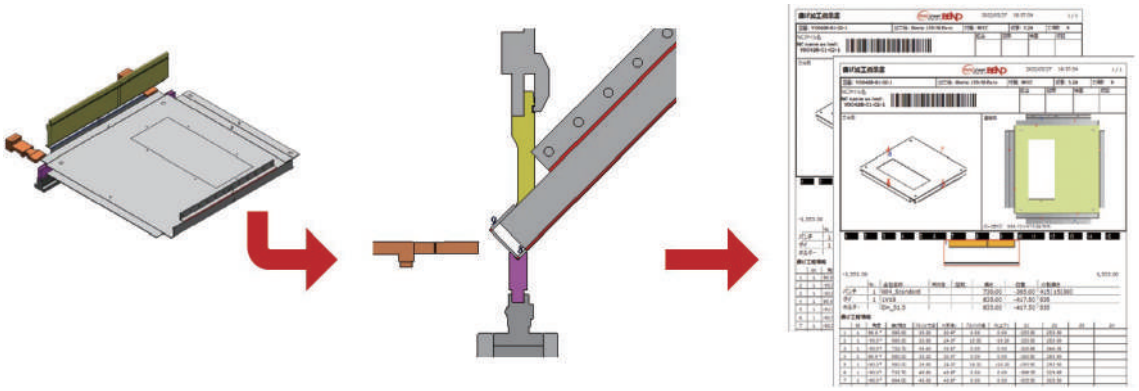


Nationwide Support Across Japan

Key Strengths

For more than three decades, CADMAC has maintained a strong and steady presence in the sheet metal industry. Since its founding, the company has consistently focused on the development of CAD/CAM software specialized for sheet metal fabrication, addressing the real challenges faced by design and manufacturing teams on a daily basis.

What sets CADMAC apart is its field-oriented approach to software development. Rather than offering generic design tools, the company places a clear emphasis on usability at the production site. Its solutions incorporate essential sheet metal know-how—such as bending, unfolding, and interference checking—directly into the software. As a result, the flagship MACsheet series helps minimize gaps between design and manufacturing,

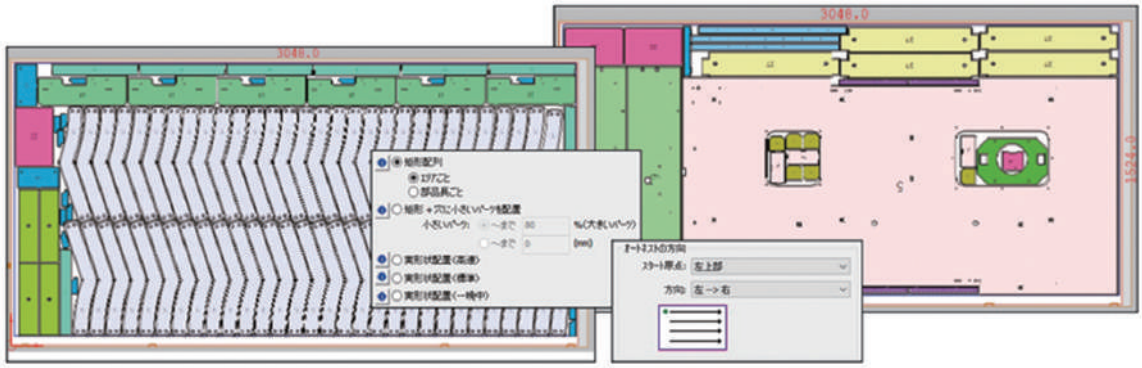


Putting Field Voices First to Connect the Real and Digital Worlds:MACsheet BEND

enabling both higher productivity and improved quality.

Another key strength of CADMAC lies in its in-house development structure. By maintaining its own development team, the company can quickly reflect customer feedback in product enhancements and new features. This flexibility allows CADMAC to respond to the diverse needs of individual fabrication sites with precision. In addition, its machine-builder–neutral stance enables smooth integration across machines and systems from different manufacturers, a capability highly valued in complex production environments.

Supported by a nationwide service network and decades of accumulated expertise in sheet metal processing, CADMAC has earned a reputation that goes beyond that of a typical software vendor. For many manufacturers, it is regarded as a reliable partner in manufacturing excellence. As digital transformation continues to reshape the industry, CADMAC remains committed to evolving—always with the realities of the shop floor firmly in view.



Optimized Nesting Generation from Multiple 2D Drawings:MACsheet IST

Engineering & Technology Capabilities

In sheet metal fabrication, the value of technology is measured not by how advanced it appears, but by how reliably it performs on the shop floor. CADMAC's engineering philosophy starts from this reality. Rather than pursuing general-purpose CAD, the company has focused on developing CAD/CAM technology optimized specifically for the demands of sheet metal manufacturing.

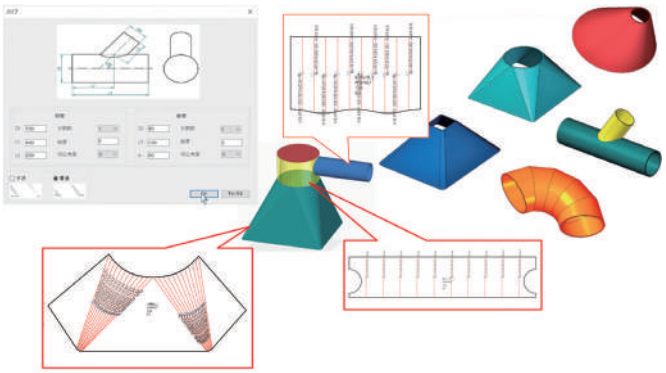
At the core of CADMAC's technology lies a design philosophy built around the inherent behavior of sheet metal. Bending, unfolding, interference, and manufacturability are not treated as add-on functions, but are integrated from the earliest stages of design. This approach allows design intent to flow directly into production-ready data, delivering stable and predictable results even in situations where conventional CAD systems struggle.

Another key characteristic is the seamless integration of 2D, 3D, and CAM processes. By designing these elements as a continuous workflow rather than isolated steps, CADMAC enables design changes to be reflected smoothly downstream. This minimizes rework and data regeneration, providing a decisive advantage in today' s environment of high-mix, short-lead-time production.

CADMAC's technology is firmly grounded in real-world practice. Functions such as assembly handling, interference checking, and batch processing are developed with constantly evolving design conditions in mind. While automation plays an important role, transparency is never sacrificed—ensuring that engineers can understand, verify, and trust the results they obtain.

In addition, CADMAC maintains a machine-tool-manufacturer–independent approach. Even in production environments where equipment from different builders coexists, the system consistently generates reliable CAM data. This robustness is the result of long-term validation and continuous technical refinement.

A deep understanding of sheet metal fundamentals, refined into practical digital technology—that is the foundation of CADMAC's engineering, and the reason it continues to perform where it matters most.



Rich library for 3D-to-2D fabrication drawing generation: MACsheet BBX

Cadmac Co.,Ltd.

6th floor Shibaura Renesite Tower, 3-9-1 Shibaura
Minato-ku Tokyo, Japan
TEL : +81-3-6453-9770 FAX:+81-3-6453-9778

Webpage : https://www.cadmac.net/
Contact information : https://www.cadmac.net/contacts
Date of Establishment : July 21, 1993

YASDA PRECISION TOOLS K.K.

Aiming for the best, not the biggest.

With our basic philosophy of “Aiming for the best, not the biggest” YASDA has always aimed at cultivating and securing excellent human resources and strict quality controls since its establishment, and continues to create machining centers with high precision and high durability.

Machining centers are an indispensable part of manufacturing, and are used in various fields such as automobiles, aerospace, semiconductors, medical equipment, and smartphone camera lenses.

Since our founding in 1929, we have always targeted unparalleled precision and durability, and have put our spirit into manufacturing through strict quality control and engineering.

As a result, the YASDA brand has been recognized by top manufacturers around the world and has earned a great deal of trust in the field of high-precision machining. YASDA may have helped create some of the products that you use.







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YASDA CONCEPT MOVIE

YASDA’s “KODAWARI” to innovated world manufacturing.

Accuracy is Just the Beginning

When people think of YASDA, the first word that comes to mind is usually accuracy. And while precision is at the heart of every YASDA machine, it is only possible because of two equally important qualities — stability and repeatability. These are the foundations that allow our machines to deliver the same flawless result, time after time, no matter the challenge.



No other part of our production process embodies YASDA’s core for the pursuit of perfection than hand- scraping. Our expert hand-scrapers.

Hand scraping for all critical mating faces of the base components. Every mounting face of guide ways is hand scraped. In addition we hand scrape the spindle flange, ball screw assembly, mating of the bridge/saddle onto the bed, some table surfaces, base of rotation axes, etc.





The pursuit of sub-micrometer precision :
The only way to achieve true sub-micrometer accuracy and precision is if you can measure it.

Our assemble factories were built very carefully against the vibration and fitted with temperature management systems that maintain a constant temperature within +/- 0.5 degree all year-round to ensure high precision manufacturing. In the main factory, we produce our ultra-high precision machinery, where all of the highest precision components, are machined by our machines.

YASDA PRECISION
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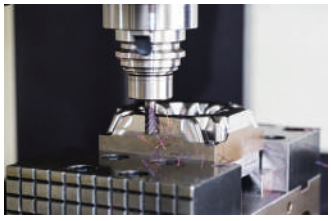
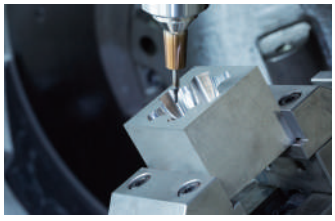
Mold & Die Miller:

YBM V-series demonstrates superior performance in die and mold machining and adequately meets advanced market requirements.



Color of chips showing the perfect cutting performance in hard milling.



Excellent 5-Axis hard milling performance comparable to 3-Axis hard milling.



Pitch accuracy ＜ ± 3μm,comparable to jig grinding accuracy.



Hard milling on over 60HRC, reducing manual polishing dramatically.

This allowed us to integrate several processes of manufacturing precision die and mold such as hardening after rough removal, making electrodes, EDM process, and manual polishing. Today hard milling is continuously improving worldwide, and many die and mold customers profit by adopting hard milling. Yasda vertical machining centers, called CNC Jig Borers, play a key role in the high-end milling market.



YBM640V Ver.V



CNC JIGBORER
YBM 9150V Ver.II
Mold & Die Miller



CNC JIGBORER
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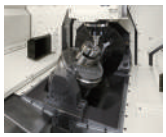


CNC JIGBORER
YBM Vi40 Ver.III
CNC 5AXIS CONTROL

Micro Milling:
Following the recent growth of industries such as medical, IT, automotive, connectors, optical, plastic injection, etc., mold forms are becoming smaller and much more precise.

YASDA Micro Center YMC 430 is the state-of-the-art high-end machine that answers the demand for ultra-high precision and high quality in the always advancing" high precision micro machining" fields. All-axis (X, Y, Z) controlled high-speed linear motor drives and highly rigid symmetrical frame structure as well as a thermal distortion stabilizing system that achieves consistent high-precision machining in long cycle time operation -- Ensuring unsurpassed, extremely high accuracy, the YMC 430 provides the best solution that the times demand. In order to meet future demand, YASDA developed an original tilting rotary table and DD motors, called RT10.Today the new larger Micro Center YMC 650 has been developed and introduced in the world, together with the option of YASDA original tilting rotary table RT20.

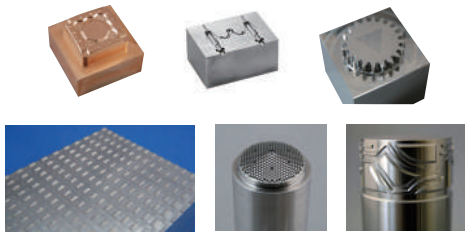


MICRO CENTER
YMC 430 Ver.III



MICRO CENTER
YMC 430 Ver.III+RT10
CNC 5AXIS CONTROL

High surface quality and high precision machining is realized by using linear motor drive for all control axes.The positioning accuracy of ±1μm is powerful in the field of micro and precision machining.



The Micro molds has dramatically increased. This type of mold requires a smoother surface and Finer corners, more precision in each dimension, as well as faster milling time.

YASDA PRECISION TOOLS K.K.
1160 Hamanaka, Satosho-cho, Asakuchi-gun, Okayama, 719-0303 Japan
TEL : +81 / 865-64-2511 FAX:+81 / 865-64-4535 E-mail:yasda@yasda.co.jp URL:https://www.yasda.co.jp/

TKE Co., Ltd.

