

MM

Association
Maruka-Manufacturer Group
CATALOG

Maruka Corporation
Unique Solutions



Profile

Established	December 16, 1946
Capital	¥1,414,410,000 Listed on the First Section of the Tokyo Stock Exchange
Employees	627 (consolidated basis)
Annual sales	¥64.5 billion (fiscal year ended November 2018)
Businesses	<ul style="list-style-type: none"> Domestic sale, import, and export of machine tools, forming machinery, plastic molding machines, industrial robots, and other fabrication machinery as well as public works and construction machinery, material handling machinery, vehicles, food machinery, materials and parts, equipment, and measuring instruments Rental of construction machinery Transport, warehousing, customs clearance, and leasing of real estate Insurance brokerage

Offices

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Charlotte Office	4526-B Westinghouse Blvd. Charlotte, NC 28273, U.S.A. Tel: 1-704-588-9910 Fax: 1-704-588-9950
Los Angeles Office	16440 Manning Way, Cerritos, CA 90703 U.S.A. Tel: 1-562-926-3654 Fax: 1-562-926-0884
Chicago Office	1062 Garfield Street, Lombard, IL 60148, U.S.A. Tel: 1-630-953-1707 Fax: 1-630-953-1753
Cincinnati Office	7453 Empire Dr. Suite 140 Florence, KY 41042, U.S.A. Tel: 1-859-372-6662 Fax: 1-859-372-6669

URL: <http://www.marukausa.com/>

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MM Association (Maruka-Manufacturer Group)

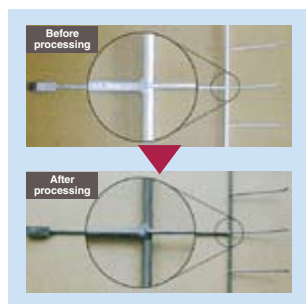
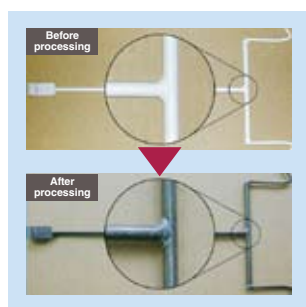
Company Name	Main Products
SANOYAS ENGINEERING CORPORATION 5-2-7 Kitakagaya, Suninoe-ku, Osaka City	◎Shot blast machines (jig stripper) ◎Various grinding materials
OHMINE INDUSTRY CO., LTD. 1-11-4-1000 Umeda, Kita-ku, Osaka (Osaka Eki-mae Dai 4 Building, 10th Floor, Suite 17)	◎Chip conveyors (Vertical type, floor type) ◎No-touch system ◎Twin 200
KAN MANUFACTORY CO., LTD. 2-6-11 Shogehigashi, Tendo City, Yamagata	◎CNC High-pressure washer ◎Dedicated machine tools
KOEI MANUFACTURING WORKS CO., LTD. Takarazuka Techno Town, 4-3-23 Takatsukasa, Takarazuka City, Hyogo	◎Hydraulic press ◎Induction heating system
COSMOTEC CO., LTD. 1501 Nozuecho, Midori-ku, Nagoya City, Aichi	◎Press repairs (KOMATSU subcontract factory)
SENJO SEIKI CO., LTD. 622-7 Shishihara, Shimizu-ku, Shizuoka City, Shizuoka	◎Program-less automatic chamfering machine, ◎Dedicated de-burring machine, ◎3D In-line checker
CHIYODA KOGYO CO., LTD. 2-4-17 Tagawa, Yodogawa-ku, Osaka City	◎Tube bender, ◎Automatic tube fabricating machine ◎FA energy-saving equipment
U. TEC CO., LTD. 1377 Oaza Inada, Usuki City, Oita PT.U. TEC INDUSTRIES INDONESIA Jl.Kenari Raya Blok G6-01 Kav.06A,Kawasan Industri Delta Silicon 6, Lippo Cikarang, Bekasi 17550-INDONESIA	◎Design and manufacture of various production systems ◎Design and manufacture of various inspection systems ◎Design and manufacture of various press-fitting machines ◎Design and manufacture of various assembly systems
SAN-AI ECO SYSTEM CO., LTD. 260-57 Hase, Atsugi City, Kanagawa	◎Design, manufacture, and sales of industrial waste proper treatment system and processing equipment ◎Design, manufacture, and sales of metal cutting chip and metal grinding sludge processing system ◎Design, manufacture, and sales of metal cutting chip and metal grinding sludge processing equipment
KIWA MACHINERY CO., LTD 522-51 Kuramochicho Harade, Nabari City, Mie	◎Manufacture and sales of machine tools
TAKAHASHI METAL INDUSTRIES CO., LTD. 864-4 Hosoecho, Nagahama City, Shiga	◎Manufacture of various non-standard washers ◎Manufacture of electrolytic ion water generators
FUJISEIKI CO., LTD. 3-39 Motomachi, Komaki City, Aichi	◎Design and manufacture of dedicated machines and drilling machines based on hydraulic single-function machines, NC lathes (comb tooth type), and single-function NC lathes ◎Sales of automated, transfer systems, inspection systems for own company systems
DAISHIN INDUSTRIAL CO., LTD. 7-1-7 Izu, Taisho-ku, Osaka	◎Manufacture and sales of automatic brazing equipment and brazing auxiliary materials ◎Buildup welding and precision casting using corrosion resistant, heat resistant, and wear resistant metals
TARGET ENGINEERING CO., LTD. 93 Takeda Nishidangawaracho, Fushimi-ku, Kyoto	◎Design and manufacture of various automated systems
YMG CO., LTD. 234 Uenoyama Unoyacho, Toyohashi City	◎Design, manufacture, and sales of auto loader device, robot system devices, and automated systems
MATSUI MFG. CO., LTD. OBP Plaza 17F, 1-4-70 Shiromi, Chuo-ku, Osaka City	◎Manufacture and sales of rationalizing devices and systems for plastic molding (Mold temperature controller, resin dryer, transport systems, blender, granulator, recycling devices, etc.)
MARUSHOW ENGINEERING CO., LTD. 7-2-41 Nagayoshi Deto, Hirano-ku, Osaka City	◎Various wire treatment machines ◎Various machine tools ◎Dedicated jigs ◎Energy-saving automated machines ◎Various testing systems ◎Design and manufacture
HARU TECHNIQUE LABORATORY 3670-2 Kozuminamigata, Higashi-ku, Okayama City	◎Manufacture of metal machine tools
TECHNOS CORP. 3346-2 Hashiemachi, Isesaki City, Gunma	◎Manufacture of automated systems
NICHIZOTECH INC. 1 Oaza Ariake, Nagasu-machi, Tamana-gun, Kumamoto	◎General engineering and service company refining technology in the three business areas of engineering, technical consulting, and maintenance. Services provided to customers have been expanded through coordination of these business areas. The Kyushu Business Section has more than 30 years of experience in the design and manufacture of automation and energy saving using robots.
UNI-GIKEN CO., LTD. Chayanoshita 154-2 Hoseicho, Toyohashi City	◎Design and manufacture of various machines including part suppliers, transfer systems, inspection systems, and measuring systems
DAISEI CO., LTD. 209, 2-chome Toyoshima Minami, Ikeda City, Osaka	◎Manufacture and sales of precision measurement machines, manufacture and sales of machine tools
NICHIEIKIKO CO., LTD. 45 Tomei, Ryujin-cho, Toyota City, Aichi Prefecture	◎Manufacture of various dedicated machines for automobile part manufacture
SONORUKA ENGINEERING CO., LTD. 4-8-28 Torikaikami, Settsu City, Osaka	◎Coil line system ◎Shear line ◎NC transfer ◎Cooling system

for PAINTING

JIG STRIPPER

New system for painting industry.

Simple operations completely strip coating without damaging jigs.



FJS-1500H



FJS-700SL



Closed system for jig stripper media (grinding materials)



Running costs
(1/5th to 1/20th)

Waste solution and waste materials (zero)

Maintenance-free
(Just replenish grinding materials)

Main features of new "Jig Stripper"

The jig stripper uses special media to recycle coating adhered on painting jigs, etc., without wearing or deforming the jig. The compact and dry-type system has a small footprint, and can be easily and safely operated by anyone. There's no need to worry about processing wastes.

Main Specifications

Item Model		Effective work size (mm)	Rotor unit		Dust collector Wind rate (m ² /min)	Total horsepower 3-phase 200V (kw)	Main dimensions Wx Lx H(mm)
			No. of units	Max. projection rate (kg/min)			
Standard type	FJS-510	Diameter 500×1000H	FR37 model: 1 unit	60×1	12	4.95	2100×1200×2500
	FJS-700SL	Diameter 700×1400H	FR37 model: 2 unit	60×2	12	8.85	2400×1300×3000
	FJS-1000	Diameter 1000×1500H	FR37 model: 3 unit	60×3	28	15.50	3000×1700×3500
Hoist type	FJS-1218	Diameter 1200×1800H	FR37 model: 3 unit	60×3	28	18.18	3200×4300×4550
	FJS-1500H	Diameter 1500×2000H	FR37 model: 3 unit	60×3	28	18.18	3500×5100×5000

Shot Blast Machine



**Surface treatment specialists
SANOYAS ENGINEERING CORPORATION
accurately respond to users' needs
while focusing on saving labor,
saving energy, and reducing costs
at production sites.**

**Optimum conbler for labor saving
Integrated conveyor type and tumbler type**

Our conbler automates product loading, blasting, and unloading operations to realize labor saving.

As products are carried in one direction from loading to unloading, the conbler can be incorporated into a line.

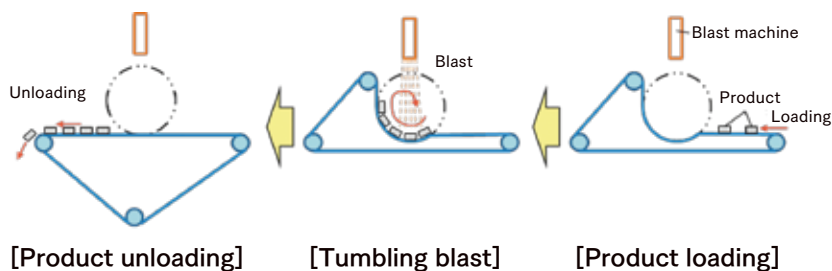
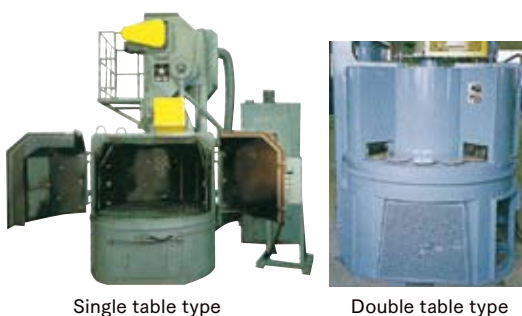


Photo Conbler FTC-20 model

TABLE TYPE

Table type shot blast machine



Single table type

Double table type

CRANE TYPE

Crane type shot blast machine



APRON TYPE

Apron type shot blast machine



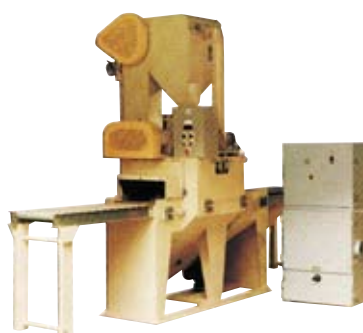
HANGER TYPE

Hanger type shot blast machine



CONVEYOR TYPE

Conveyor type shot blast machine



BAG FILTER

Bag filter (dust collector)



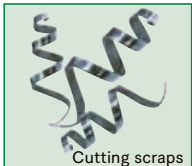


Developer & manufacturer of
cantilever conveyors

OHMINE Chip Conveyor Vertical type

Diverse variety of models designed for trouble-free operation is growing in demand throughout the world.

Ultimate cutting scrap, press waste scrap, die cast sprue, and central processing systems



Cutting scraps



Press waste scraps



Die cast sprue



OHMINE Chip Conveyor

The OHMINE chip conveyor features a chain-driven cantilever scraper. The scraper slides along base of chute to transfer the cutting chips, and on return drops down along the side wall not to prevent the entry and transport of cutting chips.

