

Aiming for Globalization and Systemization

Maruka Machinery Co., Ltd., the machinery-specialized trading company, is joining forces with specialized manufacturers having unique technologies, to expand product sales, and develop new products.

MM Association (Maruka-Manufacturer Group)

Company Name	Main Products
DAICHU CO., LTD. 2-1-5 Sangamaki, Takatsuki City, Osaka	◎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
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
COSMOTEC CO., LTD. 1501 Nozuecho, Midori-ku, Nagoya City, Aichi	◎Press repairs (KOMATSU subcontract factory)
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-fit machines ◎Design and manufacture of other 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 ionized 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 Izuo, 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
DENGENSHA TOA CO., LTD. 1-23-1 Masugata, Tama-ku, Kawasaki City	◎Manufacture and sales of various resistance welders, special dedicated machines, jigs, and energy-saving devices
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
SONORUKA ENGINEERING CO., LTD. 4-8-28 Torikaikami, Settsu City, Osaka	◎Coil line system ◎Shear line ◎NC transfer ◎Cooling system



MARUKA MACHINERY CO., LTD.

Profile

Established	December 16, 1946
Capita	JPY1.414 billion Listed in First Section, Tokyo Stock Exchange
Employees	596 (consolidated) (as of November 30, 2017)
Annual sales	JPY52.4 billion (November 2017 term)

Line of Business

- Domestic sales and import/export of various processing machinery including machine tools, press forging machines, resin molding machinery; civil engineering and construction machinery; material handling machinery, vehicles, food machinery, various machine parts, other machinery and equipment, and measuring devices
- Rental of construction machinery
- Shipping business, warehouse business, customs business, real estate lease business
- Insurance agent

Main banks

Resona Bank, Ltd.
Mizuho Bank, Ltd.
MUFG Bank, Ltd.
Sumitomo Mitsui Banking Corporation
The Kinki Osaka Bank, Ltd.

Affiliates

Sonoruka Engineering Co., Ltd.

Head office	4-8-28 Torikaikami, Settsu City, Osaka 566-0062
Main factory	4-8-28 Torikaikami, Settsu City, Osaka 566-0062 Tel: +81-72-654-7415 Fax.: +81-72-654-7412
Second factory	4-7-46 Torikaikami, Settsu City, Osaka 566-0062 Tel: +81-72-665-4612 Fax.: +81-72-665-4613
Nagoya Sales Office	701 Higashikanosatocho, Nakagawa-ku, Nagoya City 454-0958 Tel: +81-52-304-2019 Fax : +81-52-304-2017
Service Centers	Guangzhou, Bangkok

Japan Rental Co., Ltd.

Head office	2-13-3 Showa, Kawasaki-ku, Kawasaki City, Kanagawa Prefecture 210-0813 Tel: +81-44-288-5323 Fax: +81-44-266-5350
Chiba Sales Office	580-126 Nagaura, Sodegaura City, Chiba Prefecture 299-0265 Tel: +81-438-53-8771 Fax: +81-438-53-8772

Kan Manufactory Co., Ltd.

Head office	1000-28 Araya-Donomae, Tendo City, Yamagata Prefecture 994-0054 Tel: +81-23-655-6100 Fax: +81-23-655-6101
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Kita Kyu Kanamono Kogu Co., Ltd.

Head office	1-1-6 Kiyomizu, Kokurakita-ku, Kitakyushu City, Fukuoka Prefecture 803-0841 Tel: +81-93-561-3916 Fax: +81-93-561-3971
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MARUKA PROFILE

Corporate Philosophy

Under our guiding precept of Sincerity is everything in life, we aim to perform the best service to achieve our mission of Customer Satisfaction. While observing laws, we implement corporate activities that are based on high corporate ethics, and aim to be a company that answers to the community's expectations.