Company Profile

Company Name: TKE Co., Ltd.
Address:3-13-2 Kusunoki, Yatomi City, Aichi 498-0066, Japan
TEL: +81-567-68-8110
FAX: +81-567-68-3331
Capital: ¥30 million
Website:https://www.takao-net.co.jp/tke/
Founded: August 2021



President:Yutaka Shimomura

Company Overview

TAKAO KOGYO Co.,Ltd., which is a core company of TAKAO KOGYO Group, was founded in 1974 and has grown primarily through the manufacturing of automotive drivetrain components.

In recent years, under the theme of “challenging innovative manufacturing,” the group has been actively developing new technologies while expanding its production capabilities and establishing new business pillars.

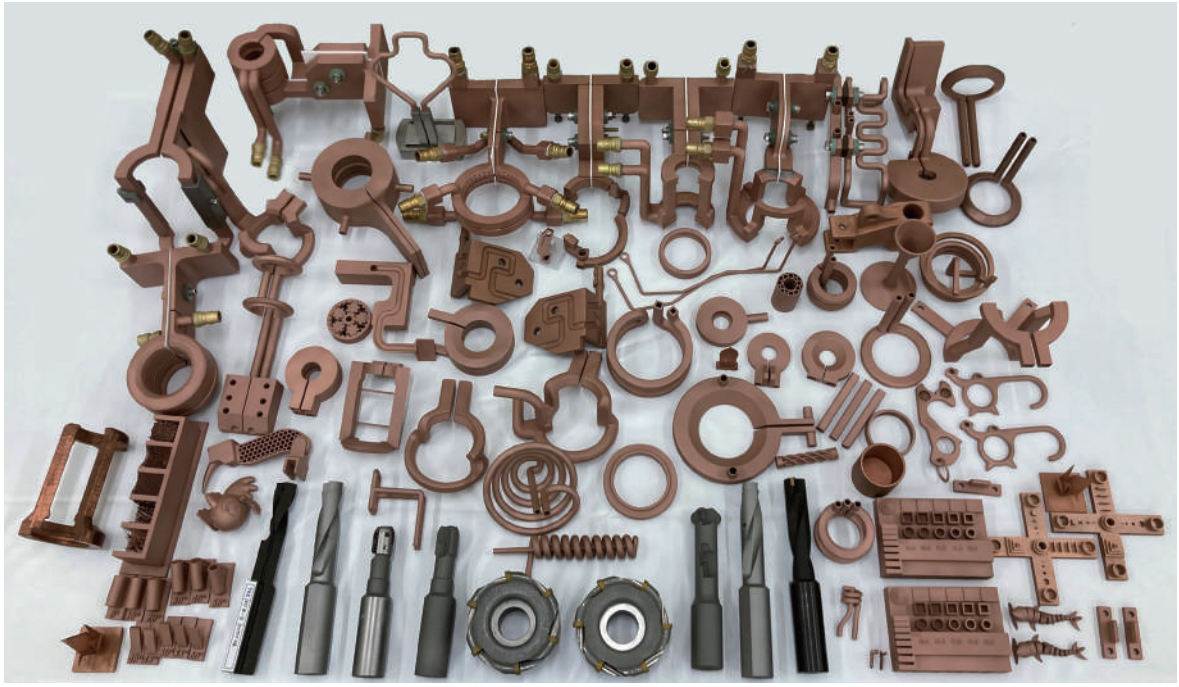
In this context, T.K. Engineering (now TKE Co., Ltd.) was established in August 2021.

It serves as an affiliated company responsible for promoting and developing new technologies within the TAKAO KOGYO Group.

Metal 3D printing services are one of our key business areas.

In addition to copper products centered on induction hardening coils, we are working to meet a wide range of customer needs.

At TKE, each employee brings creativity, flexibility, and speed to their work as we strive to deliver innovative manufacturing solutions to society.



Induction hardening coil and machining tool holder produced by our metal 3D printer

Our strengths

We primarily manufacture copper coils used for high-frequency induction hardening.

We operate five SLM (Selective Laser Melting) metal 3D printers capable of producing parts up to 280 × 280 × 365 mm in size.

The SLM method enables high-precision manufacturing with excellent surface roughness of approximately Ra 10 μm.

In development, we leverage the machining and induction hardening technologies accumulated by our parent company.

The completed AM coils are used by the parent company to further improve performance.

By combining simulation technology with metal 3D Printer, we achieve synergistic effects and enable steady and rapid research and development.

By manufacturing with metal 3D Printer, the need for brazed joints is eliminated.

This improves coil stability and extends service life while increasing efficiency in heat treatment processes.

It also shortens production lead times and enhances design flexibility, which has been highly appreciated by our customers.

In addition to hardening coils, we have begun developing and selling cutting tools such as tool holders and nozzles, as well as grinding nozzles produced by metal 3D Printer.

By creating shapes that are difficult or impossible with conventional machining, we propose innovative solutions to our customers' challenges.

By replacing traditional coil design with computer-based design and replacing skilled brazing work with metal 3D Printer, we can help meet industry demands—particularly in the automotive sector—for improved quality and reduced costs while contributing to carbon neutrality (net-zero greenhouse gas emissions).



Notre-Dame Cathedral model produced using a metal 3D printer



Our 3D-printed products have received excellent results in domestic competitions.

Leveraging Indian people as engineers

Our company actively recruits engineers from India.

In fiscal year 2025, we hired eight people from NITTE University in Mangalore, Karnataka, India (six new graduates and two mid-career hires).

For fiscal year 2026, we have already decided to recruit an additional nine new graduates.

In total, we have hired 20 people since fiscal year 2024, and many Indian colleagues are now working at our company.

We expect these students to play active roles as engineers.

We will continue recruiting engineering students from India.

If you are interested in working in Japan, we welcome you to join our company.



Indian engineers working at our company

Please visit our English website here.

We take on any liquid

DAIDO PUMPS

Since1947

For Any Viscous Liquids–Performance You Can Trust

Daido Machinery Corporation

Company Profile

Since 1934, DAIDO MACHINERY CORPORATION has been a pioneer of internal gear pump technology in Japan. From manufacturing Japan's first domestically produced internal gear pump to developing world-class high-capacity models, Daido continues to provide reliable fluid transfer solutions for demanding industrial environments worldwide.

With decades of engineering expertise, Daido supports petrochemical, chemical, polymer, paint, and EPC-based plant industries.

Scan to visit our website

PROVEN PERFORMANCE IN INDIA

Daido pumps are currently operating in major Indian industrial industrial groups including:

- Reliance Industries - Petrochemical sector
- Aditya Birla Group - Epoxy Resin
- Kansai Nerolac Paints - Paint & Coatings sector
- Multiple EPC-based petrochemical and process plants

Our products are selected where durability and long-term operational reliability are essential, offering flexible customization and customengineered solutions to meet special and demanding applications.



Key Product – Gear Pumps (G Series)

- Max Viscosity: 2,500,000 mPa.s
- Max Temperature: 450°C
- Max flow rate: 660 m3/h
- Differential Pressure: Max 40 bar
- Highly durable 2-bearing + tapered bearing structure
- Capable of 24-hour continuous operation

Applications: Petrochemicals / Polymers / Resins / Asphalt / Oil / Specialty Chemicals

We take on any liquid

DAIDO MACHINERY CORPORATION

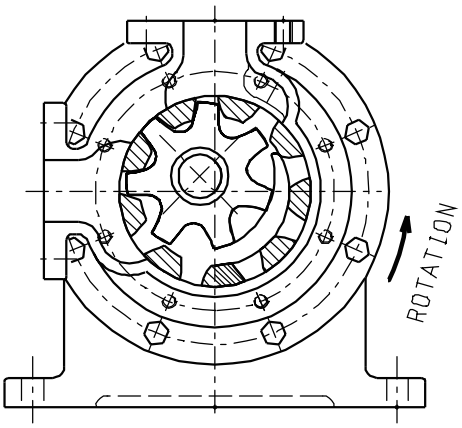
Since1947

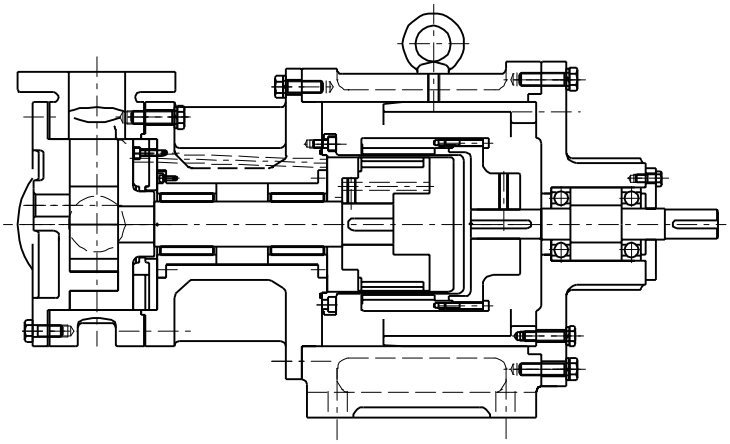
MAIN PROJECT FOR WORLD

RABIGH REFINING &PETROCHEMICAL 2014SAUDI ARABIA	UGCC GSP 2014(PP) Uzbekistan LSP 2020(PP) VIETNAM	ADDITIONAL TANK AT-202 2018 INDONESIA	AURORA PROJECT(SAF) KOREA 2025 FU-TAI ENG(Epoxy) CHAINA 2016

We have extensive experience in various EPC projects worldwide, and we fully understand EPC schedule management and equipment reliability requirements.

INTERNAL GEAR PUMP and MAGNET PUMP





Our magnet pump delivers true seal-less operation, eliminating shaft seals and the maintenance associated with conventional sealing systems.

The containment shell hermetically isolates the liquid, ensuring zero leakage and preventing contamination, odor, and workplace pollution.

By minimizing fluid loss—even with hazardous, corrosive, or high-value liquids—it enhances process safety, environmental protection, and sustainable plant operation.

ADVANTAGES OF DAIDO PUMPS:

Easy handling of spare parts	Stable and long service intervals	Lower total life cycle cost	Reduced unplanned downtime

GROWING WITH INDIA'S INDUSTRY — TOGETHER WITH DAIDO

Daido Machinery Corporation
Head Office:1-26-26, Fukazawacho, Takatsuki, Osaka, Japan
TEL : +81-72-671-5751
FAX : +81-72-674-4044
Email : info@daidopmp.co.jp
Website : http://daidopmp.co.jp/

Overseas Agencies(10 Countries, 13 Agencies) India :
SUREN ENTERPRISE
B-202, Damji Shamji Corporate Square, Laxmi Nagar, Ghatkopar (East); Mumbai - 400 075,India
TEL : 098-3329-4912
E-mail : sales@suren.co.in / pinak@suren.co.in

SANKYO SEISAKUSHO CO.

SANKYO SEISAKUSHO

Sankyo Seisakusho Co.

In may 2021, Sankyo Seisakusho Co. celebrated its 70th anniversary.

We would like to express our sincere gratitude to our business partners and others who have supported us since our founding.