Main Features

● **No abnormal wear of base plate caused by biting**

The scraper contacts the chute's base plate with its own weight, so even if cutting chips get caught between the scraper and base plate, the scraper moves upward and bite-in pressure is not generated. This prevents abnormal wear of the base plate.

● **Power reduced by eliminating excessive force on drive**

The rational design eliminates biting and other abnormalities, by that reducing the required drive power.

● **Supply cutting chips from anywhere.**

The scraper unloads the cutting chips at the end of the conveyor, and then drops down the chain and advances in the return direction.

● **Durable scraper can handle any type of cutting chips.**

Not only is the scraper designed with a durable structure in respect to the bending moment, an optimum model can be selected to handle the cutting chips and press waste scraps.

● **Compatible with scraps containing cutting fluid.**

If the chips contain cutting fluid, the conveyor chute can be used as a tank for the cutting fluid passed with the cutting chips.

Floor conveyor bendable freely in all directions

Developer & manufacturer of
cantilever conveyors

OHMINE Chip Conveyor Floor type

OHMINE Chip Conveyor

This conveyor is directly installed on the floor, and is designed with a low height so workers and vehicles can easily pass over it.

Main Features

- There's no need to dig a pit.
- The conveyor can be relocated or rearranged when layouts change.
- The conveyor can be installed even in curvy lines.
- The conveyor can be passed under the foot stools for machine tools.
- By installing foot plates, workers and vehicle can pass over the conveyor.

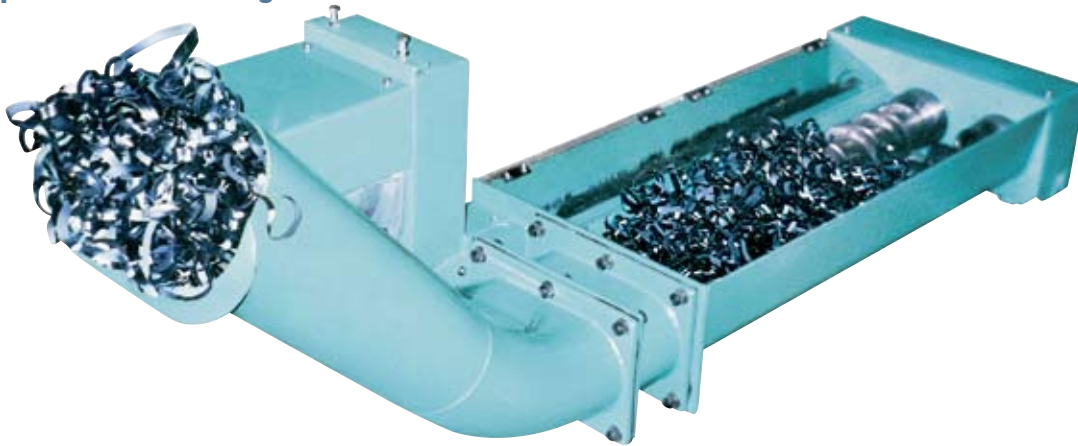
Conveyor for turning



Machine tool built-in type conveyor

Patented Twin 200

Two screw shafts transfer large quantities of cutting scraps, and prevent workpieces and broken pieces from biting in.



Main Features

- The 2-shaft screw type increases the cutting scrap transfer capacity.
- Cutting scraps do not wrap onto the screw.
- Cutting scraps are smoothly discharged from the improved (oval shape) discharge outlet.
- The original V-shaped base structure prevents biting even if chucks, workpieces, or tools drop in by mistake, and transfers the items out with the cutting chips.
- Steel, aluminum, and curled cutting chips are compressed.

2-shaft screw type

Steel, aluminum, and curled cutting chips are compressed.

NON-TOUCH OHIMNE system

Eliminate wastes in cutting scrap processes, and protect factory from oil pollution.

Delivery results
708 units

ISO14001
Standard compliant

Main Features

- Labor-saving processing**
Reduce work by using the lifter to transfer scraps from the transport vehicle to the hopper.
- Safe and accurate**
Just place the chip carriage into the lifter. There's no need for extra work.
- Easy loading into trucks**
Maintain order in the factory. Not a single drop of oil will fall on the floor, so there's no worry of oil flowing into the sewage.
- Collect cutting fluid and prevent oil pollution.**
No pollution is caused by oil.
- Reclaim costs in six months by general effects**
Costs can be sufficiently reclaimed in six months considering the enormous labor costs required for transferring cutting scraps from the chip carriage, for loading cutting chips from the storage area to the trucks, and the adverse effect onto the environment.



Precision washer designed for modern needs

CNC Washer

Combining
revolutionary unique
technology and
outstanding
operability in a
precision washer.



Direct-injection washing nozzle



Big shower washing nozzle



KR-2 Series

- Standard turntable enables workpiece setting and removal during washing.
- Improved drive unit doubles feed rate compared to conventional models.
- Ceiling door allows workspaces to be set and removed with a gantry, and supports automated lines.
- Work efficiency and cycle time reduction are greatly improved.



Rotary washing nozzle

●Target washing

Positioning using NC programming ensures accurate target washing.

●Versatile general purpose washer

Variety of part washing supported with simple jig replacement and program changes.

●High-power washing

De-burring washing realized with 50MPa high-pressure spray.

●High-speed movement

High-speed washing supported with feed rate approx. double that of conventional machines.

●6-side washing

4-division indexing table and reversal jig combination realize 6-side washing.

Specifications			CNC specifications	
Stroke	X:400mmY:400mmZ:400mm		Control unit	FANUC Series 0i-MODEL F
Rapid traverse rate	X, Z axes	40m/min	No. of simultaneous control axes	Max. 4 axes
	Y axis	30m/min	Operation panel	8.4 color LCD/MDI
	B axis	NC option	Handle feed	Manual pulse generator
Repeatability	XYZ	±0.05mm	Program recording capacity	512Kbyte
	B	±0.1°	No. of registered programs	400 programs
Table size	W350mm×L220mm×H250mm		Data input/output	Reader, puncher interface Memory card, USB
Max. workpiece weight	50kg		Automatic power OFF	Optional
Max. number of nozzles	Max. 3 nozzles			
Primary filtration unit	Mesh basket			
Secondary filtration unit	Bag filter or line filter (option)			
Required power source	200VAC 3-phase 50/60Hz			

Rotary type Shower washer with vacuum drying unit



The drying performance is improved by dividing the system is divided into three tanks: the washing tank, blowing tank, and vacuum drying tank. The rotary-type table contributes to the space-saving and compact washer design.

Specifications	
Washing workpiece dimensions	ø160 within H100mm
Mesh basket jig dimensions	ø180 H100mm
Max. washing workpiece weight	10kg
1ST	Workpiece removal
2ST	Shower washing
3ST	Air blow
4ST	Vacuum drying
Washing pressure	0.4MPa
Discharge rate	120L/min
Primary filtration unit	Mesh basket
Secondary filtration unit	Bag filter 1 unit
Heating unit	5kw x 1 unit
Other accessories	Mist collector
	Oil skimmer
Options	Bag filter, additional unit
	Area sensor

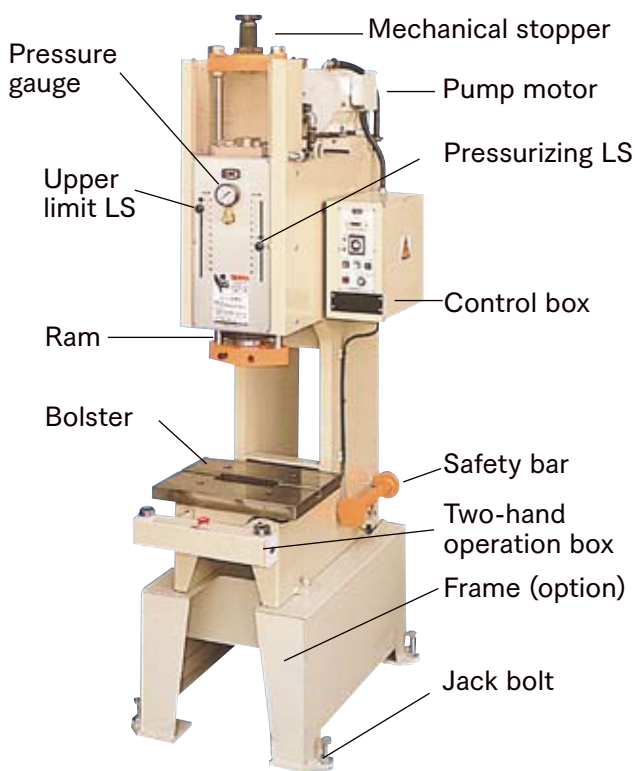
Assembly, processing, & precision press processing in automobile, home appliance, electronics, and other industries

High-speed Hydraulic Bench Press

High-quality machine with high speed, high performance, and high cost effectiveness.

Features of "High-speed hydraulic bench press"

Highly reliability high-performance, high-speed hydraulic bench press developed with expertise hydraulic technology and production technology. This high-quality machine realizes a high cost performance for assembly, machining, and precision press work in automobile, home appliance, electronics, and other industries.



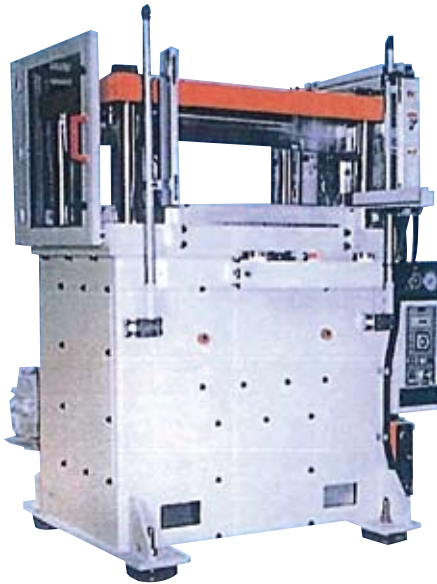
Applications

- ◎ **Caulking**
Wire and cable fitting attachment, motor core, magnet core, rivet, shaft, pin, lid and cover, pipe, etc.
- ◎ **Punching**
Semiconductor (tie bar cutting), metal and resin plates, sheets, film, etc.
- ◎ **Press-fit**
Liner, bearing, gear, bushing, etc.
- ◎ **Trimming**
Die cast parts, etc.
- ◎ **Engraving (stamping)**
Numbering, marking, etc.
- ◎ **Bending**
Sheet metal, plate spring, semiconductor (forming), etc.
- ◎ **Embossing (drawing)**
Metal plate, leather, paper, etc.
- ◎ **Clamping (pressure holding)**
Molding, etc.

Standard C-type KOEI Bench Press Specifications Table

Specifications	Model	KPH-3M	KPH-5M	KPH-10M	KPH-15M	KPH-25M	KPH-35M
Pressurizing pressure (ton)		1.5 to 3	2.5 to 5	4 to 10	7 to 15	10 to 25	15 to 35
Open height (mm)		250	250	350	350	400	400
Shaft height (mm)		100	100	150	150	200	200
Reach (mm)		180	180	250	250	250	250
Motor (Kw)		0.75	1.5	2.2	3.7	3.7	5.5
Operating power		Drive 200VAC/operation circuit 100VAC (transformer built-in)					
Ram stroke (mm)		150	150	200	200	200	200
Ram lowering speed (mm/sec)	During approach (mm/sec)	310	400	380	380	195	195
	During pressurizing (mm/sec)	35	45	29	29	16	16
Ram rising speed (mm/sec)		290	380	290	290	245	245
Tank capacity (L)		30	30	55	55	65	65
Table height (mm)		250	250	300	300	455	455
Height (H) x width (W) x depth (D) (mm)		1400×560×960	1400×560×960	1700×600×1210	1700×600×1210	2200×740×1240	2200×740×1250
Machine weight (kg)		370	400	700	750	1400	1500

Examples of High-speed Hydraulic Press



Hydraulic drawing press



Hydraulic trimming press with reversing slide table 30 TON



High-speed hydraulic servo press

1. Hybrid combining hydraulics and electric
2. Surge-less to achieve stable quality
3. Bottom dead point accuracy ± 0.015
4. High-speed approach, high-speed rise
5. Long stroke compatible
6. Easy traceability
7. Save 100 patterns in memory
8. Operate with small amount of hydraulic oil



Electric servo press
5 TON KSV-5



Hydraulic servo press
30 TON KUS-30

Overhaul & Relocation

Various Press Machinery

Cosmotec supports our user's every needs for press work. We are gaining popularity in various fields with our high technical skills.