Shareholders (as of November 30, 2017)

KOBELCO CONSTRUCTION MACHINERY CO., LTD.
NACHI-FUJIKOSHI CORP.
AIOI NISSAY DOWA INSURANCE CO., LTD.
RESONA BANK, LTD.
MIZUHO BANK, LTD.
THE SFP VALUE REALIZATION MASTER FUND LIMITED
GOLDMAN, SACHS & CO., RFG
MUFG BANK, LTD.
JAPAN TRUSTEE SERVICES BANK, LTD.
MARUKA MACHINERY EMPLOYEE SHAREHOLDING ASSOCIATION

Directors (as of February 22, 2018)

Chief executive officer	Toshiaki Takeshita
Director and Executive operating officer	Haruhisa Nihashi
Director and Executive operating officer	Satoshi Manabe
Director and Corporate executive officer	Tsunehisa Nanba
Director and Corporate executive officer	Kunihiko Iida
*Director	Nobuo Nagasaki
Full-time auditor	Junichi Ogino
Full-time auditor	Katsunori Sugiura
*Auditor	Tetsu Furusawa
*Auditor	Keita Ushijima
Executive officer	Junichi Kurosawa
Executive officer	Kozo Kanda
Executive officer	Toru Taniguchi
Executive officer	Kouichiro Takaoka
Executive officer	Naoto Shimabayashi
Executive officer	Toshihiko Kurisu

*Names marked with an asterisk are outside directors and outside auditors.

MARUKA NETWORK

Offices

Headquarters	2-2-5 Minamishinmachi Chuo-ku, Osaka City 540-0024
Industrial Machinery Main Office	Tel:+81-6-6450-6825 Fax:+81-6-6450-6826
Global Machine & Tools Department	Tel:+81-6-6450-6835 Fax:+81-6-6450-6836
Construction Machinery Main Office	Tel:+81-6-6450-6833 Fax:+81-6-6450-6834
Administrative Main Office	Tel:+81-6-6450-6823 Fax:+81-6-6450-6824
Insurance Department	Tel:+81-6-6450-6791 Fax:+81-6-6450-6792
Water Chiller and Mold Temperature Controller Systems	Tel:+81-72-665-4611 Fax:+81-72-665-4613 (4-7-46 Torikaikami, Settsu City, Osaka 566-0062)
Tokyo Office	(Maruka Nikko Bldg.) 22-6 Kabuto-cho, Nihonbashi, Chuo-ku, Tokyo 103-0026 Tel:+81-3-3808-1221 Fax:+81-3-3808-1030
Tokyo Construction Machinery Office	Tel:+81-3-3808-1555 +81-3-3808-1030
Nagoya Office	(ORE Nagoya Fushimi Bldg. 7F) 2-9-29 Nishiki, Naka-Ku, Nagoya City, Aichi Prefecture 460-0003 Tel:+81-52-211-3681 Fax:+81-52-211-3697
Tohoku Office	4-17-10 Arai , Wakabayashi-ku, Sendai City, Miyagi Prefecture 984-0032 Tel:+81-22-288-7191 Fax:+81-22-288-7194

Overseas Offices

MARUKA U.S.A. INC.

Kansas City Head Office	1210 N. E. Douglas Lee's Summit, MO 64086, U.S.A. Tel: 1-816-524-1811 Fax: 1-816-524-5444
New Jersey Office	45 U.S. Route 46East, Suite 610, Pine Brook, NJ 07058, U.S.A. Tel: 1-973-487-3800 Fax: 1-973-244-2147
Florida Office	7441 114th Avenue N. Suite 605 Largo, FL. 33773, U.S.A. Tel: 1-727-541-1645 Fax: 1-727-541-1640
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/

INDUSTRIAL TOOL INC.

9210 52nd Avenue North, Minneapolis, MN 55428, U.S.A.
Tel: 1-800-776-4455 Fax: 1-763-533-7244

MARUKA MEXICO S.A. de C.V.

Boulevard Luis Donaldo Colosio #248A Lomas Del Campestre 1a Seccion Aguascalientes, Aguascalientes C.P. 20129 Mexico
Tel: 52-449-153-1491 Fax: 52-449-996-8952

QUERETARO OFFICE

Blvd.Universitario #540 Plaza Shopping Center Juriquilla Local 13 Col.Jurica Acueducto C.P.76230 Queretaro,Qro.Mexico
Tel : 52-442-234-0155

MARUKA ENTERPRISES,INC.