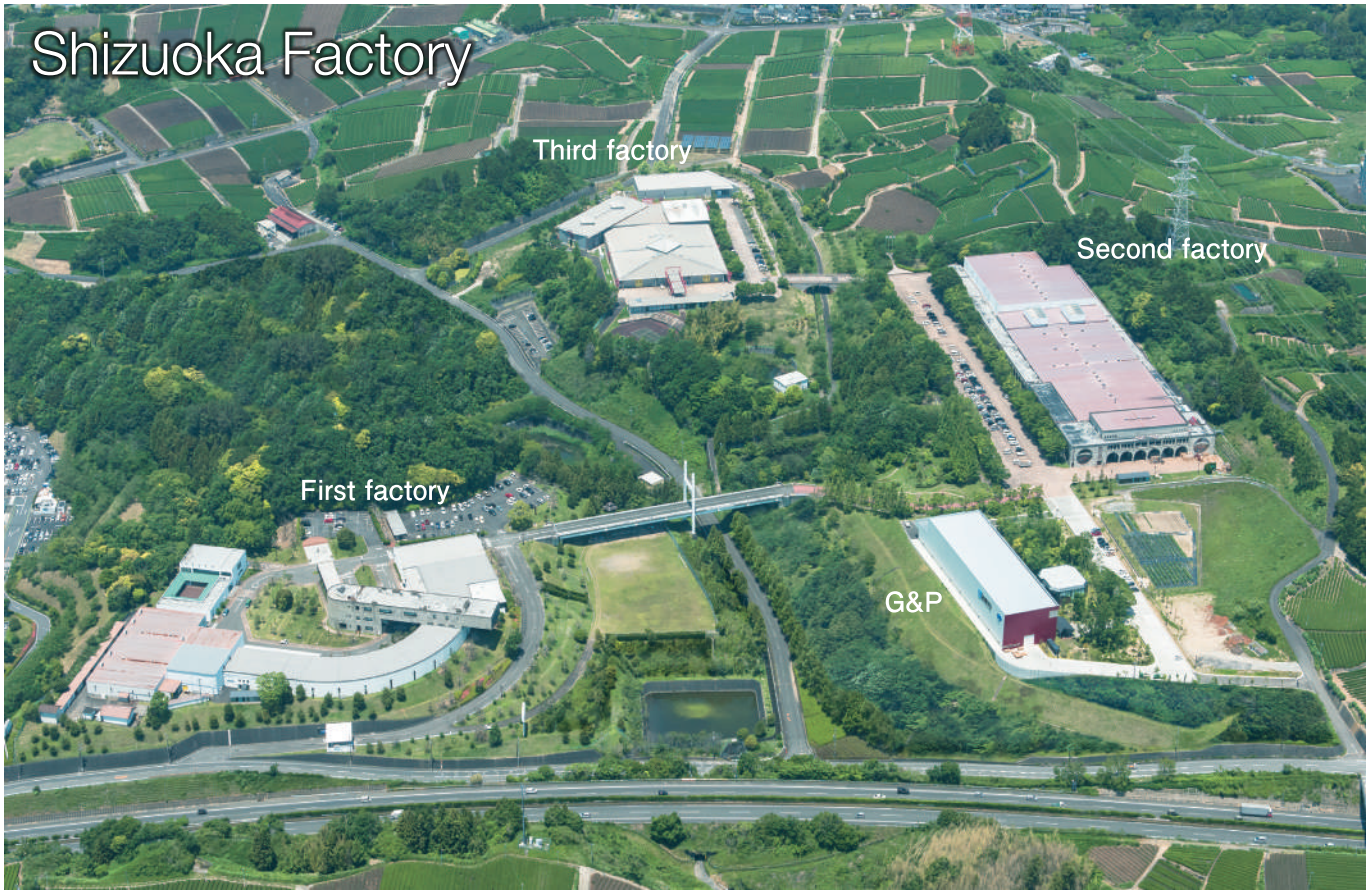
We started our company by creating parts processing and assembly machines on request from other manufacturers. However, 1973 was the key year in our history. The company's founder Ryohei Ogawa, aimed for the company to develop its own products and become independent as a manufacturer. He succeeded in developing and commercializing Japan's first index drive using a roller gear cam mechanism.

Since then, we have developed various products that offer high-precision, high-speed, and high-efficiency operation, based on our always ongoing study of cam technology.

Today, Sankyo is well known as "Cam Technology Sankyo." It supports manufacturing sites in a wide variety of industries, such as automobiles, food products, and semiconductors, through their use of our products.

While focusing on product development, we are also actively enhancing our own production and service systems and expanding our activities overseas.

At present, Sankyo Shizuoka Seisakusho Co. has four plants and is responsible for every aspect from R&D to manufacturing. We have production bases in the United States, China, South Korea, and Vietnam to provide a variety of regional services such as product supply and maintenance on a global basis.



Product

Our development of roller gear cam devices began in 1970 and they have now become representative of Sankyo's many cam technology solutions.

As a result of bringing these technologies to maturity, RollerDrive (precision reduction gears), Sandex (cam systems), Variax (press material feeders), and machine tools (machine tool-related equipment) are now established as core products of our company.

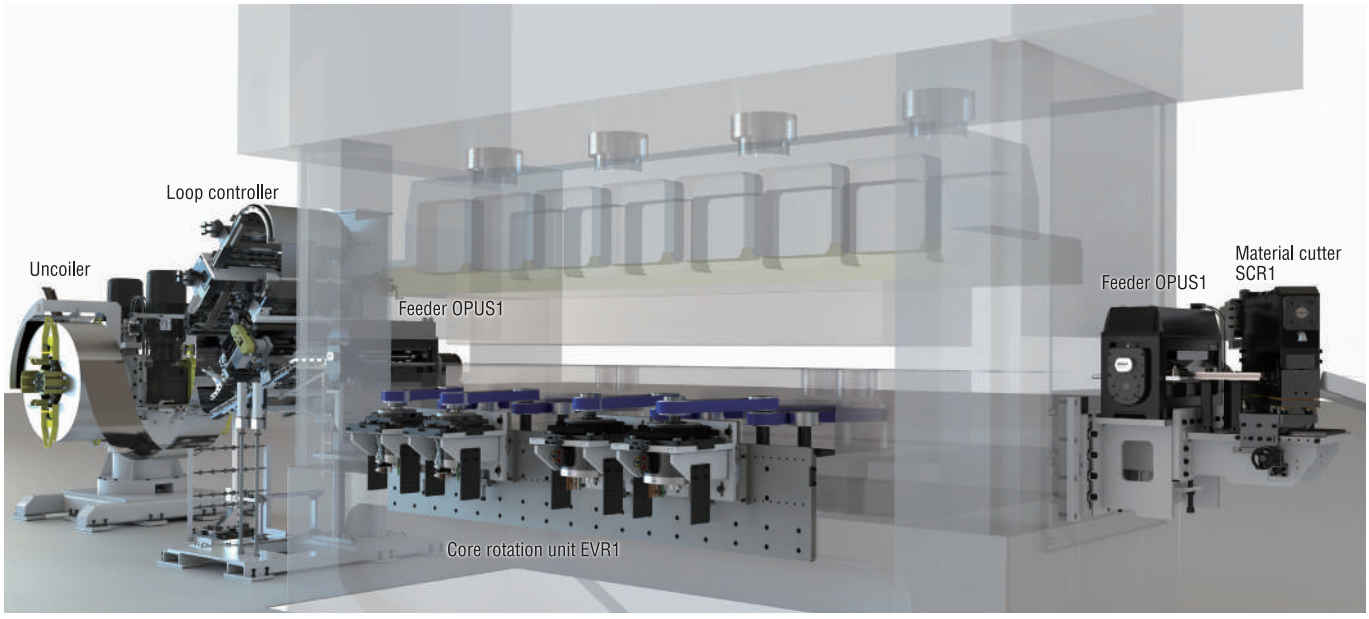
These core products have been created through constant discussions with our customers, and have been incorporated into production systems and production lines in a variety of industries, including automobiles, food products, light electrical appliances, semiconductors, precision machinery, and machine tools.

As a global supplier that creates machines that supply material handling functions such as turning, stopping, transferring, feeding, and alignment, Sankyo Seisakusho will continue to build its service system. This customer service system is closely linked to our customers' production bases.

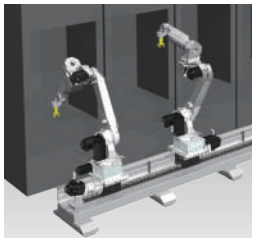
This means that optimal procurement is available around the world, not only in Japan.

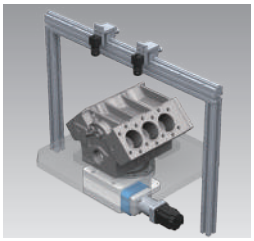
In addition to our relentless quest for manufacturing craftsmanship as a driving force, we will keep working to create the value required by our customers by taking advantage of our open communication with our customers.

Press Line

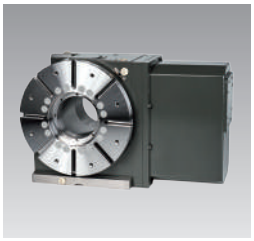


Factory Automation

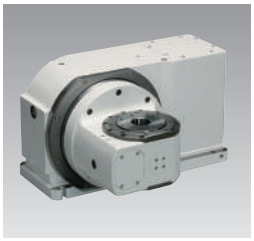

Transfer System


Positioner

Machine Tool


RCZ series


RTG series


RT series

SANKYO SEISAKUSHO CO.
3-37-3 Tabatashinmachi, Kita-ku, Tokyo, Japan 114-8538

TEL : +81-(0)3-3800-3305 FAX : +81-(0)3-3800-3378
URL : https://www.sankyo-seisakusho.co.jp/

Distributor in India

CNC Rotary Table
Visionpro Technologies
Webpage QR
Contacts
contactus@visionprotechnologies.com

FA positioner
Deceler Vibrotek Controls
Webpage QR
Contacts
sales@deceler.in

Press feeds & others
Galaxy Techniques
Webpage QR
Contacts
info@galaxytechniques.com

NS TOOL For Crafting Tomorrow

Company introduction :

NS TOOL is Japanese end mill manufacturer specializing in small-diameter and offers over 10,000 models and sizes of standard items. The diverse product lineups are highly rated. MUGEN COATING series are widely used in cutting applications and MUGEN COATING PREMIUM series are suitable for direct-milling of high-hardened steel. To meet severe requirements, we have developed CBN end mill series having superior hardness and achieved mass production and standardization. These achieve much longer tool life compared to carbide products. To customers seeking for mirror finishing, PCD end mill (polycrystalline diamond) series are available to achieve a nanometer-level surface roughness. Our new coating "MUGEN COATING PREMIUM Plus" maintains outstanding tool life and precision machining even on high-hardened steel (up to 70HRC). We proudly introduce two models with this new coating : MRBSH230SF, 2-flute for high-precision machining, and MRBSH330, 3-flute for high-efficiency machining.

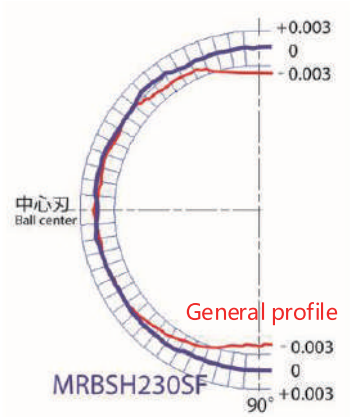
NS TOOL GLOBAL Cloud+

NS TOOL GLOBAL Cloud+
We can provide you
the latest information and solutions

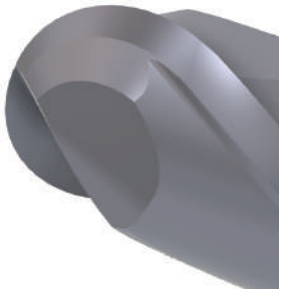
MUGEN COATING PREMIUM Plus MRBSH230SF



Realizes stable cutting performance even for 70 HRC hardened steel
new optimized tool material and design to reduce cutting load
Tool size : R0.05 ～ R3, total 115 sizes with various under neck length



R ±0.003 mm
R accuracy is based on a half value of actual diameter



MRBSH230SF features newly developed MUGEN COATING PREMIUM Plus with high oxidation and abrasion resistance. A seamless design on rake and flank face from R-curve to peripheral cutting edge enables very high machining accuracy.

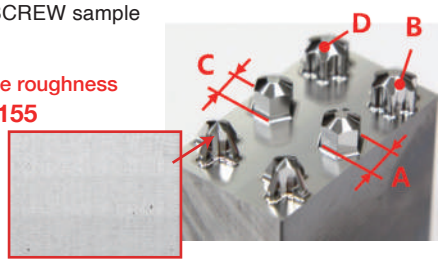
In the following example of high-hardened steel (68HRC) machining, even after 2 hour 29 minutes of finishing with tool size R0.5 x 4, deflection and surface roughness of work piece remained very good. This demonstrates that high-precision machining can be achieved even on high-hardened steel.

High accurate R

Tool : MRBSH230SF R1×4/R0.5×4 · Material : HAP72 (68HRC)
Cutting Condition : S18,000 min^{-1} , F400 mm/min · Stock : 0.01mm / pf 0.02mm
Time : 8hr25min · Coolant : Oil mist · Size : 20×35 mm (Depth 5.1mm)

SCREW sample

Surface roughness
Ra 0.155



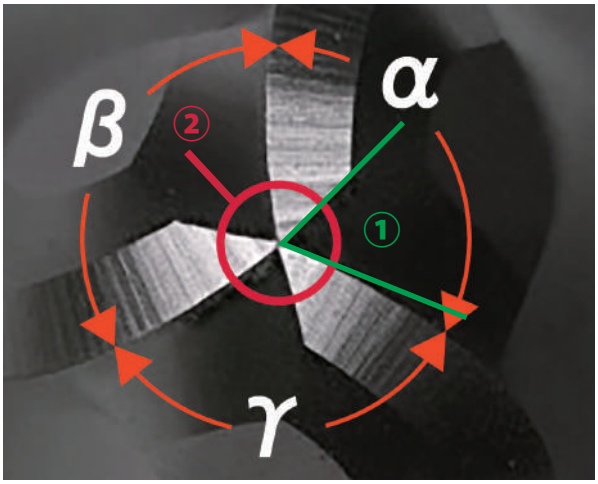
Initial stage of processing		Final stage of processing	
A Target 5.08mm	B Surface roughness	C Target 5.08mm	D Surface roughness
A Actual 5.087mm	Ra 0.114μm	C Actual 5.090mm	Ra 0.142μm
Defection amount Below 0.001mm	Rz 0.963μm	Defection amount 0.001mm	Rz 0.877μm

By Nikon MM-20 / KEYENCE VK-X250

MUGEN COATING PREMIUM Plus MRBSH330



High-efficient 3-flute ball end mill optimized central cutting edge enables high depth of cutting
Even hardened steel 60 to 70 HRC can be machined with long tool life and high efficiency
High accuracy type, shank diameter tolerance -0.001mm ～ -0.003mm.