We support repairs, modifications, and overhaul for these makers: KOMATSU, AIDA, WASHINO, FUKUI, etc.

Line of Business

- ◎ Various press machines
- ◎ Power press inspectors
(Registration No. AI-1310)
- KOMATSU Industrial machine subcontract factory

- Delivery and Installation ... Delivery, installation, operation training
- Inspection Periodic inspection, safety inspection, and adjustment
- Repairs Repairs of sudden faults, planned repairs, overhauls
- Modifications Automation, improvement of press capacity, safety
- Relocation Changing of factory layout, relocation outside of factory, relocation to overseas factory
- Automatic control unit Design, construction
- Machine work supported



Overhaul completed



Safety Meeting



Relocation work



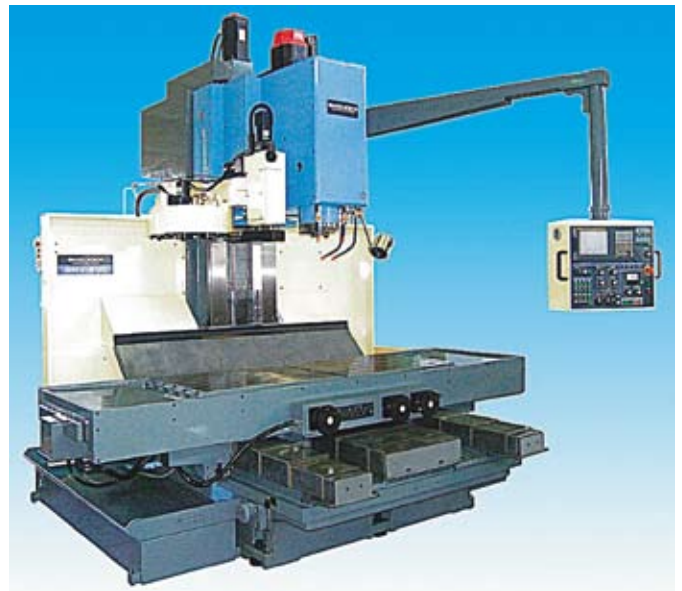
Welding and repairing 1600t slide damage



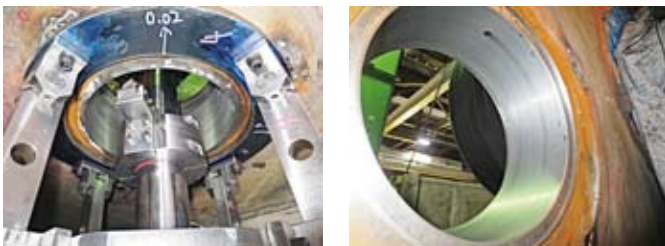
- NC lathe 2m, 182cm, 4m
- Slotter 300
- Radial machine 1650



New slide Length 6m, weight 25t



- NC milling machine 8#
Table work area 1,800x650mm
Axis travel stroke X1,500xY800xZ600mm
- Table type horizontal boring machine BT-110
- Mill 3#



Onsite work (frame precision drilling)



Thai subsidiary COSMO (THAILAND) CO., LTD.



Inside factory at COSMO (THAILAND) CO., LTD.

Easily de-burr and chamfer complicated profile parts

Automatic Chamfering Machine

Versatile de-burring machine series flexibly support various needs

Shape sensing type “Chamfering Teacher”

This chamfering machine automatically chamfers (or de-burrs) variant workpieces, various gears, etc. As the workpiece side is sensed during the chamfer process, there is no need for a program or positioning. In addition, the chamfering dimensions are always constant even if the workpiece dimensions or shapes are inconsistent. The chamfering rate can be easily adjusted with the handle, and by installing the optional brush unit, the workpiece can be brushed simultaneously (measures against secondary burrs caused by tool wear).

The following types are also available in the PLC Series:

- PLC-102 (large workpiece compliant)
- Cutter head inclined specifications (for gear with shaft, etc.)
- Dedicated machine specifications with loader (automated line), etc.



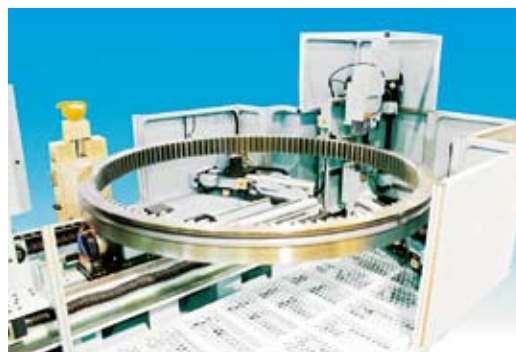
Machine examples



2-head type chamfering machine (with loader)

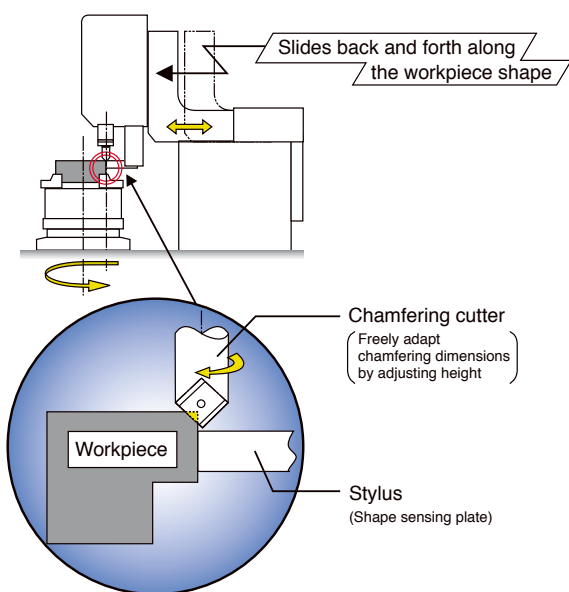


5-head type de-burring machine



Large gear chamfering machine

PLC Features



No need for programs or positioning

The shape of the workpiece being de-burred or chamfered is sensed during processing, so there is no need for programs or positioning before starting chamfering with the NC machine tool.

Chamfering accuracy exceeding NC machine

Since the actual workpiece is sensed, the chamfering dimensions are always constant even if the workpiece dimensions or shapes are inconsistent.

Removal of large burrs

Burrs are removed from the base, so even large burrs can be cut off with one try.

Easy operations

There is no need to position the workpiece when setting it, and the chamfer dimensions and feed rate can be easily adjusted with the handle and dials.

Compact and easy to move (PLC-101)

At just 550mm wide, 1030mm deep, and 1665mm high, the design is extremely compact and simple compared to robots and NC machines. Caster wheels make movement easy.

Examples of Machining

Before machining



After machining



Floating Chamfer FC-500



[Features]

1. Even chamfering is possible even with rough teaching.
2. Constant chamfer size is maintained even when product is inconsistent.
3. Inner periphery and outer periphery machining are both supported with a single chuck.
4. Dedicated jigs allow continuous machining of multiple parts.
5. Products traditionally difficult to machine, such as long or complicated shapes, can be machined.

Pipe Bender Specialists

Bending technology for wide-ranging pipe processing

BENDING

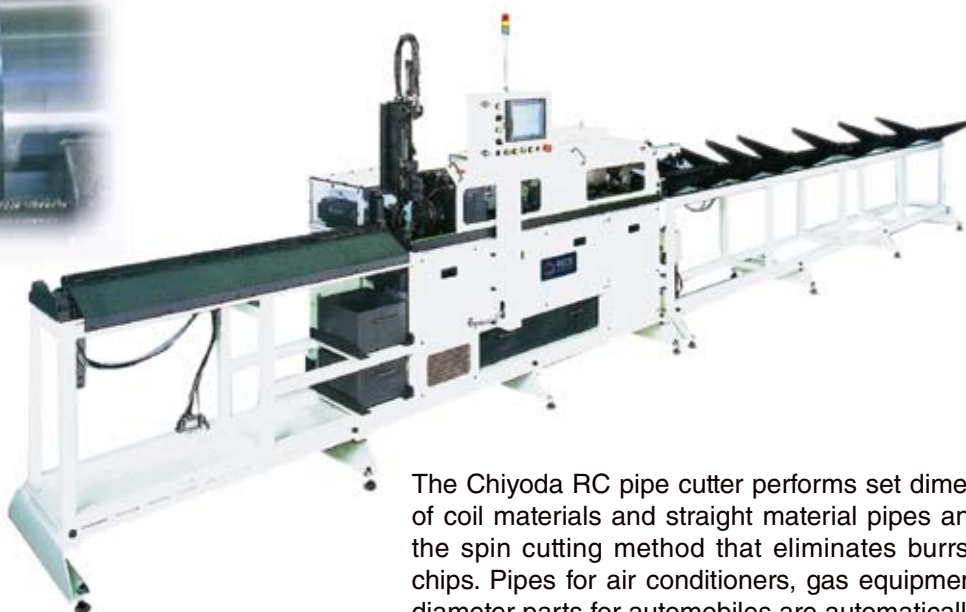


Chiyoda's CNC pipe bender greatly expands the world of pipe bending with highly precise processing, capable of bending up to 1DR, and high-speed operation using AC servo control. Our lineup includes high-performance machines in various sizes to match applications, unmanned pipe supply and discharge using a pipe loader and unloader, and eco-friendly system machines that save space and energy.



Achieving high efficiency with unique chip-less type pipe cutting

CUTTING



The Chiyoda RC pipe cutter performs set dimension cutting of coil materials and straight material pipes and tubes with the spin cutting method that eliminates burrs and cutting chips. Pipes for air conditioners, gas equipment, and small diameter parts for automobiles are automatically cut to a set length at a high speed. Various cutters such as press cutting and metal saw cutting are also supported.

Bending, Expanding, Cutting, Measuring

Supporting various pipe end working needs

Pipe end
working

EXPANDING & SWAGING



Chiyoda's pipe end working machines excel in high-speed pipe end forming and working. A variety of models are available to support various needs including machines with supply loaders for unmanned operation, rotary-type pipe drawing machine, pipe de-burring machine, and machines capable of ring insertion and caulking processes and double-end working.



3D measuring with camera images, and video image checking with personal computer

3D-MEASURING & SIMULATION



The 3D pipe measuring machine instantly measures the bend pipe's shape and accuracy in the measuring booth with a CMOS camera, and simulates the bend working on a computer. Integrated production control systems using an online connection with the Chiyoda CNC pipe bender are available. The measurement data from the 3D measuring machine can be printed out and used as an inspection certificate.





For Your's Technology

As a “Benri-Daiku”, we aim to create manufacturing technology for our customers, and design and manufacture various production systems and testing systems, etc.



Production items

- Design and manufacture of various production systems
- Design and manufacture of various inspection systems
- Design and manufacture of various press-fitting machines
- Design and manufacture of various assembly machines

Head Office
/Head Factory



Factory No. 1



Factory No. 2



Jakarta Factory



Factory facilities

- Vertical machining center 1540x760x660mm
- Vertical machining center 1050x560x520mm
- Vertical machining center 820x435x485mm
- Vertical machining center 560x460x450mm
- Vertical machining center 630x410x460mm
- NC plain milling machine 1600x1220x1000mm
- NC vertical milling machine 710x305x400mm

- NC lathe ø430x563L
- NC lathe ø510x800L
- Lathe ø500x2000L
- Radial drilling machine 1100L
- 3D coordinate measuring machine 850x600x600mm
- Mechanical CAD Solid Works 3D
- Electrical CAD

(many other systems also incorporated)

U. TEC Products [Various manufacturing machines]

1. Various press-fit machines and assembly machines



2. Various inspection machines





From waste to valuables

Creating new value

Rising social awareness of environmental issues has generated demand for rapid improvements in industrial waste treatment. This in turn has made industrial waste treatment an urgent issue for manufacturers.

SAN-AI ECO SYSTEM proposes ideal solutions for treating the chips and grinding sludge generated in processes at metal processing plants.

Crushing or solidifying the considerable volume of chips and grinding sludge generated at plants helps address the long-standing problems and achieve clean working environments.

Examples of benefits of introduction

Social benefits of improved chip treatment

- Acclaimed activities that protect the environment strengthen corporate longevity.
- Reduces environmental risks, and cuts costs.
- Improves working environments, boosts productivity, and contributes to environmental conservation.