Unit 401&402La Fuerza Plaza I 2241 Don Chino Rocas Avenue,Makati City,Philippines
Tel:63-2-815-8247 Fax:63-2-840-4939

PT. MARUKA INDONESIA

Sentra Niaga Kalimalang Blok A.7 No.5-6 JI.A. Yani, Margajaya, Bekasi Selatan, Kota Bekasi 17141, Indonesia
Tel:62-21-889-1611 Fax:62-21-885-5118

MARUKA MACHINERY CORP.OF TAIWAN

FL. 4-1. No.687, Sec.5, Chung Shan North Road,Taipei
Tel:886-2-2836-1313 Fax:886-2-2836-9191

Okayama Office (Sun City Bldg.) 1-23 Oka-machi, Kita-ku, Okayama City, Okayama Prefecture 700-0867
Tel: +81-86-231-0305 Fax:+81-86-232-8670

Fukuoka Office 1-8-32-1 Oike, Onojo City, Fukuoka Prefecture 816-0904
Tel:+81-92-503-5871 Fax:+81-92-503-5884

Shizuoka Office Chiken Inagawa Bldg. 5F Suite B, 1-1-3 Inagawa, Suruga-ku, Shizuoka City, Shizuoka Prefecture 422-8062
Tel:+81-54-281-6531 Fax:+81-54-281-6533

Shimane Sales Office 1923-2 Shimoito, Izumo-cho, Matsue City,Shimane Prefecture 699-0102
Tel:+81-852-52-2541 Fax:+81-852-52-5325

Matsuyama Sales Office 2-1143-1 Kiyosumi, Matsuyama City, Ehime Prefecture 791-8055
Tel:+81-89-952-6411 Fax:+81-89-952-6413

Sakai Rental Center 2648-13 Fukai Higashi-machi, Naka-ku, Sakai City,Osaka Prefecture 599-8235
Tel:+81-72-281-0195 Fax:+81-72-281-0198

MARUKA MACHINERY (THAILAND) CO.,LTD.

1stFL., Piarnsri Watana Building 29/9 Moo 14Bangna-Trad Rd., km. 6 Bangkaew, Bangplee, Samutprakarn 10540,Thailand
Tel:66-2-743-0791~96 Fax:66-2-743-0797

PINTHONG BRANCH

789/28 Phase 4 Unit A1, Pinthong Industrial Estate 1, Moo-1, T. Nongkham, A. Sriracha, Chonburi 20230
Tel:66-38-348-267/268 Fax:66-38-348-269

MARUKA EXPORT (THAILAND) CO.,LTD.

789/28 Phase 4 Unit A1, Pinthong Industrial Estate 1, Moo-1, T. Nongkham, A. Sriracha, Chonburi 20230
Tel:66-38-348-196 Fax:66-38-348-269

MARUKA (M) SDN.BHD.

NO. 4, Jalan PJU 1A/12 Taman Perindustrian Jaya, Ara Damansara 47200 Petaling Jaya, Selangor, Malaysia
Tel:60-3-7848-3251 Fax:60-3-7848-3257

MARUKA TRADING GUANGZHOU LIMITED

广州丸嘉貿易有限公司
广州市天河区体育東路138号金利来数码网絡大厦2502-03室
Tel:86-20-8758-0814 Fax:86-20-8757-3058

MARUKA TRADING SHANGHAI LIMITED

上海丸嘉貿易有限公司 上海市徐匯区肇嘉浜路789号均瑶國際広場10階E2室
Tel:86-21-5496-0022 Fax:86-21-5496-0527

天津分公司 天津市河西区南京路66号凱旋門大厦B-11D室
Tel:86-22-2311-2977 Fax:86-22-2331-7679

無錫営業所 江蘇省無錫市新区高浪東路19号逸林大厦906室
Tel:86-510-8522-8753 Fax:86-510-8528-1315

MARUKA VIETNAM CO.,LTD.

Room 202, 02nd FL, Techno Center, Thang Long Industrial Park, Kim Chung Commune, Dong Anh District, Hanoi, Vietnam
Tel:84-4-3955-0164 Fax:84-4-3955-0165

HO CHI MINH OFFICE

5 th Floor, PaxSky Building, 123 Nguyen Dinh Chieu St, Ward 6, District 3, Ho Chi Minh City, Vietnam

MARUKA INDIA PVT.LTD.

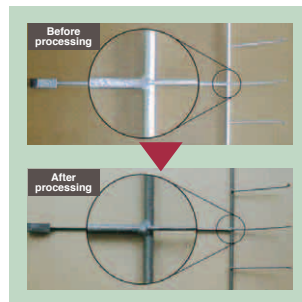
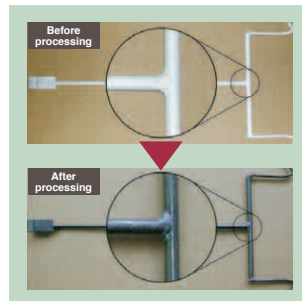
ABW Tower Unit No.208&208A, 2nd Floor, Sector 25, M.G.Road, Near Ifco Chowk, Gurgaon 122001 Haryana India
Tel:91-124-428-5400 Fax:91-124-428-5401