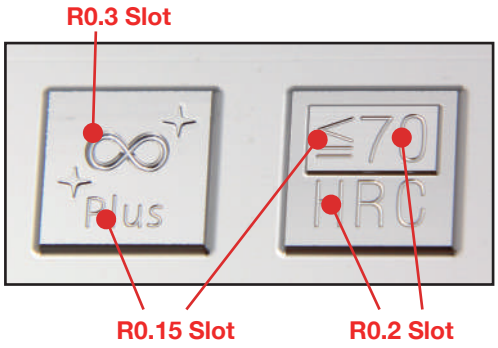


Unequal flute to prevent chattering

MRBSH330 features chip pocket design ① balanced tool rigidity and smooth chip removal at the center ball shape. Design ② can reduce cutting load to enable high depth of cut. Furthermore, unequal flute spacing (α ≠ β ≠ γ) effectively suppresses chattering, even under the high feed conditions. Combined with the newly developed MUGEN COATING PREMIUM Plus, extends tool life and enables long-term, highly efficient machining, even in small-diameter machining.

As shown in second example below, even when slotting on high-speed steel HAP72 with hardness up to 70HRC, machining accuracy is maintained within 2 µm and achieving high-precision performance.

Tool : MRBSH330 R0.15×0.5/ R0.2×0.5 / R0.3×1 • Material : HAP72 (70HRC)
Time : 8min20sec • Coolant : Oil mist • Cutting area : 10×10 mm(2 shapes)



Premium Plus icon shape sample accuracy

Process(Shape)	Slot (∞)	Slot(Plus · ≦)	Slot(70HRC)
Tool	R0.3×1	R0.15×0.5	R0.2×0.5
Spindle speed	25,000 min^{-1}	32,000 min^{-1}	32,000 min^{-1}
Feed	400 mm/min	250 mm/min	400 mm/min
Depth of cut	ap 0.01 mm	ap 0.003 mm	ap 0.006 mm
depth	0.35 mm	0.06 mm	0.06 mm
Cutting time	2min	3min30sec	2min50sec

Work shape	∞ slot depth	Plus slot depth	≦ slot depth	70 slot depth	HRC slot depth
Target Actual	0.350mm 0.349mm	0.060mm 0.059mm	0.060mm 0.059mm	0.060mm 0.059mm	0.060mm 0.058mm

By KEYENCE Laser Microscope VK-X3000

We are providing highly stable and precision end mills and always seeking comprehensive machining technologies on the customers' stand points in the precision machining. A wide range of services are provided from tool manufacturing to machining technology support tailored for customers' needs. Please contact us for further information.

NS TOOL CO.,LTD. Distributor in India : Metacut Technologies
Head Office
B-27, SF, F.I.E, Patparganj Industrial Area, Patparganj, Delhi - 110092, India
TEL : 011-42878285 E-mail : sales.metacut@gmail.com Website : www.mt-india.com

ACTY SYSTEM

ACTY SYSTEM INDIA PVT. LTD.

Transform Your Manufacturing in India with Japan-Quality DX

Paperless > DX > AI



Why Choose Acty System India?

We combine Japanese precision with local Indian expertise to streamline your production.

- **Proven Legacy**: Over 25 years of experience in offshore development, implementation, and support.
- **Massive Technical Talent**: A team of 200+ bilingual engineers specialized in servicing Japanese customers.
- **Pan-India Presence**: 5 strategic offices in Mumbai (HQ), Ahmedabad, Pune, Bangalore, and Jodhpur.
- Uninterrupted Support: 24/7/365 remote helpdesk to ensure your operations never stop.
- Native Communication: Full support available in Japanese
  （日本語でサポートも可能!!）

Acty Group supports global expansion of Japanese companies 13 locations worldwide



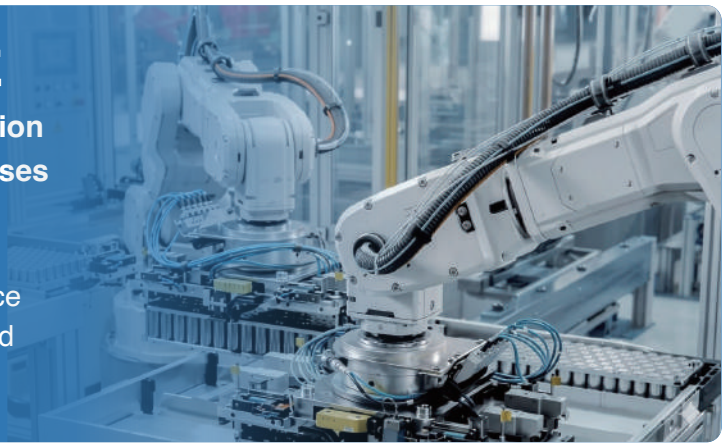
Japan I India I China I Thailand I Myanmar I United States

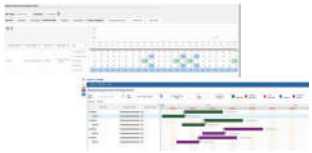
Our Products

THOMAS GLOBE

Customized Packaged Solution for global Japanese enterprises

Consulting, custom fitting, implementation and maintenance support for local compliance and Japanese best practices





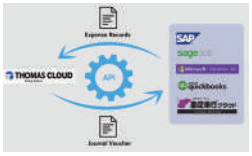
1. Intelligent Production Planning

Automated MRP: Create precise production plans based on demand and material calculations automatically.



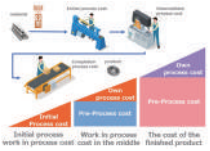
2. Real-Time Data Collection & Visualization

Mobile Integration: Collect data instantly using tablets, smartphones, and handheld devices.



3. Account Integration

Seamless Integration: Compatible with major accounting systems (SAP, Sage 300, Dynamics 365, QuickBooks) with multi-currency and tax support.



4. Cost Management

Policy Alignment: Customized cost management module that aligns your internal cost control policies



5. Data Visualization

Non-programmatically design reports, graphs & tabulations in an easy DIY interface



6. Internal Controls

Fraud prevention with authorized access, approvals and system audit controls

Global Reach, Local Expertise

As part of the Acty Group, we support the global expansion of Japanese companies across 13 locations worldwide, including Japan, India, China, Thailand, Myanmar, and the United States.

"Bridging Technology and Tradition for a Smarter Factory."

Would you like me to draft a professional email template based on this ad to send to potential manufacturing clients in India?

ACTY SYSTEM INDIA PVT. LTD.

602, A-Wing, 6th Floor,Lotus Corporate Park, Off Western Express Highway, 185-1/3 Graham Firth steel Compound, Goregaon (E),Mumbai, Maharashtra - 400063
Other Offices - Ahmedabad, Pune, Bengaluru, Jodhpur

Japan Die & Mold Industry Association.

JAPAN QUALITY KANAGATA

Japan Die and Mold Industry Association(JaDMA)

The Japan Die & Mold Industry Association, “JaDMA”, consists of some 400 die and mold producers, in fields as variable as stamping, plastics, die-casting, casting, rubber, glass and more.

JaDMA member companies are spreading their technologies throughout the world.

Japan Quality, this is our subject to be No.1 at the total balance of quality, delivery, and price of the product. Each of these three elements is indispensable. We are the Japanese die & mold manufacturers that bring the benefits to customers with the combination of these three elements. And JaDMA is the association of companies proud of all three of these elements.

Our member companies not only export from Japan but also establish operating bases and maintenance networks world-wide. Their presence is indispensable for manufacturers around the world.

JaDMA Activities

Workshop/Development

- Die and Mold technology seminar
- Exchange meeting
- Development for young executive
- Factory tour





Research

- Quarterly state survey of Die and Mold
- Annual survey of the trend of Die and Mold
- Assessment of wage and working hours

Workshop/Development

- Local networking
- Business matching system
- Assistance of branch out
- Hospitality for visiting groups to Japan

Public Relations for members

- Search engine of JaDMA members
- Free exhibition system of INTERMOLD

Information

- Quarterly magazine “KANAGATA”
- Information of foreign standard
- Mail magazine for members
- Die and Mold related technology Database
- Die and Mold related statistical information

Group Activities

- Machine compensation system
- Group workers ' compensation insurance

Legal/Labor management

- Free legal counsel by JaDMA legal advisor
- Free labor counsel by JaDMA consultant

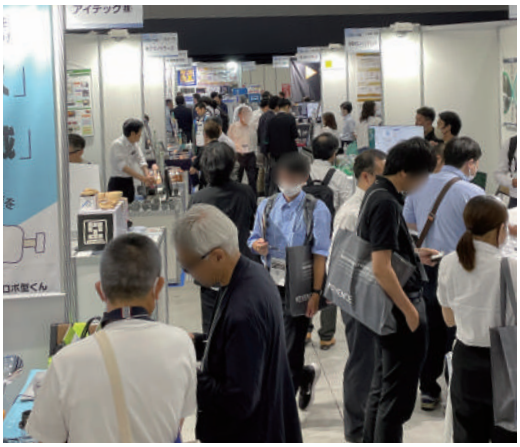
For workers of member company

- Kanagata Master Certificate
- Award for excellent workers
- Recommendation of skillful craftsmen to government



Die and Mold industry activities

- INTERMOLD Exhibitio Tokyo/Osaka and Nagoya
- Participation in ISTMA & FADMA activities



- Promotion movie of Die and Mold industry
- Student contest of Die and Mold
- Anniversary of Foundation



Die and Mold industry activities

- Die and Mold related standards
- Safety net for serious business
- Licensing examination
- High-standardized industrial regulation
- Protection of intellectual properties
- Sending industrial requirements to the government
- Die and Mold transaction guideline
- Create Die & Mold faculty of universities

Japan Die & Mold Industry Association.
6F Kanagata Nenkin Bldg. 33-12, Yushima ,2-Chome, Bunkyo-ku,Tokyo 113－0034, Japan
TEL : +81-3-5816-5911 FAX:+81-3-5816-5913
E-mail : info@jdmia.or.jp

MOLD DESIGN & MANUFACTURING

HIRAOKA INDUSTRIES

Hiraoka Industries, with over 90 years of history since its founding, designs molds for high-precision rubber products based on the mold technology and precision machining expertise we have cultivated over many years.
Our strength lies in our engineering capabilities that enable high-quality rubber molding and efficient manufacturing processes.

Competitive Advantage

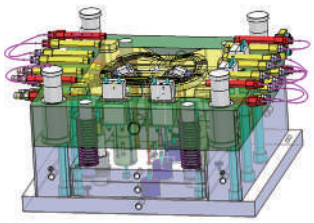
Capability
Based on product drawings, we create detailed 3D CAD models and develop mold structures optimized for quality.

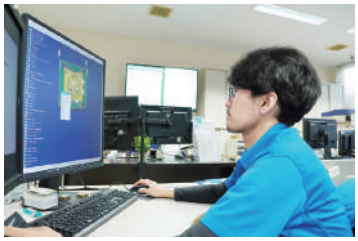
Automotive Experience
Strong expertise in molds for automotive door weatherstrip products, which require high dimensional accuracy.

Parting Line Technology
Mold manufacturing that enables high-quality rubber molding with minimal flash through proprietary design skills.

Complex Mold Design
In the design for complex rubber molds, we perform mold structure design, electrode modeling, and pre-evaluation of moldability.

Integrated Manufacturing Technology
We possess the technology to perform all processes in-house, from machining and fitting to prototyping and maintenance.





Hiraoka Industries Co., Ltd.