Generated cutting chips during cutting process

Economic benefits of introducing crushers

- Reduce waste collection requirements to 1/3 to 1/10 of previous rates and suppress costs.
- Reduce the incidence of shutdowns caused by facility problems and can improve productivity.
- Reduce the time and costs associated with treatment, and reduce problems involving disposal transport.



Grinding sludge storage areas take up space, and there are concerns of soil pollution

Economic benefits of introducing compressors

- Reduce disposal costs associated with grinding sludge and liquid coolant for grinding.
- Contribute to higher resale value of aluminum, stainless steel, brass, and other nonferrous metals.
- Generate economic benefits through the sale of solidified grinding sludge.



Discharged from lathe

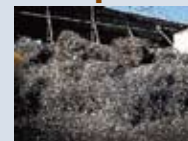
Treatment of cutting chips and grinding sludge that contaminate factories

SAN-AI ECO SYSTEM helps resolve such cutting chip problems.

Cutting chips

Generated cutting chips during cutting process

Soil pollution



Cutting chips take up storage space, and can cause soil pollution



Discharged from lathe



■ Installation Example of SSCL-075W



■ Installation Example of SPS-40SYR



Aiming for machining center maker supporting our customers' various needs.

- The performance of machining centers greatly varies by the jigs and accessories.
KIWA MACHINERY discusses requirements with customers to create bigger possibilities.
- We will continue to develop unique machine specifications.

Standard specifications

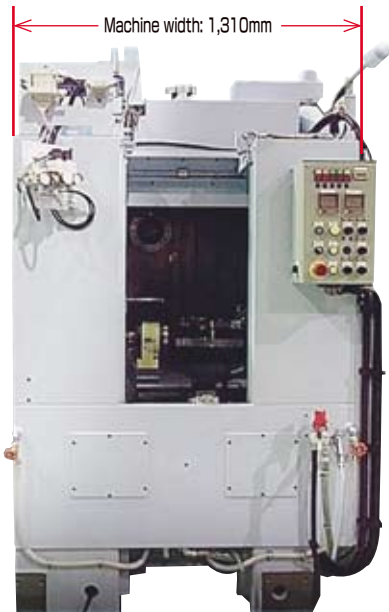


- Stroke (X/Y/Z) : 510/510/510mm
- Number of tools : 40 tools (60 tools optional)
- Number of pallets : 2 (single pallet optional)

Modified to
user's needs



Customer specifications



- Stroke (X/Y/Z) : 310/510/510mm
- Number of tools : 10 tools, 20 tools
- Number of pallets : Single pallet

New Product Information

Column traverse type horizontal machining center achieving further advancement

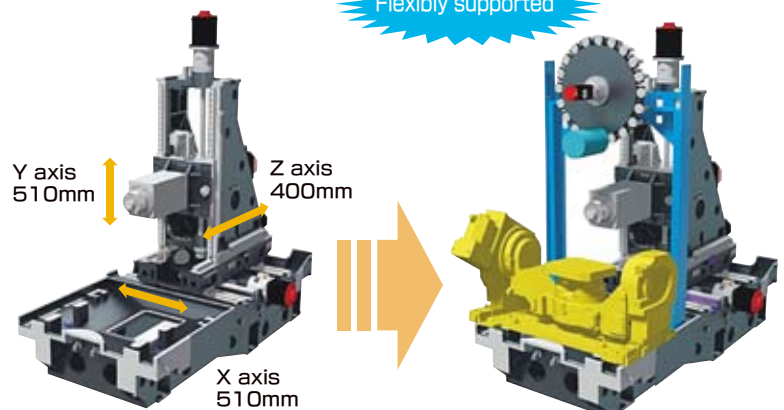
Triple H40



Features

- 3-axis column traverse machine
- Fixed table supports various jigs, additional axis jigs, and automatic work transfer
- Space saving (machine frontage: 1,250mm)
- Separate and independent machining area and moving area
⇒reducing incidents caused by cutting chips and coolant, etc.

Flexibly supported



MODEL/SPEC

Horizontal machining center

Model	Triple H40	KH-41	KH-41 (S type)	KH-45	KH-55
NC	FANUC 0i-M	FANUC 0i-MD		FANUC 32i-B[OP.0i-MD]	FANUC 31i-B
Spindle speed	6,000min ⁻¹ [OP.12,000min ⁻¹]	12,000min ⁻¹ [OP.15,000min ⁻¹]		10,000min ⁻¹ [OP.12,000/15,000/20,000min ⁻¹]	10,000min ⁻¹ [OP.6,000min ⁻¹]
Number of pallets	1[OP.2]	2	1	2[OP.1/6/8]	2[OP.1/6]
Pallet size	820×450mm	400×400mm		400×400mm[OP.500×500mm]	500×500mm[OP.630×630mm]
Max.work piece size	— — —	φ 550×850mm	φ 650×975mm	φ 750×1,000mm	φ 900×1,000mm
Min.indexing degree	— — —	0.001°		0.001°	0.001°
X/Y/Z axis travel	510/510/400mm	510/510/510mm		640/610/680mm	800/800/800mm
Rapid traverse	X/Y/Z:60,000mm/min	X/Y/Z:60,000mm/min		X/Y/Z:60,000mm/min	X/Y/Z:60,000mm/min
Tool shank	MAS BT40[OP.CAT40]	MAS BT40[OP.CAT40]		MAS BT40[OP.CAT40]	MAS BT50[OP.CAT50]
Tools in Magazine	20[OP.40]	40[OP.60]		40[OP.60/80/120/220]	40[OP.60/120/240]
Floor space	1,400×2,950mm	1,530×3,936mm	1,530×3,385mm	2,398×4,539mm	2,950×5,586mm

Vertical machining center

Model	Triple V21i-R	Triple V21i-S	Triple V21i-B
NC	FANUC 0i-MD		
Spindle speed	10,000min ⁻¹ [OP.12,000min ⁻¹]		8,000min ⁻¹
Table size	820×410mm	820×450mm	
X/Y/Z axis travel	610/410/510mm		
Rapid traverse	X/Y/Z: 60,000mm/min		
Tool shank	MAS BT40[OP.CAT40]		
Tools in Magazine	24[OP.30]		7[OP.8]
Floor space	2,360×3,365mm	2,360×2,762mm	2,360×2,882mm

Model	Triple V41-5X
NC	FANUC 0i-MD
Spindle speed	12,000min ⁻¹ [OP.15,000min ⁻¹]
Table size	500×500mm
X/Y/Z axis travel	550/660/510mm
A-axis tilting angle	+30° to -120°
C-axis rotating speed	33.3min ⁻¹
Rapid traverse	X/Y/Z:60,000mm/min
Tool shank	MAS BT40[OP.CAT40]
Tools in Magazine	32[OP.120]
Floor space	1,690×3,095mm

KH-55

Realizing outstanding cutting performance
with hybrid guide specifications (optional)

Triple V21i-R

Rotary APC

Aiming to become washing experts! Washing is the key to quality! with decisive quality! Dedicated washer and electrolytic ion water generator

Various non-standard washing machines are can be custom-made.

The workpiece being washed and the washing requirements must be considered when designing the washing machine.

Washing machine needs to be designed to meet the workpieces being washed and washing request.

We perform detailed reviews and analysis through discussions, and provide only customer-satisfying systems.



Batch type shower transfer system



Batch type washing system (with loading conveyor)



Batch type ultrasonic washing system



Net conveyor type shower washing system



Net conveyor type shower washing system



Net conveyor type shower washing system



Net conveyor type shower washing system



Pitch feed conveyor type shower washing system



Hand batch type ultrasonic washing system



Index type shower washing system



Index type shower washing system



Index type shower washing system

Electrolytic ion water washing system changes city water into washing solution!

This system, equipped with an electrolytic ionized water generator using our original special electrolysis method, is used to degrease industrial parts and to eliminate and wash off contaminant.

Electrolytic ionized water is automatically generated just by supplying raw water (tap water, industrial water, etc.) and used as the washing solution. No detergents or chemicals are used.



Electrolytic ionized water generator

Washing power

The dedicated design suitable for electrolytic water achieves a high washing effect.

Before washing



Oil is adhered and ink is repelled

After washing



Degreased and ink drips off

Rust suppressing effect

Negative ions, such as chloride, which cause metal rusting and discoloration, are reduced.



Submerged in tap water



Submerged in alkaline electrolytic water

Washing Test and Evaluation Center

TAKAHASHI METALS has testing facilities that can try washing with electrolytic ionized water and water soluble detergent. This Center is equipped with a conveyor type shower washing system, ultrasonic washing system, vacuum ultrasonic washing system, vacuum drying system, etc., and can perform tests and evaluations that match the customer's needs.



Conveyor type shower washing system



Ultrasonic washing system



Vacuum ultrasonic washing system



Our original brand line of rust inhibitor dedicated for electrolytic ionized water, washing auxiliary detergent, and water-soluble washing agents is available.

Supporting optimum production around the world with three bases in Thailand, China, and Japan

Takahashi Metals is expanding our network around the world to support our main clients as they accelerate their global developments. Each production base aims to provide the finest quality, swift supplies, and realize efficient product supply.



Japan Head Office



China Plant



Thailand Plant

Compact CNC Lathe Late/Hydraulic Single-Function Machines

Fuji Seiki applies our ideas to continue challenging various needs.

Product Guide

As we pursue strong basic functions that realize society's dreams, we have focused on the basic performance of machines and have applied our high-technology. Each challenge we make creates possibilities that realize an ideal society.

<Hydraulic single-function machine SMD/SLD>



Shorten cycle times with simultaneous machining, etc., and save energy with the automatic supply system specifications. The simple part configuration eliminates faults, and reduces maintenance costs. 1/100 dimension compensation is possible by attaching the optional adjustment cylinder.

■Standard specifications

	SMD	SLD
Spindle diameter	φ 60	φ 80
Max. speed	4000MAX	2500MAX
Spindle motor	1.5kW×4P	2.2kW×4P
No. 1 slide	φ 50×80 (main)	φ 60×100 (main)
Cylinder diameter x stroke	φ 50×20 (sub)	φ 60×20 (sub)
No. 2 slide	φ 50×80 (main)	φ 60×100 (main)
Cylinder diameter x stroke	φ 50×20 (sub)	φ 60×20 (sub)
Center height (mm)	36m/m	53m/m
Machine weight	750kg	1000kg
Required floor space mm (Frontage x depth)	1400×1200	1700×1400

■Optional specifications

Brake unit	Special cycle
Sensing unit	Spindle variable-speed drive
Special chuck	Spindle set position stop
Rotary slide	Special tool rest
Automatic supply/discharge unit	Over-cut device
Tailstock	Reciprocating cutting device

<CNC lathe FM-60/80>



The comb blade lathe can shorten cycle times and simplify tool management. Chucks that match various workpieces are supported.

■Standard specifications

		FM-60	FM-80
	Control unit	MELDAS 70V	
Machining ability	max. machining diameter	φ 60mm	φ 80mm
	Machining length	----	----
Spindle	Spindle diameter	φ 60	φ 80
	Speed	MAX4000rpm	MAX2500rpm
	Transmission	Inverter	
	Spindle motor	3.7kW	
Carriage	Rapid traverse	X:15m/min Z:15m/min	
	X axis travel stroke	200mm	
	Z axis travel stroke	250mm	
	Tool rest	2 rests, 4 tools	
	Machine weight kg	1200	
	Required floor space (mm)	1500×1100×1700	
	(Frontage x depth x height)	1350×1300×1700	

■Optional specifications

Coolant unit	Air spraying device	Encoder device
Automatic supply/discharge unit	Chip conveyor	

<Cover type variations>



Totally enclosed cover <Single function>



Low floor cover



Front cover



Standard cover + inspection system

Smooth cycle operation and stable supply with accurate specifications

Automatic supply/discharge unit - Supply unit

Enable fully automatic operation by installing the automatic supply/discharge unit, and reduce labor and costs. The optimum specifications are selected for each workpiece, so smooth and accurate supply is possible.