MOLD MARSHALLING SYSTEM

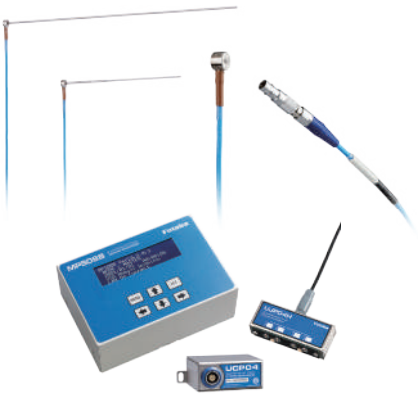
In-Mold Measuring System

Visualizing inside mold

The mold marshalling system is an injection molding measuring system that uses sensors and special-purpose amplifiers installed inside a mold to convert the behavior of the resin inside the mold (the mold itself previously regarded as something of a black box) into a signal or voltage.
The system outputs this signal or voltage in real time to a PC or measuring instruments. This digitized data has a wide range of uses.
It can be used to set optimal molding parameters, automatically screen for defective products, control quality, and evaluate molds.

Mold marshalling allows visualization in six ways

In-mold resin pressure measurements	Measures resin pressures inside the mold.
In-mold resin temperature measurements	Measures resin temperatures inside the mold.
Mold surface temperature measurements	Measures cavity surface temperatures.
Injection molding monitoring	The integrated measuring system allows more advanced analysis by consolidating multiple data into a single unit.
Flow rate measurements	Measures resin flow front speed, regardless of direction of flow, based on a single sensor.
Flow front detection	Instantly detects resin arrival and outputs the corresponding control signal.



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Futaba

Easy to understand Die & Mold

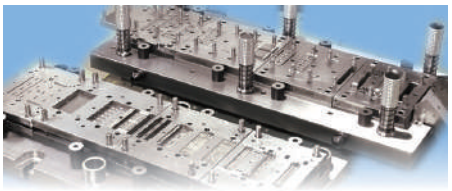
出典　真説・日本の金型産業論　一般社団法人　日本金型工業会　金型産業戦略会議編
横田悦二郎著　日刊工業新聞社発行

Easy to understand Die & Mold

(1) What is a mold/die?

It is a metal mold used when mass-producing parts of the same shape.

All kinds of products and parts are produced using molds.





Number of automobile parts:
Approx. 30,000



Number of smartphone parts:
Approx. 1,000



▶ Most parts are produced by molds

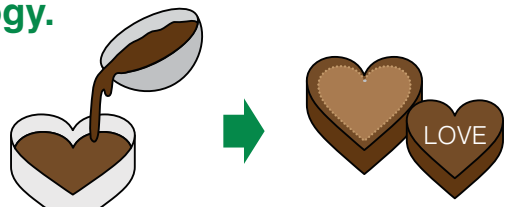
(2) The principle of molds is transfer technology.

Molds can be compared to chocolate molds.

For example, you melt chocolate and pour it into a heart-shaped mold. Once it hardens, you take it out. By repeating this, you can make many heart-shaped chocolates of the same size (dimensions) and the same form (shape).

At this time, if you engrave the letters "LOVE" on the bottom of the mold, the same letters will be transferred to the hardened chocolate. Similarly, if you polish the bottom of the mold like a mirror, the surface of the hardened chocolate will become smooth and glossy.

Since a mold uses transfer technology, stricter precision is required for the mold (the heart mold) than the dimensions required for the product (the chocolate). For this reason, it is said that the quality of a product is determined by the mold.





Polishing metal like a mirror

Provided by: KITAZAWA KOGYO Co., Ltd.

▶ Mold making is a job that determines product quality

(3)Why are molds necessary?

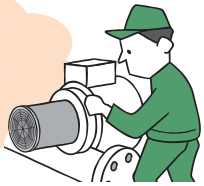
To mass-produce parts of the same dimensions and shape, producing them with a mold is the best approach in terms of cost, precision, and speed.

If you were to produce 1 million parts of the same shape, and you produced them by cutting each part one by one without using a mold...

①How much would the production cost of a single part be?

②Would the dimensions of all the produced parts be the same?

If there were no molds
They would have to be produced by methods such as cutting each item one by one



③Which would have a faster manufacturing time?

Molds are important equipment for mass production

(4) Types of Molds/Dies

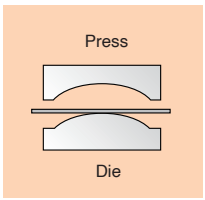
Molds/Dies can be broadly divided into 2 main categories.

Press Die

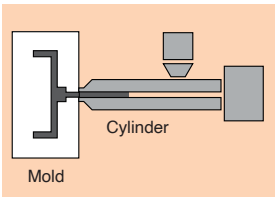
Parts are produced by applying pressure to iron plates with a die to bend, cut, or draw them. For example, it produces things like automobile bodies.

Plastic Mold

Parts are produced by melting materials, pouring them into a mold, and letting them harden. For example, it produces things like PET bottle caps.



Press Die (Die)

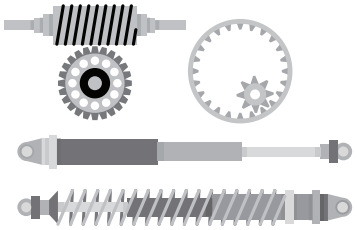


Plastic Mold (Mold)

(5) Mold Manufacturing Process (From Demand to Completion and Use)

❶Product Development (Product Design)

A new product has been developed and will be sold. For this purpose, parts will be mass-produced. To mass-produce parts, a mold is necessary. Therefore, it was decided to manufacture a mold. First, the shape data of the parts to be mass-produced is handed over to the mold designer.



❷Mold Design and Machining Data Creation

Based on the provided shape data of the parts to be mass-produced, the mold designer designs a mold that can mass-produce those parts. Then, based on the completed mold blueprints, they create machining data to operate the machines that manufacture the mold components.



Provided by: KUNO Kinzoku Industry Co., Ltd.

❸Mold Machining

Mold components are machined using machine tools, etc., based on the mold drawings and machining data.

❹Mold Finishing and Assembly

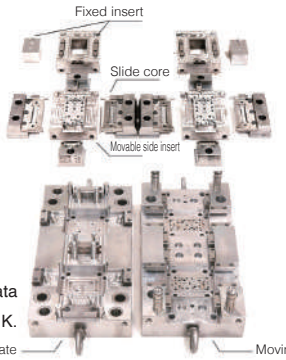
After finishing and adjusting the dimensions and surfaces of the mold components machined by machine tools, the mold components are assembled according to the mold blueprints, the mold is completed, and test production is conducted. Since a wide variety of functional parts such as moving devices, cooling systems, and sensors are incorporated into the mold, a mold is not just a simple tool but a mass production facility.



Provided by: KANTO MANUFACTURING CORPORATION

❺Mold Completion and Mass Production Start

The completed mold is installed in a molding machine (such as a press machine or injection molding machine), and mass production of the parts begins.



Provided by: Matsuno Kanagata Seisakusho, K.K.

Disassembled mold



Provided by: Matsuno Kanagata Seisakusho, K.K.

Completed mold

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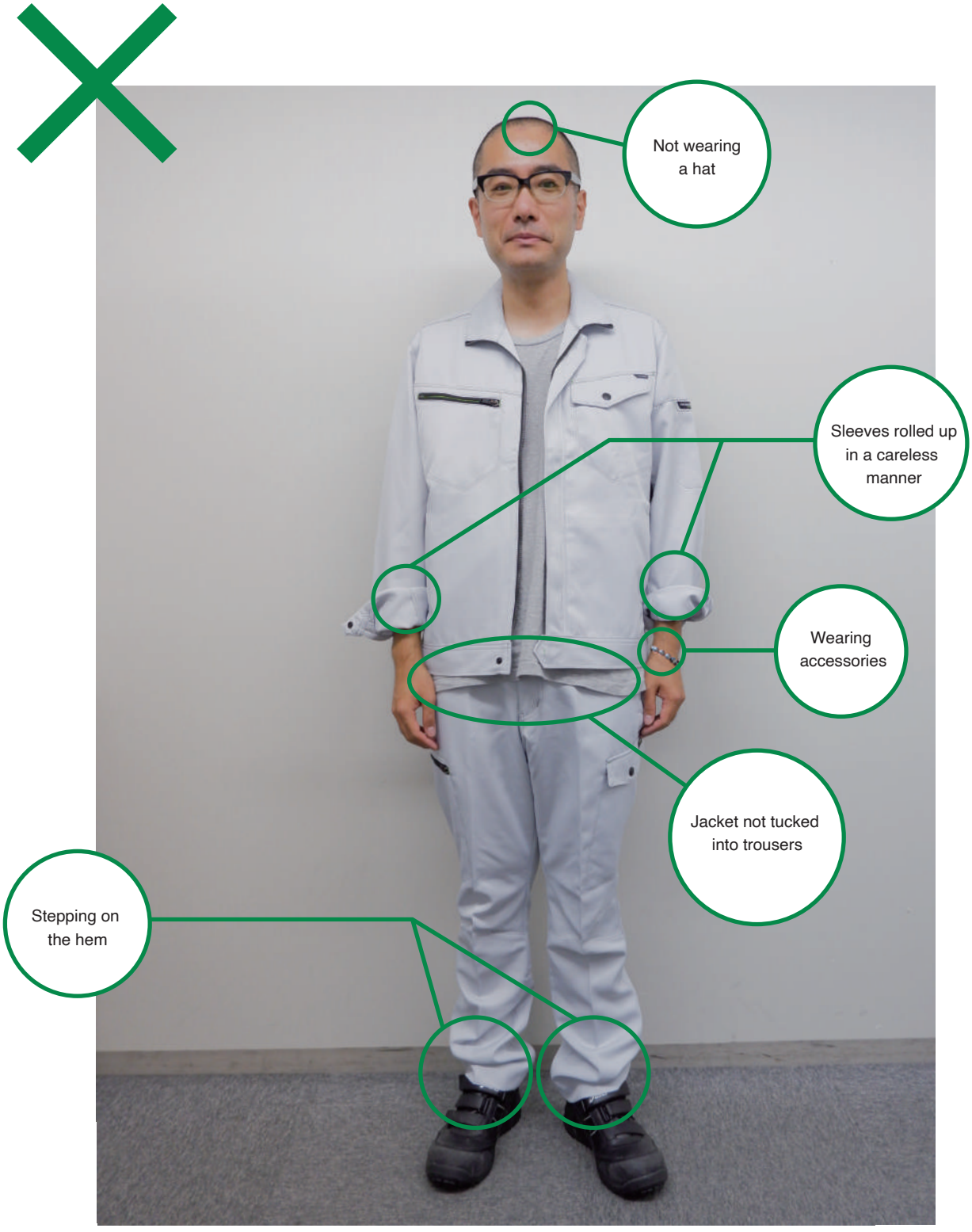
Be sure to dress well
to ensure safe work.

Be sure to dress well to ensure safe work.

Do not operate machinery while wearing inappropriate clothing.