IN chute + spring ejector



Robot



Loader



Unloader



Multi-row chute (supply unit)

Processing dedicated system supporting processing of various workpieces with flexible ideas

Fuji Seiki Original Processing Dedicated Machines

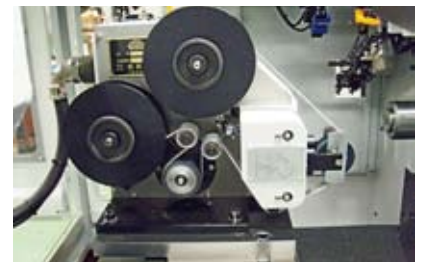
In addition to cutting machining, our flexible ideas enable a variety of processing applications including drilling, grinding, and de-burring.



Tapping (dedicated machine)



Drilling (dedicated machine)



Grinding with film grinding unit (dedicated for FM machine base)



Spur roll processing (dedicated for hydraulic single-function base)



De-burring (dedicated for hydraulic single-function base)



Knurling (dedicated for hydraulic single-function base)

Diverse range of specifications applying Fuji Seiki designs and proposals

Process Poka-Yoke (mistake proofing) system and inspection system

Defects in the process can be minimized by installing this system on the outlet chute. These systems also contribute to labor saving and cost reductions.



Width thickness/width deviation Poka-Yoke system (GT sensor)



Total length Poka-Yoke system (GT sensor)



Width thickness Poka-Yoke system (Monosashi-Kun)

BRAZING



Typical types of brazing machines


Robot type

Robot brazing

Conveyor type

Aluminum brazing

Single-action type

Phosphor copper brazing

FLOTRON <Patent Registered>

Performing various functions with the touch panel.



By setting the preheating gas heating and oxygen flow rate in advance, a constant setting flow rate is maintained with FLOWTRON control even if the primary side supply pressure varies slightly. The gas and oxygen mixture rate can be set freely. As the optimum heating conditions for each workpiece are recorded, the set recording conditions can be repeated at any time by anyone, thus guaranteeing stable brazing.

In addition, 30 types of heating conditions can be set. The flow rate settings and flow rate stage operations for each workpiece model can be set with a single touch with the touch panel.

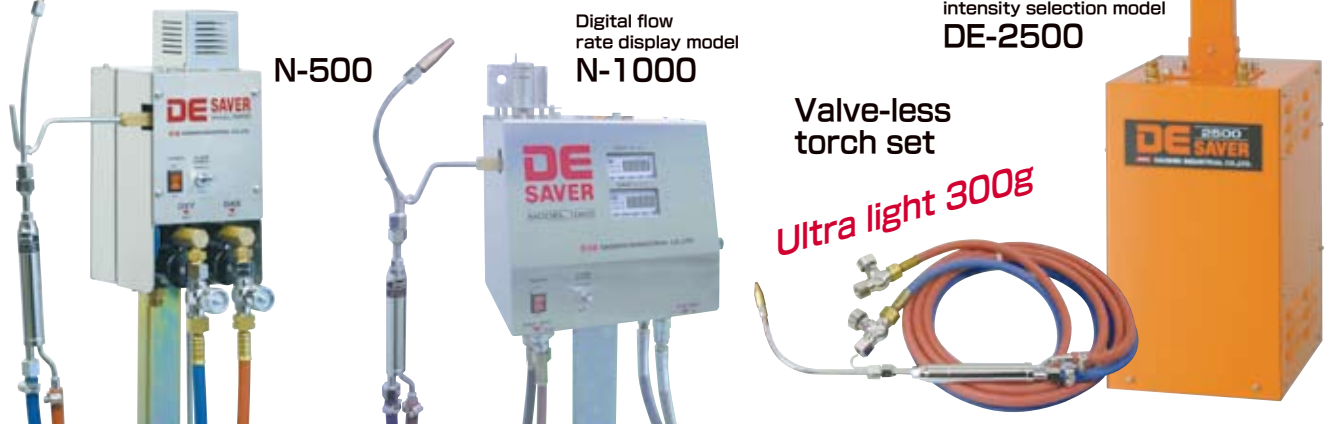

**Dual flame type low cost model
FLOTRON DF-70**
FLOTRON DF-10K
Touch panel

DE SAVER

Extensively pursuing safety management and cost reduction in gas brazing work

DE SAVER Spark Igniter (gas-saving)

DE SAVER eliminates the need for torch valve adjustment. The operator just needs to ignite the torch when starting gas welding or gas brazing, and hang the torch in the hanger when finished. The torch is ignited by the spark igniter, so gas consumption is reduced.



Vapour Flux

Vapour Flux Vaporizing Tank

*Prevent oxidation during brazing
Promote brazing efficiency
Easily remove flux during and after brazing*



Vapour Tank
S-21

Automatic fluid level control
V.AUTO TANK



Daishin Bronze

Daishin Aluminum Flux Cored Wire



Daishin Aluminum
Flux Cored Ring

Your sanctuary for automated equipment **TARGET Engineering is the shelter for those who need automated equipment.**

“Having trouble? Give Target a call.”
People contacting Target are quietly, yet steadily increasing.

List of delivered machines

(Only representative machines listed)

[Electronic part, semiconductor related]

Various relay coil block assembly machines
Various relay secondary sealing devices
Various relay case attaching devices
Various relay characteristic inspection devices
Various relay solder face inspection systems
Various relay terminal bending and packaging systems
Various relay inner frame bond insertion systems
Various relay reject unloaders
Various relay main block curing furnaces
Various glass substrate stockers (AGV, MGV)
Various glass substrate transfer lines
CD, DVD disc stocker
PCB flattening device
System with crystal oscillator
Silicon wafer appearance inspection system
Thermistor sorting device
Thermistor transfer device
Magnetic switch assembly device
Push switch assembly device
Ceramic substrate inspection device
Pressure membrane substrate appearance inspection system
Top entry pole cutting device
Side entry pole cutting device
Lead frame stamp cutting device

[Home appliance related (Electric devices)]

Juicer/blender assembly line
Bread machine assembly line
Spinner unit assembly device
Mixer cutter grinding device
Completed fluorescent light inspection device
Clear valve transfer device
Various unit part assembly device
Piezoelectric ignition plug assembly device
Spindle motor assembly device
Ultrasonic cleaner

[Automobile related]

2D/3D insert molding system
Fan motor assembly line
Brush holder assembly device
Retractor assembly device
Fuse automatic insertion device
Terminal welding device
Coil feeder
Drip-proof agent application system
Airtightness inspection & internal cleaning system
Pressure adjustment and inspection system
Appearance inspection system
Coil terminal welding device
Valve caulking device
Connecting rod assembly device
End play measuring equipment
Air pressure circuit operation inspection device
Part aligning and storage device
Compressor transfer device



Unit part automatic assembly device

This system automatically supplies and assembles parts for the resin products, die cast products, and compound products, etc., performs various inspections, and packages only the passing parts.

Wafer appearance inspection device

This system uses line sensors and laser displacement measurement to measure the outline dimensions and angles, and inspect for chips, various cracks, pin holes, thickness, and warping, etc.



3D picking system Insert molding system

This insert molding machine, which is compatible with part feeder-less systems, incorporates a picking system using an innovative 3D robot vision sensor.



Wide-ranging Experience

Since our establishment, Target Engineering has applied our experience of designing and manufacturing more than 500 models to create customer-satisfying automated systems.



Seal plate attachment system

This system attaches the top plate of a square lithium-ion battery at a high speed. In the series of automated steps, the square battery is removed from the tray, the seal plate is attached, the OCB is measured, rejects are discharged, and the passing parts are packed.

Laminated battery assembly device

This system stores and welds drawn laminated film with processes including pole plate stacking and electrode welding.



List of delivered machines

(Only representative machines listed)

[Battery & Capacitor related]

- EP battery assembly line
- Shrink labeler for batteries
- Li-Ion pole plate cutting and processing device
- Li-Ion inner protective tape attachment device
- Li-Ion tape attachment inspection device
- Li-Ion top plate attachment device
- Li-Ion appearance inspection & stocking system
- Li-Ion tube inner surface washing system
- ML battery sealing agent application & inspection device
- ML battery conductive agent application & inspection device
- ML battery laser terminal welding device
- CR battery automatic IJP stamping device
- CR battery terminal welding device
- CR battery vertical type continuous washing system
- CR battery cell tray storage device
- CR battery ring insertion device
- ER battery terminal welding device
- PR battery air cell automatic assembly line
- LR battery mixture alignment & filling device
- LR battery inspection & packaging and delivery line
- Ni/MH battery set battery terminal welding device
- Ni/MH battery sealed body safety valve assembly device
- Ni/MH battery safety valve inspection device
- Various battery pole plate stacking device
- Backup battery pole plate assembly device
- Vacuum filling device
- Capacitor assembly device
- Laminated film forming device for capacitor, polymer, Li-Ion battery (drawing device)
- Vacuum filling & heat sealing device
- Aluminum tube inside washing device
- Laminated battery assembly device

[Automatic inspection systems]

- Precision molding resin part appearance inspection device
- Lead frame appearance inspection device
- Various battery safety valve pressure resistance & leak inspection device
- Various battery OV, CV inspection devices
- Various X-ray inspection devices
- Various appearance inspection devices
- Various substrate appearance inspection devices

[Packaging machines and ancillary devices]

- Corrugated board box packaging machine
- Wrap around caser
- Vertical erector
- Horizontal erector
- Tray former
- Robot caser
- Separate packer
- Bottom filling caser
- Instrument Counting packager
- Boiled egg net packager

[Food related]

- Sliced ham alignment feeder
- Plastic container pinhole inspection device
- Plastic container integrated film packaging device
- Plastic container label feeder
- Sealing label attachment device
- Poached egg production device



Unmanned System Engineering



YMG builds automated systems that match the needs of the times from unmanned consolidated line systems to YMG robot groups.

By promoting research and development with our advanced concepts, we aim to help our customers labor-saving in the drastically evolving new era of manufacturing.

Line System

Consolidated line system groups

► Ultra-high speed gantry loader

RUN-GLB

Industries fastest
(* YMG Comparison Sept. 2017)
Travel speed: 300m/min
Low noise / low vibration



► IN-OUT stocker & gantry system

Loading/unloading stocker | Special 3-axis gantry loader
RT-2016B | YGR-100C



Robot Mechanical

YMG robot group



► Floor traveling robot transfer system

Gantry Arm Unit

Gantry Arm Unit group

YGR-500CW

2-stage sliding arm unit
2-arm type gantry loader



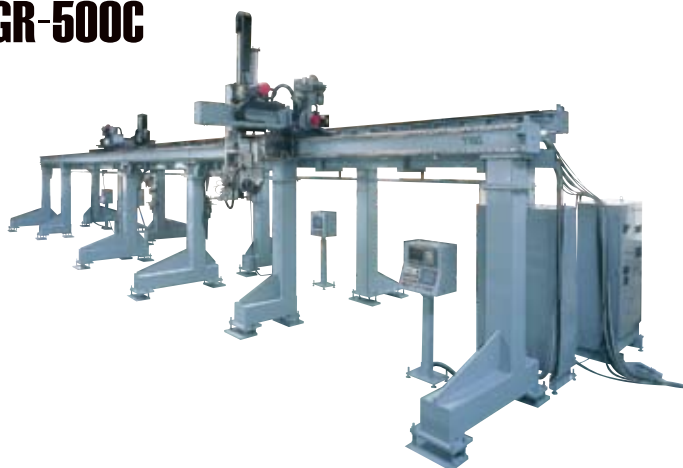
Gantry System

Gantry system group

- ▶ Large loader and transfer system for 100kg workpieces

3-axis gantry loader

YGR-500C



Tray Changer

YMG standard tray changer group

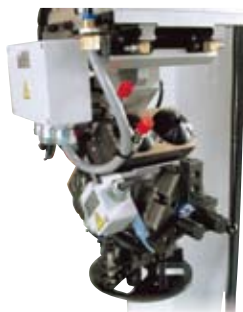
- ▶ Standard tray changer

TC-100PX



Hand Unit

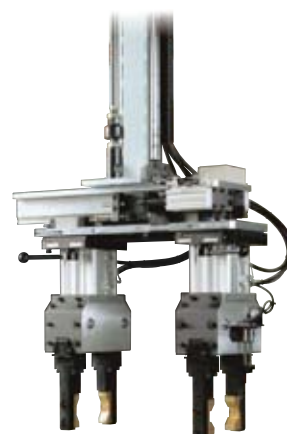
Hand unit group



- ▶ Swivel turning double-hand unit



- ▶ Servo turning double-hand unit



- ▶ Double-hand unit

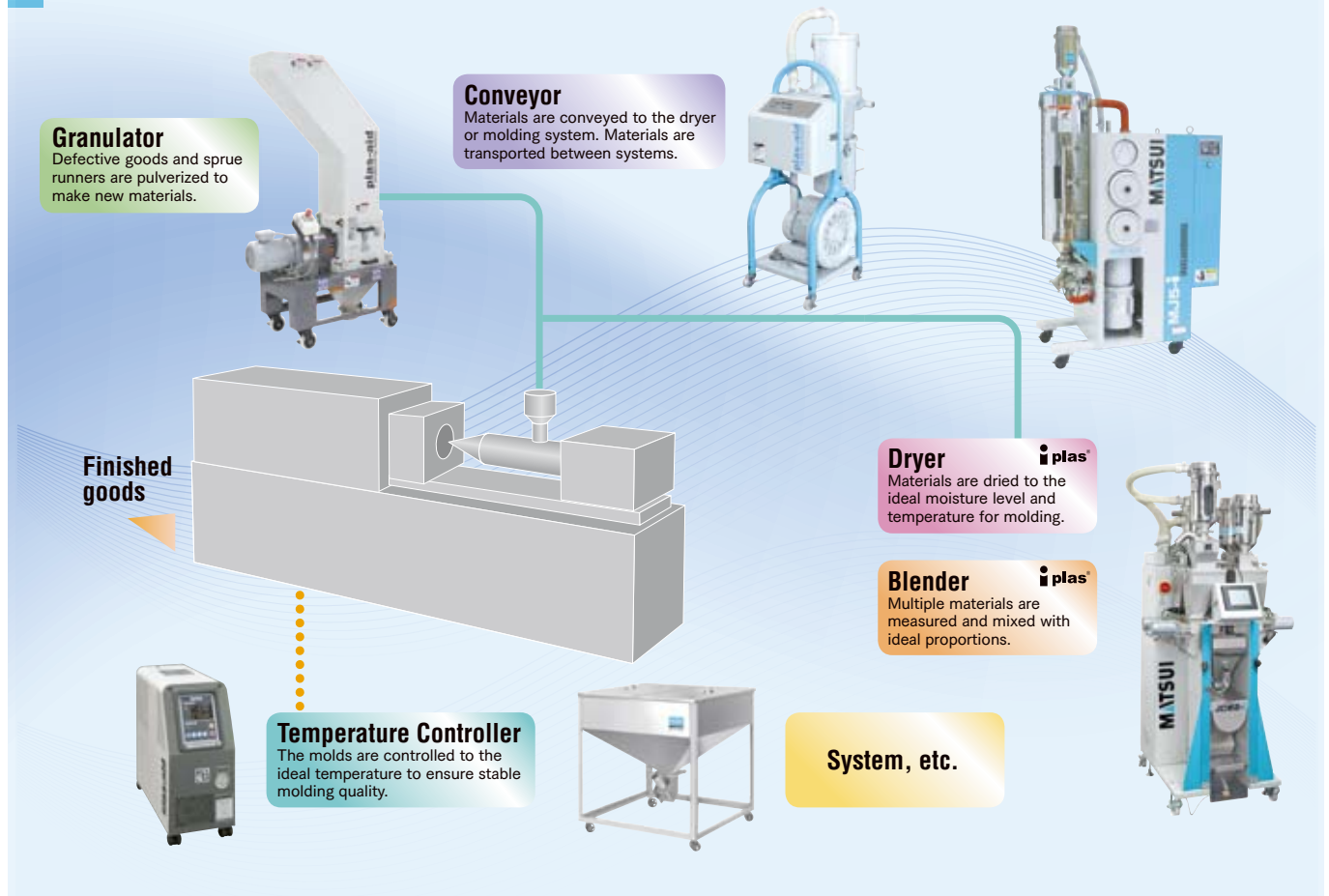
Operation

Operation group



MATSUI Molding System

MATSUI manufactures devices required for incorporating FA in each step from materials to completed products in a molding process.



factor4
in molding factories

Aiming to quadruple the molding factory's resource productivity by getting rid of "water wastes", "resin wastes", and "energy wastes".

Doubling wealth, "halving" resource use

In 2011, the world's population exceeded 7 billion people. In 2050, it is anticipated that the population will reach 9 billion people. In the manufacturing industry, an unprecedented market is opening in the future. Even for the plastic industry, extremely large chances are coming. However, a sudden increase in population is subjecting the earth to an all-time crisis.

This is the problem of "environment". If we do not carefully use our limited resources and energy, there will be no industry when the population reaches 9 billion people. We cannot talk about the future of plastic without thinking about the earth's future. This global environment issue is a problem that those of us who are aiming for sustainable industry growth must overcome. One indicator to resolve this is

"factor 4". "Development of industry" and "preservation of global environment". "factor 4" is an ideology that connects two futures which appear to be separate goals, and presents us with even larger possibilities. This is an innovative and specific idea for realizing coexistence and mutual propriety for the plastic industry and future of the earth.

Visit the Eco column
on our website



What is “factor 4” in a molding factory?

“factor 4” refers to reducing the cost of materials, waters and energy required for plastic molding by half, and at the same time, double the wealth of the company by increasing production volume and the product’s added value. This initiative also leads to the earth’s richness. MATSUI MFG. CO., LTD. proposes specific solutions to realize this initiative.

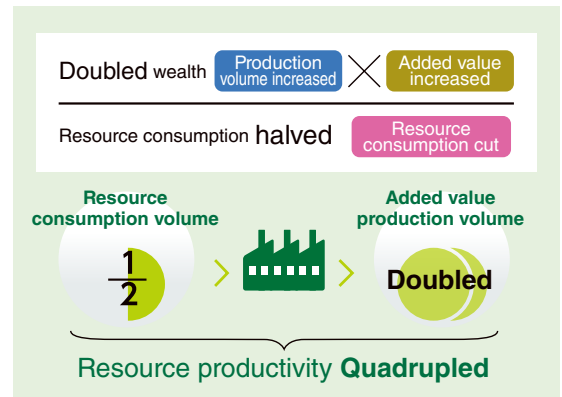
Plumbing solution Introduction of ecobrid

Are scales adhered on piping and

heat exchangers affecting your factory’s overall efficiency?

Eliminate trouble caused by water quality with ecobrid. ecobrid is a next-generation type air-cooled closed circuit water cooling system.

Because it is closed, there’s no worry about water quality trouble caused by condensation of impurities. The heat exchanger also incorporates completely air-cooled specifications so it is not subject to direct water, and there’s no need to wash or replace the heat exchanger. As reference data, if a cooling



tower system for ten 200 ton class molding machines is replaced with ecobrid, the annual water usage volume can be reduced by 3,860t, and water costs and electric costs can be reduced by 1.2 million yen a year. (Calculated based on Kanto area)

ecobrid

Air-cooled closed circuit water cooling system contributing to maintaining factory’s overall water quality, water conservation, and energy conservation

Incorporated at more than 10,000 companies worldwide



ROBOARM



**New easy-to-use
slim design!**

Features

- **Space-saving and compact unit dimensions** (total length reduced by approx. 500mm)
- **Highly rigid bending head with wide machining area!**
- **Sharp, burr-free cutting surfaces!**
- **Windows touch panel PC incorporated!**

WIREMAN



Features

- **High-speed, high-accuracy machining**
Perform high-speed and stable high-accuracy machining.
- **Material retainer unit**
Prevent materials from lifting up, and separation from mold! (Standard)
- **Eight types of machining programs!**
Up to eight types of radii can be selected within the program. NC mandrel rotation function (Optional)
- **Clean cutting edge!**
Sharp and burr-free cutting edge.
- **Sequence with terminal processing machine**
Sequence with various terminal processing machines such as presses and chamfer units.
- **Correction block position digital display unit**
Work efficiency is improved with digital display of correction position! (Optional)

3D-BENDER

Originally developed new mechanism has been improved to increase productivity!



Features

- Diverse tool configurations using independent rotation and step-less vertical movement of inner shaft/outer shaft spindle.
- Switch between draw bending method and compression bending method.
- Highly repeatable machining accuracy supported by highly rigid machine.

NC-BENDER

Dedicated bending machine developed to maximize the NC functions



Features

- AC servomotor drive eliminates need for compressor
- NC control simplifies rotation angle settings compared to traditional pneumatic or hydraulic methods
Setting left and right bending angles is possible
- Up to 10 processes and 100 types of bending angles can be set, and program data can be saved on SD Card
- Rotation angle can be set between 0° and 360° x Max. 100 rotations (NC mini-bender is up to 25 rotations)
- Step-less variable-speed selection
switching of bending speed is possible
- Production counter is displayed on touch panel screen
- Cylinder operation can be included in bending operation

Differential Case Complex Machining Center

WDM40-DA16



※ With optional workpiece stocker and internal loader

Perform various complex machining with one chuck motion.

The compact body is equipped with a laterally opposed spindle unit and an indexing unit in the middle. Shaft holes, spherical face machining, end surface machining, knock holes, side gear holes, and axle shaft holes, etc., can be drilled from both sides while rotating and positioning the differential case. There's no need to change the setup.

Combining process-specific line structures into single complex machining system.

Conventional: Line built with dedicated machine for each process

Shaft hole drilling

Spherical face
knock hole drilling

End surface
machining

Knock hole
drilling

Side gear hole
drilling

Axle shaft hole
drilling

Axle shaft hole
roller burning

Oil hole drilling

Bearing puller
recessing

ID hole drilling

1

Outstanding jig configuration

Complete setup in approx. 3 minutes
Workpiece mounting position: 400mm
660 to 4000cc differential supported just by changing jig

2

Fixed type laterally opposed spindle

High through accuracy ensured

3

Accurate ATT control

Spherical face/edge cutter can be inserted into extra small workpieces using X/Y/Z+ rotation
4-axis NC control

4

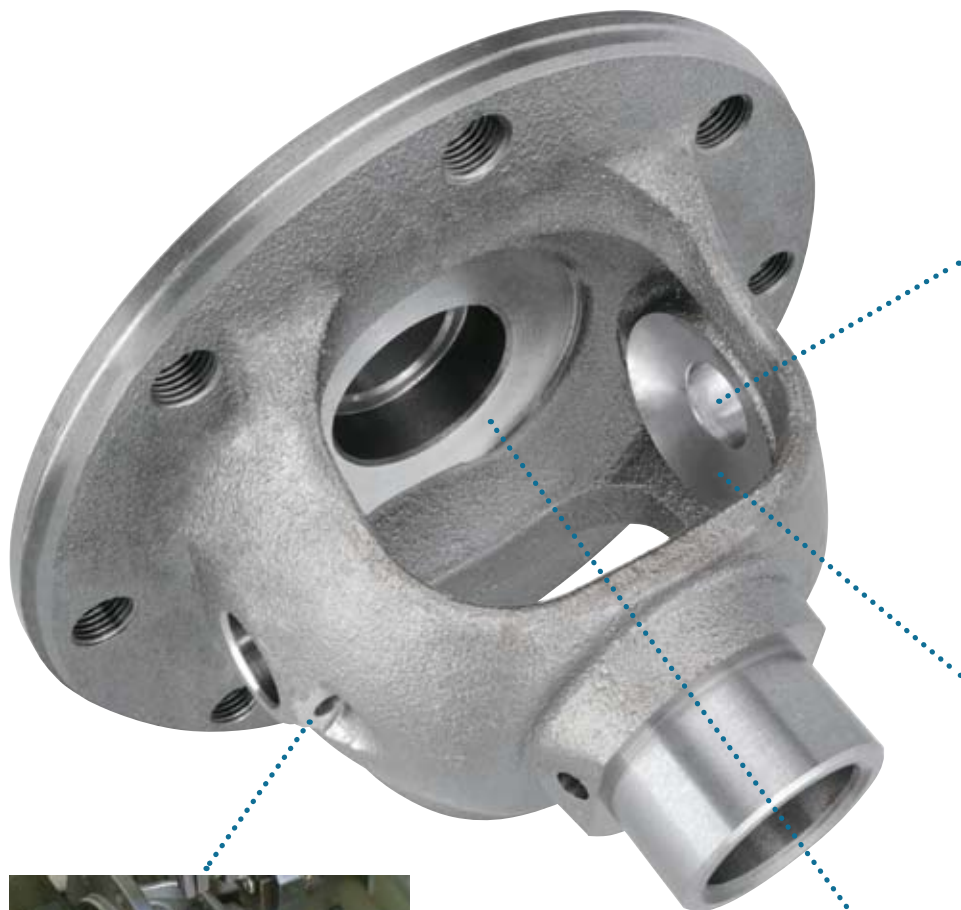
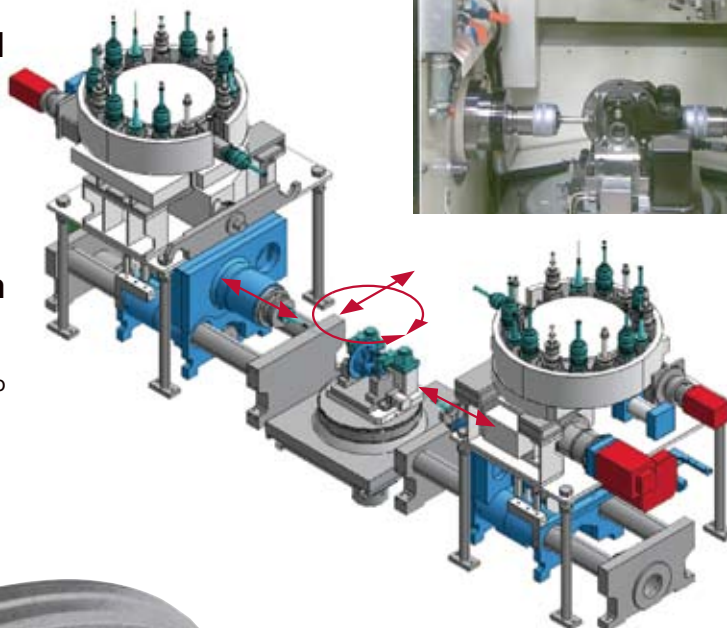
Tool magazines mounted on left and right