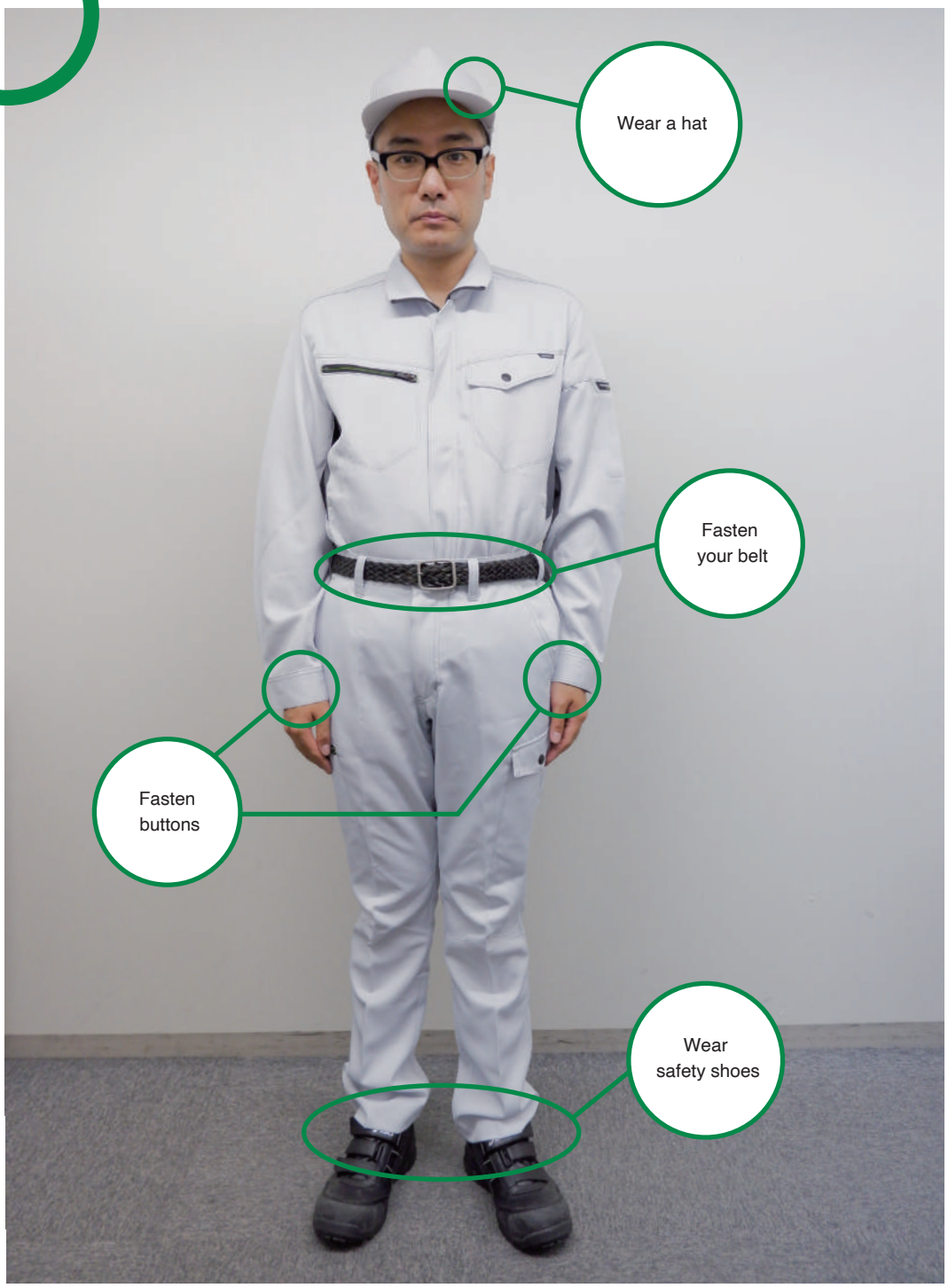
❶Work clothing for machining (lathe operations) is the proper attire.



Why this is dangerous

Workers with improper clothing tend to lose attention. Most accidents during lathe operations occur due to complacency. Maintaining proper clothing helps keep a safe and focused mindset. During lathe operations, safety shoes, a helmet/cap, and protective glasses must always be worn.

Always check that your work clothing is appropriate and safe.



Do not leave sleeve buttons unfastened.

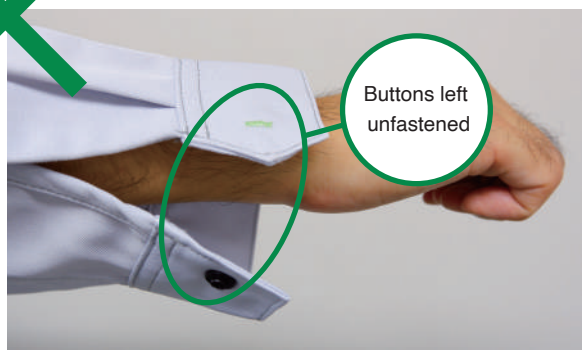
❷ Keep sleeve buttons fastened at all times.

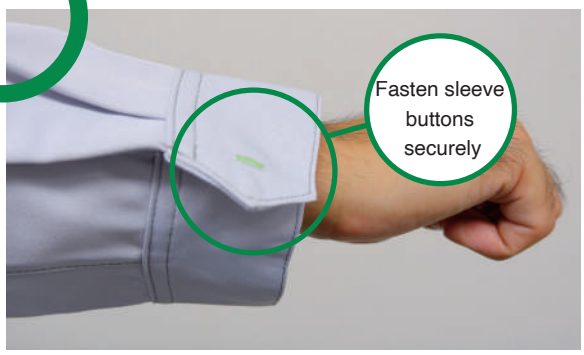
Why this is dangerous

Lathe operations require working close to rapidly rotating workpieces (chucks). Unfastened sleeves can be caught in the workpiece, leading to serious accidents such as stitches or fractures.

Never assume “it will be fine.” That mindset is the first step toward an accident.

Always fasten the sleeve buttons securely.





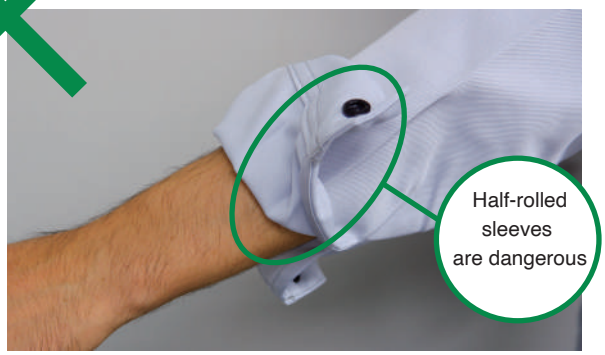
Do not roll up sleeves carelessly.

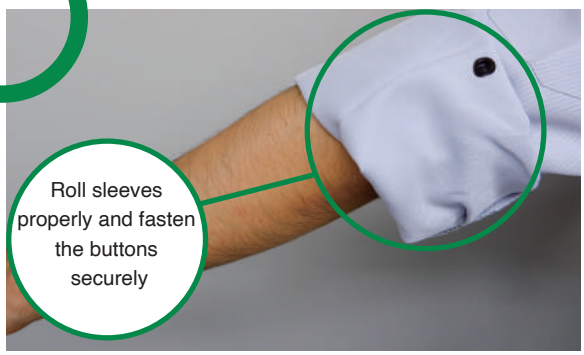
❸ Rolling up sleeves must not be done halfway or loosely.

Why this is dangerous

During hot seasons, workers often roll up their sleeves. In lathe operations, work is performed close to rapidly rotating workpieces (chucks). If a sleeve is caught, serious arm injury may occur.

If sleeves are rolled up, fold them properly from the jacket sleeve and fasten them securely with buttons so they do not fall down.





Do not leave the zipper of your winter work jacket open.

❹ Winter work jacket when worn, he zipper must not be left open.

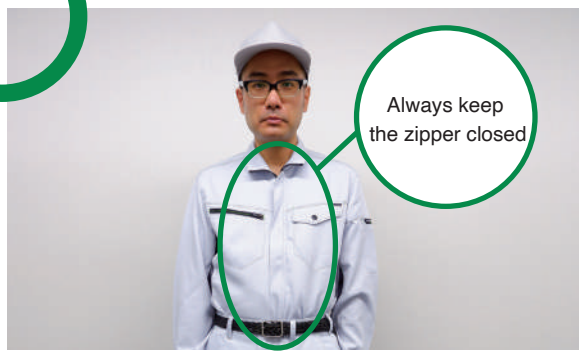
Why this is dangerous

Lathe operations require working close to rapidly rotating workpieces (chucks). In past cases, jackets with open zippers were caught in rotating parts, causing serious accidents such as full-body bruising and torn skin.

Properly fitted clothing is essential to prevent entanglement with rotating workpieces. Loose clothing is strictly prohibited.

Always keep the zipper fully closed.





Do not wear a towel around your neck while working.

❺A towel for wiping sweat worn around the neck must not be used during work.

Why this is dangerous

During hot seasons, workers are often seen wearing towels around their necks while working.

Lathe machining is performed close to rapidly rotating workpieces (chucks). A towel around the neck can easily be caught and cause serious danger.

If using a towel, place it on the workbench or store it securely in a pocket.





Do not let a hand towel protrude from your pocket.

❻A hand towel from the pocket must not be left sticking out.

Why this is dangerous

A towel protruding from a pocket may be caught in a rotating workpiece (chuck). This may seem minor, but such attention to detail is the first step in preventing injuries.

When placing a hand towel in your pocket, store it securely so it does not protrude.





Do not put your hands in your pockets.

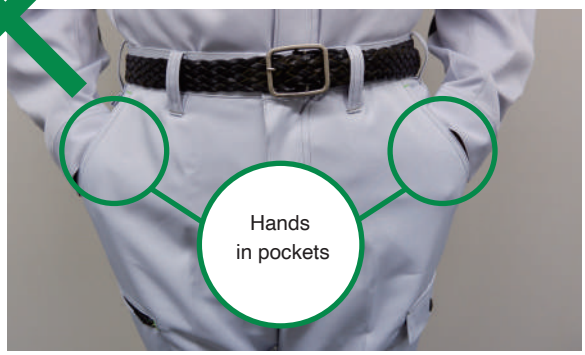
❼With hands in pockets, into the workshop do not enter.

Why this is dangerous

In the workshop, many machine tools are present and heavy metal materials are handled. If you fall with both hands occupied, you cannot protect yourself and may suffer serious injury.

Even if you think you will not fall, you may slip on oil or trip over materials in the walkway.

Keep your hands out of your pockets so they can be used immediately if you lose balance.





Do not enter the workshop wearing slippers or sneakers.

❽Wearing slippers or sneakers into the workshop do not enter.

Why this is dangerous

The workshop contains many hard and heavy materials such as steel. Round bars used in lathe machining can roll easily. If heavy materials fall or roll onto your feet, slippers or sneakers cannot protect them, and the bones in your toes or instep may be crushed.

Accidents involving materials falling and injuring feet are among the most frequently reported.

When entering the workshop, always wear safety shoes with protective toe caps.





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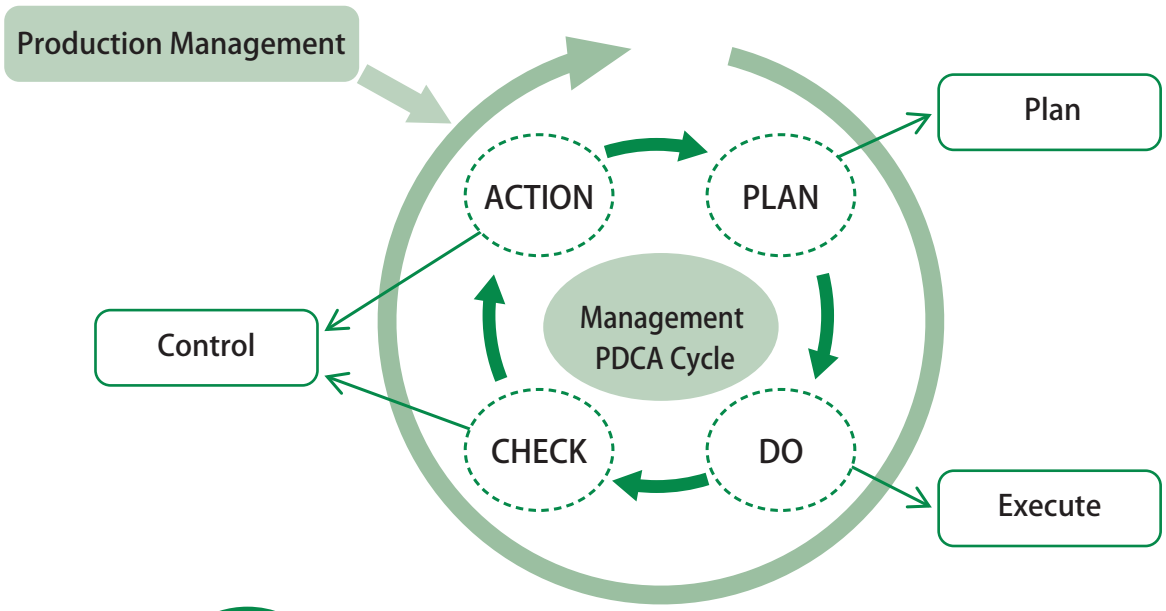
Let's Learn About Production Management

出典　図解でナットク！生産管理入門　古谷賢一著　日刊工業新聞社発行

Let's Learn About Production Management

What kind of activity is "production management," which covers a broad scope and tends to have an ambiguous definition? We will explain it simply using everyday examples. Let's understand the big picture of production management.



Words to Remember

Production and Manufacturing, The 3 Elements of Production, The Role of Production Management

1. What is "Production" in Production Management?

Got it!

"Manufacturing" is a part of "Production." Production management requires considering all activities involved in bringing a product into existence.

The terms "production" and "manufacturing" are often heard in the manufacturing industry. These two are similar, but their meanings are actually slightly different. By understanding this difference, you will be able to more clearly visualize the scope that "production management" covers.

First, "production" refers to all activities that create goods (products) and services. For example, growing crops in agriculture or developing software are also part of "production." Furthermore, generating energy and providing services in the service industry are included in production in a broad sense.