16 BT40 tools (with ATC) are mounted on the left and right each, realizing tool replacement (Tool to Tool) in two seconds.

5

Transfer options

Work stocker, robot, internal loader, external loader



Shaft hole drilling (left/right)

Simultaneously tap hole drilling, semi-finishing, and opening chamfering
Ultra-high speed finishing with high-speed reamer



Spherical face drilling (left-right)

Machine the spherical face and chamfer the inner face



End processing (left-right)

High speed machining with vertical cutter



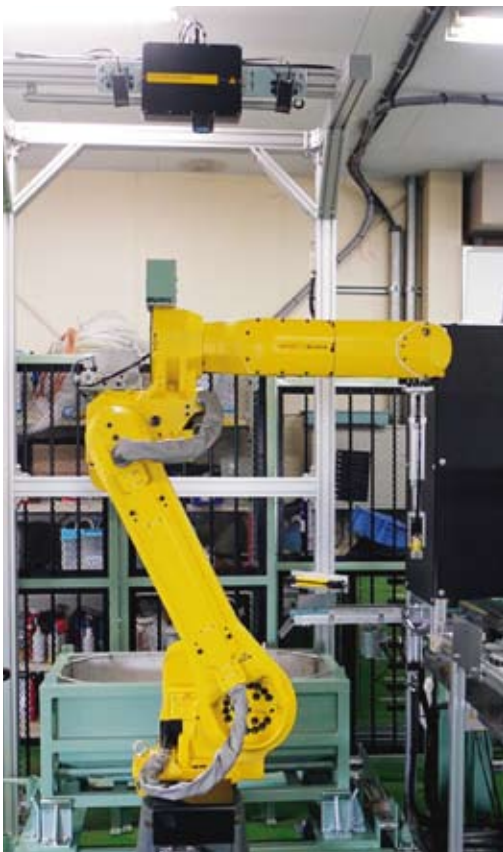
Knock hole drilling

Semi-circular face machining with milling
Spot facing with end mill
Knock hole drilling

TECHNOS provides optimum system integration with advanced technology. In addition to various automobile part related equipment, we realize robotized automated systems for bulk loading, handling, and assembly.

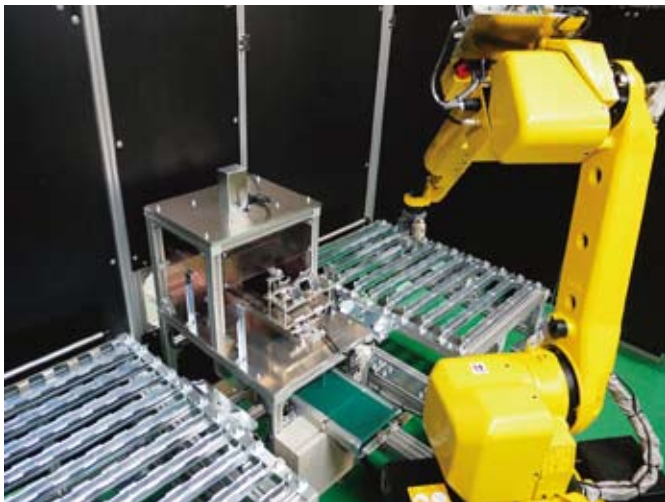
Robotized automation system (bulk loading/handling system)

Products that are loaded on a pallet in bulk are removed using 3D vision sensors. Products are recognized by a 2D camera, and then the front/back judgment and positioning are accurately performed with a separate robot.



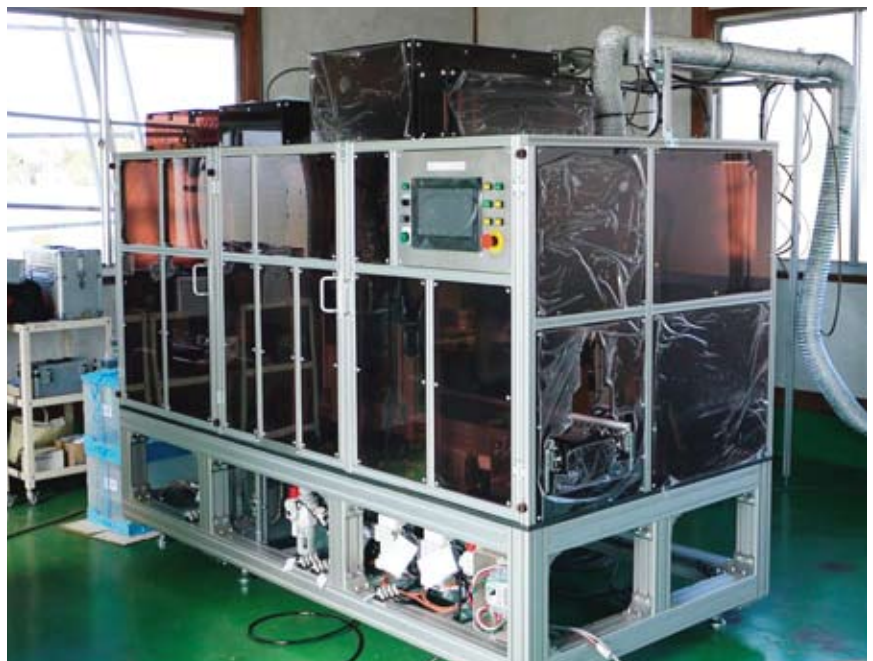
Automatic measurement and transfer system

The QC Code of a product set on the dolly is read with a camera, and then handed over to the measuring section. Once the measurement is completed, the product is removed and transferred to the finished product dolly. The measurement data is linked to the QR Code data, and saved. Since robots perform the transfer, unmanned operation can be conducted for long hours.



Automobile part assembly, application, tightening, and inspection system

Workpieces set on the free flow conveyor pallets are processed by the assembly, application, tightening, and image inspection units installed at each station. The free flow conveyor style allows units to be added easily.

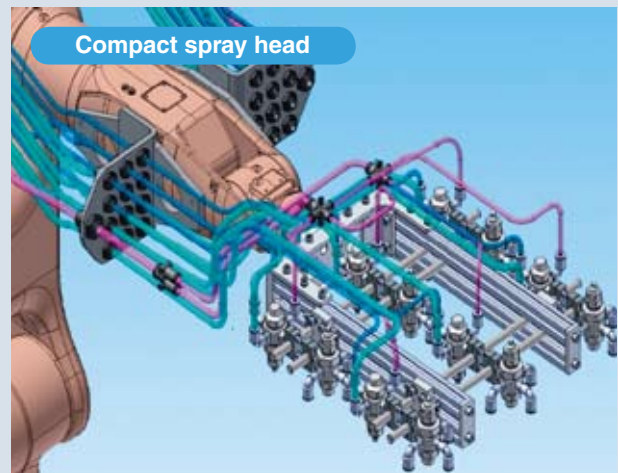


NICHIZOTECH aims to increase productivity and support customers' needs with 30 years of robot technology.

Die cast machine ancillary robot system



[General image]

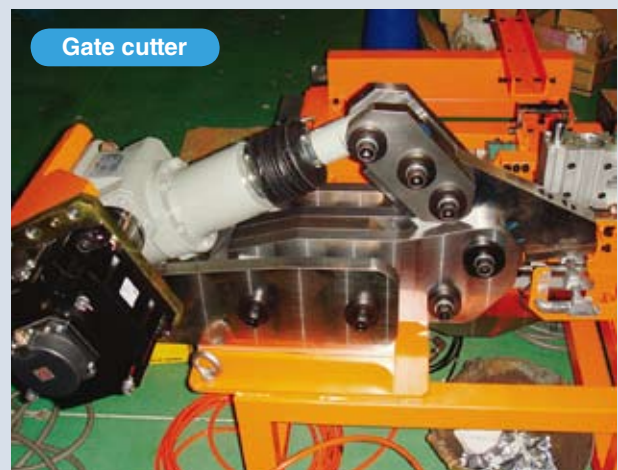


[Optimum application according to type]



**Integrated water tank
and gate cutting unit**

[Reduce load in robot work]



Gate cutter

[Gate cutting independent of press]

Robot handling system between compact presses



[Reduce cycle time]



[Support multiple varieties using camera]

Palletizing and packing robot system



[Labor saving in packaging process]



[Labor saving in shipping process]

Handling robot between machines



[Labor saving between machines]

Aluminum pouring robot system



[Improvement of 3D (dangerous, dirty, demanding) workshop]



**The passion to materialize
dreams is the driving force of
UNI-GIKEN.**

“Materialize designs.”

“Move those materialized items.”

“Create products better than anyone else”.

UNI-GIKEN's professional technology and philosophy are
found in our integrated production systems in all stages
from design to manufacture.

UNI-GEN's comprehensive powers are condensed in our integrated production system.

UNI-GEN's business policy is “Work that materializes CS (Customer Satisfaction)”. We do not just sell products. We realize optimum solutions by combining machines and technology, such as seen in the design of automated device lines required at manufacturing sites.

Our business is diverse, and extends to the design and development of various “labor saving, automated systems”, including parts feeders, transfer devices, automatic assembly devices, inspection devices, and measuring instruments. We are able to propose optimum systems for our customers' needs by providing consistent involvement from design, processing, to manufacture.

Product



Articulated robot - Palletizing system



Differential ASSY - Clearance inspection device

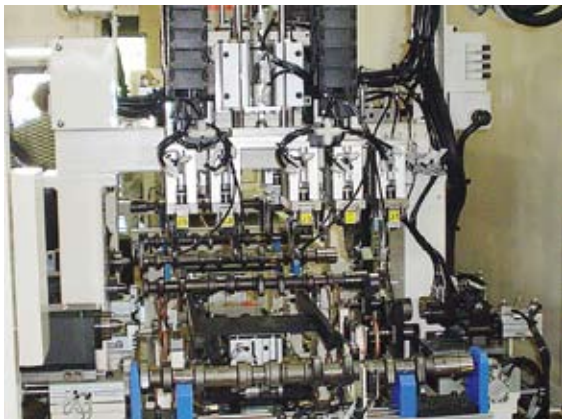
Product



Differential side gear - Final inspection device



Balance shaft - Gear/pin press-fit machine



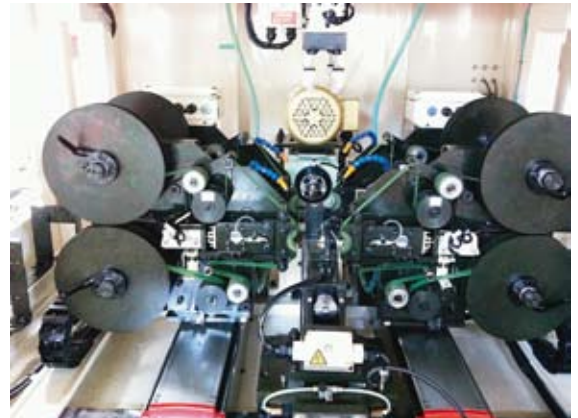
Camshaft - Oil hole penetration inspection device



Pulley shaft - Deflection measuring instrument



Original ball feeder - Material feeder



Camshaft - Journal lapping machine



Skewer type rotary stocker



Variable roller position type top roller conveyor



Aiming to become

DSK DAISEI CO., LTD.