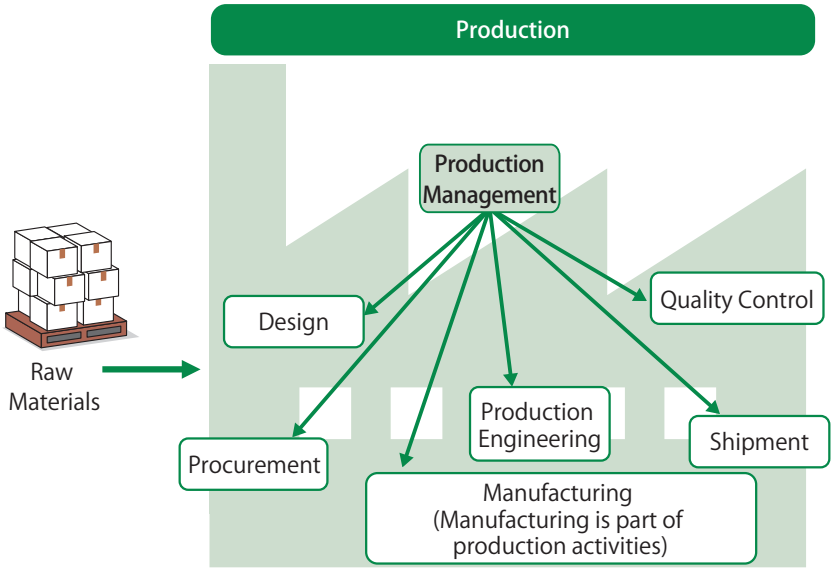
On the other hand, "manufacturing" mainly refers to the activity of processing raw materials to make goods (products). For example, processing materials in a factory to build a car is manufacturing. In other words, manufacturing is a part of production, specifically limited to the act of making physical goods.

Why is the word "production" used in the manufacturing industry? In the manufacturing industry, the activity of making goods (products) is certainly central, but the term "production management" is widely used instead of "manufacturing management." There are several reasons for this.

In the manufacturing industry, many activities are involved in making a product, starting from product design, procurement of raw materials, quality control, to logistics. For example, quality control is the activity to meet the required quality of the product, and logistics is the delivery of raw materials and the activity of delivering the finished product to the customer. The word "production" is used in a broad sense to include all these activities.

In short, the work of the manufacturing industry is not just "manufacturing"; it includes various tasks to create a product,

Production management is an activity to efficiently create products



such as product design, raw material management, and preparation for shipment, which is why the term "production management" is appropriate.

Let's consider the automotive industry, a typical example of the manufacturing industry. It involves many activities, from car design, selection of raw materials, and product inspection, to the logistics required to deliver the product to the customer on time. The term "production management" is used to manage all of these.

In this way, "production management" is not simply "management of the manufacturing process alone," but targets the management of all activities that create a product—that is, the entire process "from procurement to product shipment." It is an effort to efficiently produce products that meet the customer's desires at the appropriate timing.

2. Let's Learn the 3 Elements of Production Activities

Got it!

The three elements of production activities are QCD (Quality, Cost, Delivery). Practicing all three of these in a well-balanced manner is an important role of production management.

There are three elements you must remember to carry out production activities. They are "Quality," "Cost," and "Delivery." In English, they correspond to Quality, Cost, and Delivery, respectively, so they are often called "QCD" by taking their initials, a term used in any company within the manufacturing industry.

Production is not just simply making things. Remember what production management is. Production management is an effort to efficiently produce (Cost) products that meet the customer's desires (Quality) at the appropriate timing (Delivery). These three—"Quality," "Cost," and "Delivery" (QCD)—are also called the "3 elements of production."

These three elements of quality, cost, and delivery are central to production activities, and it can be said that the activity of production management is to reliably achieve the target quality, cost, and delivery.

First, "Quality" refers to the performance and characteristics of the product that the customer demands. Taking a car as an example, engine performance and exterior finish relate to quality. If the quality is high, customer satisfaction increases, and the reliability of the product also improves. However, if the quality is poor, the product may be returned or require repairs, resulting in a huge waste of cost and time for the company.

Next, "Cost" refers to all the expenses incurred to make a product. This includes material costs, labor costs, and maintenance costs for machinery (production equipment). If costs can be reduced efficiently, it becomes easier for the company to increase profits, but conversely, if costs are too high, profits will decrease.

And "Delivery" means delivering the product to the customer at the promised time. If the delivery time is not met, the customer will feel dissatisfied and trust will be lost. In particular, delivery management is extremely important for made-to-order products or parts needed at a specific timing.

These three elements are closely related to each other. Trying to improve quality may increase costs, and aiming to reduce costs may sacrifice quality. Also, rushing manufacturing to meet a delivery deadline may affect

None of the QCD elements can be missing. Balance is also important.

The 3 Elements of Production

① Quality	②Cost	③Delivery
Quality	**C**ost	**D**elivery
What the customer demands	Efficient production	Appropriate timing

quality. In this way, all aspects of QCD are indispensable, but on the other hand, balancing QCD is one of the most important roles of production management.

3. Let's Understand Quality

Got it!

Defects lead to customer dissatisfaction. To achieve good quality, all departments from product design to shipment must cooperate.

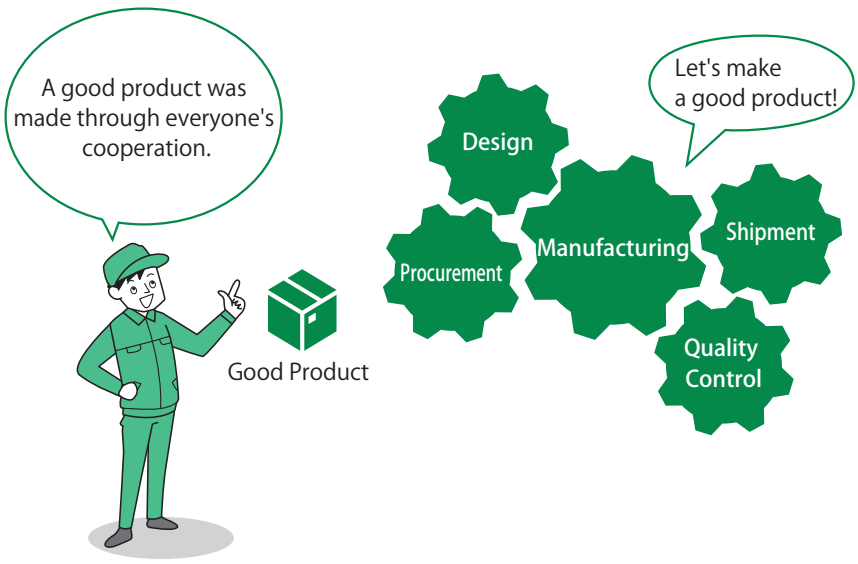
The first of "QCD" is Q, or "Quality." Shipped products must satisfy the "Quality" demanded by the customer. By the way, what exactly is this "Quality"?

Quality mainly has two aspects: "Function (Performance)" and "Appearance." First, "Function (Performance)" refers to how effectively a product operates for its intended purpose. Having a problem with the function is called a "functional defect." If you set the air conditioner to heating but only cold air comes out of the vent, the air conditioner's function is not fulfilled. In this way, functional defects immediately cause customer dissatisfaction and lead to returns and complaints.

Next, "Appearance" refers to the look and finish of the product (sometimes called grade or dignity). If the surface of a newly purchased smartphone has scratches or dirt, the customer will consider the product "defective." Having a problem with the appearance is called an "appearance defect." Appearance defects also directly link to customer satisfaction. If the appearance of a product is not satisfactory, its value is greatly impaired.

Furthermore, quality is not limited to function and appearance. In recent years, consideration for product

To eliminate defects, it is important for all production activities to cooperate.



"safety" and the "environment" has also come to be regarded as part of quality. Products that have dangerous parts for small children to touch or products that do not use environmentally friendly materials are considered to have quality problems.

Moreover, "services" and "customer support" related to the product are also increasingly considered as quality. If the usage of a product cannot be properly explained, or if questions from customers cannot be adequately answered, the quality is also considered poor.

Quality has many aspects, but the manufacturing industry is required to achieve quality that satisfies customers. If the quality is low, no matter how efficiently production is carried out, customer trust cannot be gained.

In production management, efforts to prevent the occurrence of defects and the shipment (outflow) of defective products to customers are important. For example, steady activities such as procuring raw materials of appropriate quality and preventing defects from occurring in the manufacturing process are required.

To protect quality, a consistent cooperative system is necessary from the product design stage through raw material procurement, production, and final inspection. In the manufacturing industry, making products that ensure the quality demanded by the customer is the most basic goal, and the role played by production management is very important.

4. Let's Understand Cost

Got it!

Cost is the expense to produce a product. Although necessary, it cannot be increased wastefully. If costs are not managed properly, profits cannot be obtained.

Next in "QCD" is C, or "Cost." No matter how many products can be produced, production must not cost an excessive amount of money. Cost refers to all the "expenses" incurred to produce a product.

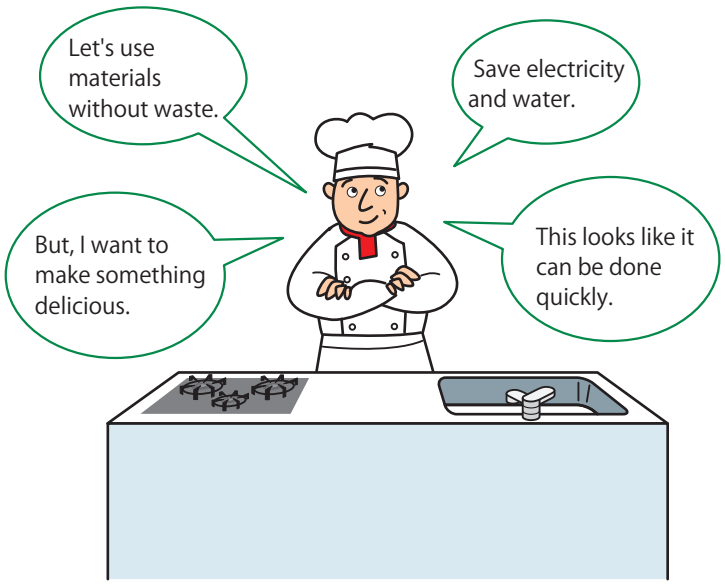
Expenses are the expenditures (money) necessary to produce a product, such as raw material costs and labor costs. In order for a company to sell products and make a profit, it is very important to manage this cost so that it does not exceed the selling price.

Let's take a local bakery as an example. For a bakery to make bread, it first needs to buy raw materials like flour, sugar, and butter (called raw material costs). Also, making bread incurs electricity and water bills for the oven (called utility costs). Furthermore, if you hire a part-time worker to help bake bread, their wages (called labor costs) also occur. These expenses are called "costs."

Suppose it costs 100 yen for a bakery to bake one piece of bread, and they sell it for 120 yen. In this case, the bakery can make a profit of 20 yen per piece. However, if the cost of baking bread increases to 130 yen due to rising raw material prices or increased labor costs, the bakery will incur a loss of 10 yen per piece. In this way, when costs exceed the selling price, the shop runs into a "deficit," and the business becomes unsustainable.

A deficit is a state where expenditures (money paid by the company for various expenses) are greater than income (money coming into the company through sales activities, etc.). Conversely, a surplus is a state where income is

Keep costs down and increase profits with efficient production.



greater than expenditures. Of course, a surplus is definitely better

In production management, properly managing costs is a very important job. No matter how good a product you make, if it costs too much, you will suffer a loss instead of making a profit. Conversely, if you can appropriately reduce costs, you can also increase profits.

For example, if it's a bakery, the costs required for production can be reduced by "using cheaper flour," "finding a work method that can make many at once," or "using an energy-saving oven." Successfully managing these costs is the key to increasing profits.

5. Let's Understand Delivery

Got it!

Delivery is the date promised to the customer. It is not good to be either earlier or later than promised. Meeting the delivery deadline is directly linked to the company's trust.

The last element of "QCD" is D, or "Delivery." No matter how good the quality is and if the cost is appropriate, business will not be viable if the product is not delivered at the timing the customer wants.

Delivery date means the "delivery deadline," that is, the day the customer should receive the product. Delivery date has several meanings, including the delivery date requested by the customer, the date the product is shipped from the factory, and the date the sales department instructs production to be completed. All are important dates indicating "when the product needs to be completed."

Keeping the delivery date also means keeping the customer's request (the promise with the customer), and it is very important to maintain a trusting relationship between the company and the customer. Failing to keep the promised delivery date betrays the customer's expectations and causes great damage to the company's credibility.