Conscience and Trust

As “precision measurement” and “precision machining” professionals, DAISEI supports the hardware to software aspects of manufacturing with advanced technology. Our engineering staff with rich knowledge provides swift and diverse services.

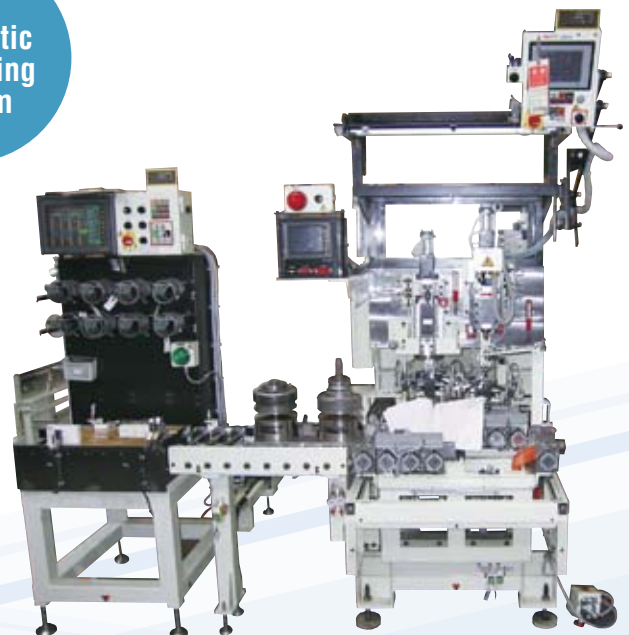
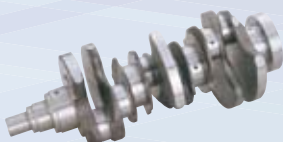


Introduction of key products

Automatic measuring system



Automatic measuring system for crank shaft



CVT shim selecting machine



manufacturing specialists

■ Precision measuring machine fields

Ever since our founding, we have responded to needs to evolve our products including the air micrometer, evolution-type electric micrometer, and automatic measuring machine which is a product merged with machine tool technology. We have focused on "high precision, durability, and maintainability" to create valuable products.



- Automatic measuring machine
- Automatic sorting machine
- Air micrometer
- Electric micrometer
- Measurement unit
- Gauge, dedicated measuring tool
- Dot marking type marking equipment

■ Precision machine tool fields

The DAISEI super-finishing machine is a fully automatic machine tool used for superfinishing of raceways on various bearing races outer rings and inner rings, and for various precision parts. The highly rigid design and highly durable design ensure stable high precision over a long time and a long machine life.



- Vertical superfinishing machine
- Horizontal superfinishing machine
- Dedicated superfinishing machine

Superfinishing machine



Horizontal 2-axis series superfinishing machine



Superfinishing machine for water pump



Air / electric micrometer

Ele-Mic

Measurement head



Air micrometer

NICHIEI Your Source of Quality



For more than 40 years, we have supported the core of Japan's manufacturing in Toyota City, Aichi Prefecture.

With our motto "Technology is built by people, Companies are built by people", we contribute to the manufacturing society with technical skills and human skills.



Head Office, Assembly Factory

Business line

Various dedicated machines for automobile part manufacture
 Various press-fitting machines and assembly machines
 Various transport systems (auto loaders, low hydraulic systems)
 Maintenance and renovation of machine tools

Various labor-saving systems
 Machine design, manufacture, and management
 Electric automatic control system design and manufacture

Situation of factory equipment

Surface grinding machine	2 units	300×100	600×300
Double-headed grinder	1 unit		
Tabletop grinder	1 unit		
Hoist	3 units	2.8t×2 units	1.5t×1 unit
Milling cutter	3 units	X800:Y200	X1000:Y450 X1300:Y280
Machining center	2 units	X1050:Y525	
Worker	1 unit		

Belt grinder	1 unit	
Drilling machine	3 units	
Shirring	1 unit	
Brake	1 unit	
Band saw	1 unit	
Saw disk	1 unit	
Hitachi GMM	6 units	2D CAD
Micro Caelum II	6 units	3D CAD

Newest facilities



Compound assembly machine



Compound assembly grease application machine



Compound press-fitting machine



Joint S press-fitting machine

Sophisticated functional beauty created from the pursuit of “optimization”

Just as things become more functionally sophisticated and beautiful with the passage of time, an FA (factory automation) system never fossilizes into a fixed form. Under the age-old proposition of realizing “a highly efficient system capable of making high-quality products,” we are always pursuing the optimal system configuration using our experience acquired over many years of operation and our excellent analytical abilities, while adapting to ever-changing customer needs. We provide efficient, innovative FA systems with excellent cost performance tailored to the needs of each customer.

Concept of Simple Coil Lines

Coil line systems for exterior automobile body panels for Company T's domestic factories and group company's overseas factories. Our customers demand system lines that heavily incorporate the know-how of our company and customers, and are characterized by unprecedented space-saving line composition, quality improvement, and improved productivity.



Full view



Coiler (lift type)



Six-high leveler



Cleaning equipment, down-cut shear,
coil-end adjustment



Coil holder

Ideal FA line created from extensive system concepts

Our comprehensive systems are backed by more than 50 lines installed in Japan and overseas, and accumulated know-how.

We offer fine blanking feeding lines for 16.0mm thick plates, and leveler feeder lines for heavy plate processing.



Main specifications

<Tandem line>

Coil width 500-1850mm
 Coil outer diameter 760-1800mm
 (inner diameter 508, 610mm)
 Coil weight Max. 15 ton
 Feed length Max. 2000 mm
 Feed count 20 to 83 spm
 Line speed Max. 83 m/min

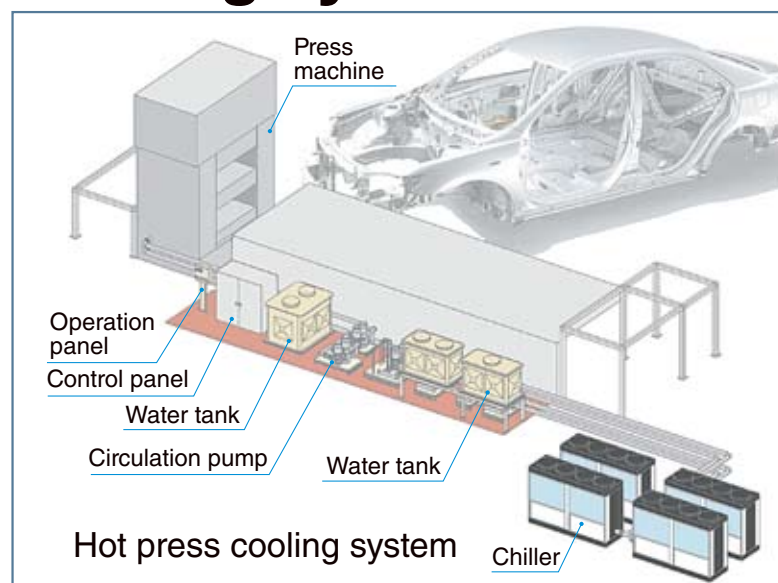
<Leveler feeder line>

Coil width 70-1830mm
 Coil outer diameter 700-1830mm
 (inner diameter 508, 610mm)
 Coil weight Max. 15 ton
 Feed length Max. 1500 mm
 Feed count 25 to 80 spm
 Line speed Max. 40 m/min

Business products

Coil line system
 Shearing line
 Press peripheral automated systems

Cooling system



Sonoruka Engineering designs and manufactures cooling systems for hot plate press and for various factory equipment and devices.

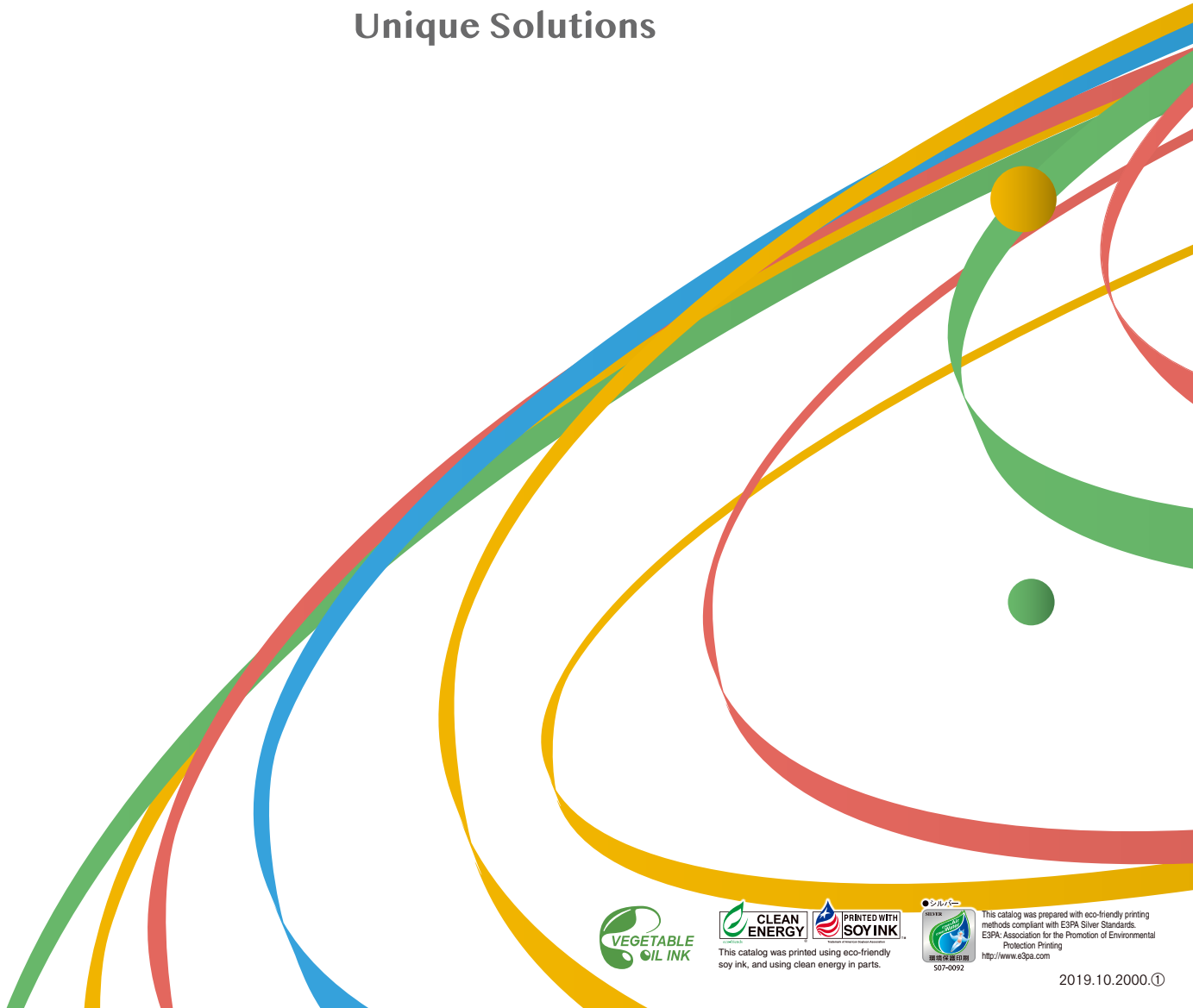
We provide cooling systems with outstanding cost performance by engineering equipment to match our customers' needs.

We manufacture various water cooling circulation systems for machine tools (chiller)





Maruka
Unique Solutions



This catalog was printed using eco-friendly soy ink, and using clean energy in parts.

This catalog was prepared with eco-friendly printing methods compliant with E3PA Silver Standards.
E3PA: Association for the Promotion of Environmental Protection Printing
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2019.10.2000.①