Sometimes products are delivered earlier than the delivery date, but it can also be a problem if it does not match the customer's schedule. For example, a delivery that is too early not only fails to match the timing when the customer will use the product, but it also becomes a source of dissatisfaction for the customer because it means more things are in the way.

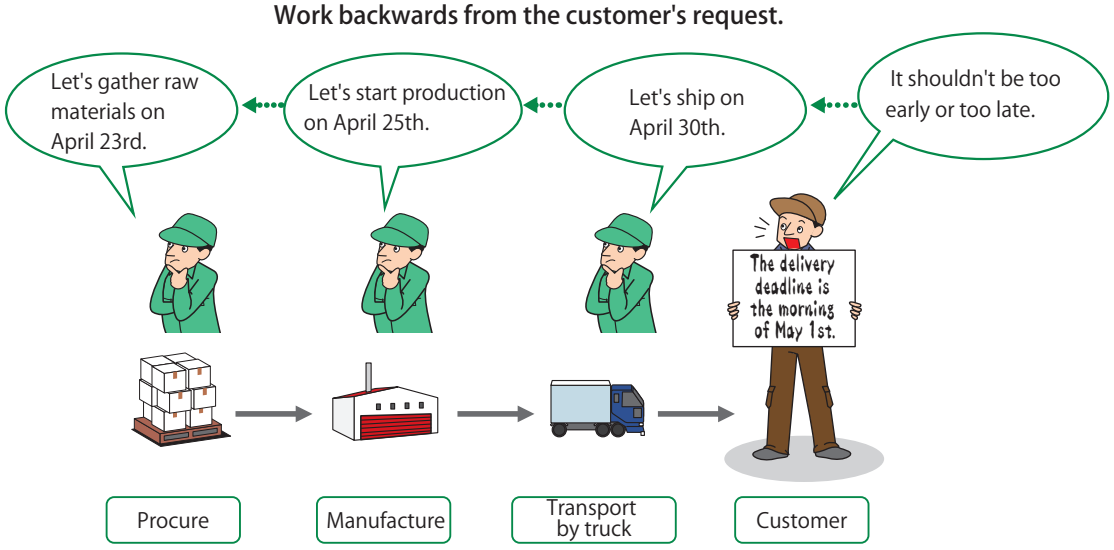
Conversely, if a delivery delay occurs, the customer will not be able to use the product on the planned day, which will hinder their business. For example, if parts or machinery used at a construction site cannot be delivered on time, the entire construction will be delayed, causing trouble for other contractors and related parties.

And if delivery delays continue, there is a possibility that the customer will avoid purchasing products from that company again. Losing a customer's trust due to delayed delivery may sever business relationships with the customer in the future and could lead to losing other customers as well. A breakdown in a trusting relationship is a huge loss for a company.

Furthermore, the additional costs incurred due to late delivery cannot be ignored. In order to recover from a late delivery, it may be necessary to add extra manpower or machinery if production is rushed. In addition, logistics costs may increase due to urgent delivery arrangements. The accumulation of these wasteful costs will squeeze the company's profits and increase the likelihood of ultimately having a negative impact on management.

Also, risk management is important—such as keeping backup inventory and creating production plans with leeway—so that even if trouble occurs, such as being

Deliver at the date and time requested by the customer.



unable to obtain raw materials, it will not affect the customer's delivery date.

Meeting delivery deadlines is not only essential for maintaining trusting relationships with customers, but it is also a very important element in company management.

6. What Production Management Can Do to Protect QCD

Got it!

QCD is the company's competitiveness. Inter-departmental cooperation is essential to protect QCD. Production management is the control tower that brings them together.

"QCD" is the most important element in the manufacturing industry. Please consider that reliably protecting each of them is indispensable for maintaining the company's competitiveness. Production management plays a very important role as a control tower to ensure these.

The main purpose of production management is to ensure that the product meets the quality demanded by the customer, minimizes costs, and meets the delivery date. The company's production management manages the overall production activities to achieve these.

Production management aims for quality to meet certain standards. For example, checking whether the raw materials and parts used in the factory meet the required quality, confirming whether quality is maintained from the procurement of raw materials to production and shipment, and immediately taking countermeasures if a problem occurs. These activities are called "Quality Control."

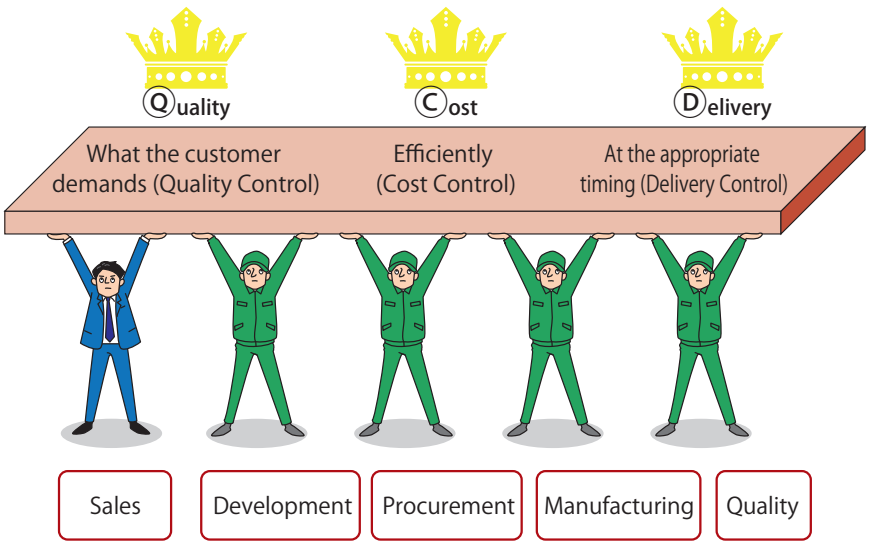
Production management aims to produce products efficiently and achieve appropriate costs. It grasps the raw materials and labor costs necessary for production, and implements improvement measures to reduce wasteful expenses. For example, it checks whether raw materials are consumed excessively or whether work is progressing efficiently, and takes immediate countermeasures if a problem occurs. These activities are called "Cost Control."

And production management aims to meet the delivery date promised to the customer. It checks the progress of production activities and shipping activities so that the product is completed and shipped as scheduled, and immediately takes countermeasures if a problem occurs. These activities are called "Delivery Control."

The most important role in production management is to adjust so that the three elements of QCD are properly balanced. Balancing means preventing excessive pursuit of quality from resulting in higher-than-planned costs, or preventing the attempt to secure a delivery date from resulting in poor quality. It would be ideal if all of QCD were at their best, but in reality, improving one thing often worsens another. Production management plays the role of grasping these elements as a whole and balancing them to smoothly advance the company's production activities.

In order to balance QCD, cooperation among related departments in the company is also indispensable. The department responsible for quality control protects product quality, the department responsible for cost control works on cost reduction, and the department responsible for delivery control works together to meet delivery dates. Production management is the activity that enables smooth production activities while cooperating on how to prevent cost increases to improve quality, and how to minimize the impact on delivery dates.

The activity where everyone cooperates to make QCD the best is "Production Activity".



出展募集中

インド最大 金型製造設備展示会

第15回 Die & Mould

2028年4月開催

ムンバイ貿易センター

TAGMA DIEMOULD INDIA 2028

出展対象

- アディティブ・マニュファクチャリング（3Dプリンティング）
- CNCフライス加工 / マシニングセンター、EDMなど
- 切削工具
- 熱処理
- ホットランナーシステム
- 射出成形機
- 検査および品質管理システム、CMM
- ダイ・モールド用工作機械およびアクセサリ
- プラスチック加工機械および関連アクセサリ
- 板金部品用機械式プレス
- 精密機械加工 / 航空宇宙部品
- 原材料供給者（鋼鉄）
- 関連サービス：テクスチャ加工、研磨、メッキ
- ソフトウェア：CAD/CAM/CAE、シミュレーション
- 供給者：標準部品、消耗品、電極、グラファイト、銅線、研削研磨、溶接、モールドベース、部品など
- 表面処理
- ツールルーム - ダイキャスティング用ダイおよびゴムモールド
- ツールルーム - ジグ、治具、ゲージ
- ツールルーム - プラスチック射出成形金型および成形部品
- ツールルーム - 板金用金型および板金部品
- 研修機関
- その他：協会、団体

出展小間

Plan A：ビルドアップスペース
Min.12㎡

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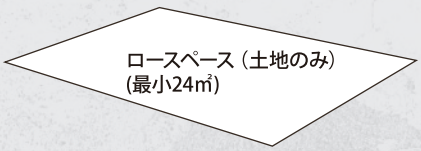
Plan B：ロースペース
Min.24㎡

スペースのみ。
電力やその他の追加設備は別途手配が必要です。



出展申込 お問い合わせ

Japan Representative Office

JIB 日印ビジネスビューロー(NPO)
〒107-0052 東京都港区赤坂1-3-13 溜池鈴木ビル3F

展示会運営事務局

JIC 日印コンサルティング株式会社

担当 安井 090-9325-3456 斎藤 080-8830-3821 info@ji-consulting.jp

主催 ： インド金型工業会

主催：TAGMA INDIA
www.diemouldindia.org

Exhibition 2028

DIE & MOULD INDIA 2028 展示会について

インド金型協会（TAGMA）は、2028年4月に、ムンバイのボンベイ・エキシビジョンセンター（グルガオン）にて、
第15回「DIE & MOULD INDIA 2028 国際金型展示会」を開催します。
「DIE & MOULD INDIA」は、インドで最大かつ最も権威のある金型業界向けの展示会で、2年に一度開催されています。これまでに14回の成功を収めており、業界の専門家、出展者、関係者にとって欠かせないプラットフォームとなっています。第15回を迎える「DIE & MOULD INDIA 2028 国際金型展示会」は、金型関連業界の企業にとって、
製品やサービスを展示・市場化するための必見の展示会です。
皆様のDIE & MOULD INDIA 2028へのご出展を心よりお待ちしております。

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私たちの専門家チームは、日本とインドの市場に参入を狙うクライアントに対し、
包括的なビジネスソリューションを提供します。

事業領域

1. コンサルティング・リサーチ
   （売上に直結する）
2. マーケティング・販売戦略・企画・運営・実働
3. プロモーション・PR・BI / CI
4. 展示会企画運営実行・セミナー・
   学会企画運営実施
5. 法人設立に関わる一切の営業
   （設立／土地／人材 他）
6. 貿易実務
7. ロジスティック・据付

リサーチの内容（カスタマイズ特定情報収集）

- インドOEMの新機種情報
  （機種・台数・FMCタイミング）
- インドOEMの調達先情報（購入先・価格）
- インドOEMの意思決定フロー、決裁者
  （調達・設計）
- 部品・機器等の適用情報と搭載仕様
- インドにおける部品・機器メーカー情報
  （場所・保有能力・納入先）
- 他社企業の動向（上記内容含む）

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The Fuso Seiko Group provides end-to-end solutions built on our expertise in precision mold production.

Since its founding in 1947, the Fuso Seiko Group has been a pioneer in the mold industry, pioneering cutting-edge manufacturing technology. In addition to manufacturing various molds, including molds for glass bottles, for which we boast the top market share in Japan, we continue to take on challenges in a wide range of fields, including the development and manufacturing of industrial machinery and in-house developed products, with the aim of realizing a better future.

01 Glass Mold Division

We respond to customer needs from mold design and machining to repair.

- Casting materials for bottles molds – We produce casting materials and the primary material for molds in-house, enabling short delivery times.
- Mold manufacturing – From glass bottle molds to violin molds, we handle a wide range of applications, covering everything from design to machining.



02 Plastic Components Division

We provide a wide range of services, from various plastic molds and their components to the manufacturing of small precision parts and large industrial machine components.

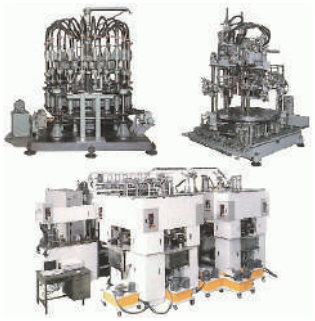
- Plastic molds and mold components
- Automotive-related molding dies



03 Machinery Division

We handle everything from the design, assembly, and maintenance of industrial machinery to the development of original industrial robots. In line with the specifications of companies considering automation through robotics, we also engage in process automation, automated transfer systems, and the development of proprietary conveying equipment.

- Design, assembly, and maintenance of various industrial machines
- Design, and manufacturing of dedicated robot hands, conveyors, and loaders tailored to specific machine tools and workpieces.





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