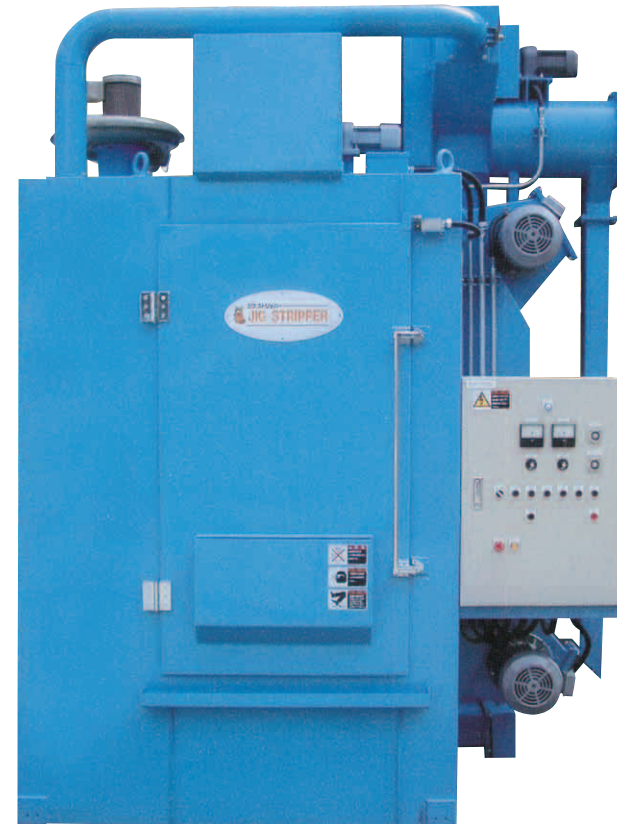
for PAINTING

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

Model	Item	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 DAICHU CO., LTD. accurately respond to users' needs while focusing on saving labor, saving energy, and reducing costs at production sites.

Free machinery inspection services available



FAT-200

TABLE TYPE

Table type shot blast machine

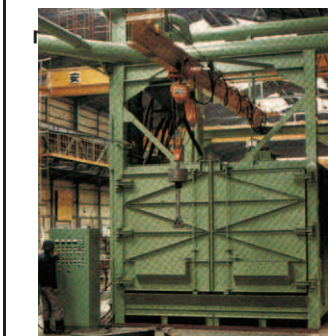


Single table type

Double table type

CRANE TYPE

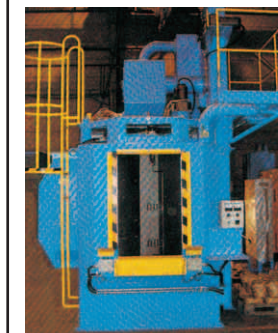
Crane type shot blast

**APRON TYPE**

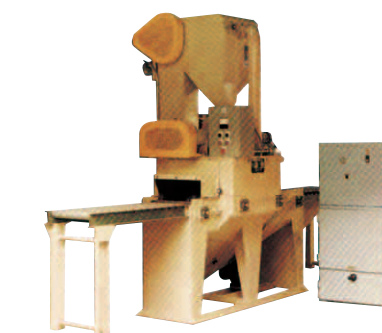
Apron type shot blast machine

**HANGER TYPE**

Hanger type shot blast machine

**CONVEYOR TYPE**

Conveyor type shot blast machine

**BAG FILTER**

Bag filter (dust collector)



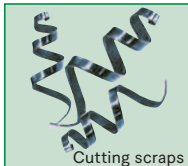
Shot blast machine and jig strippers are available in a variety of types and sizes.

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

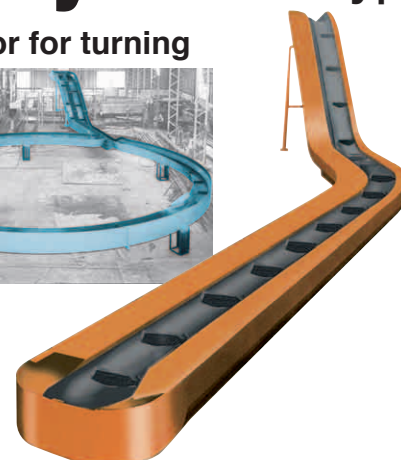
OHMINE Chip Conveyor

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

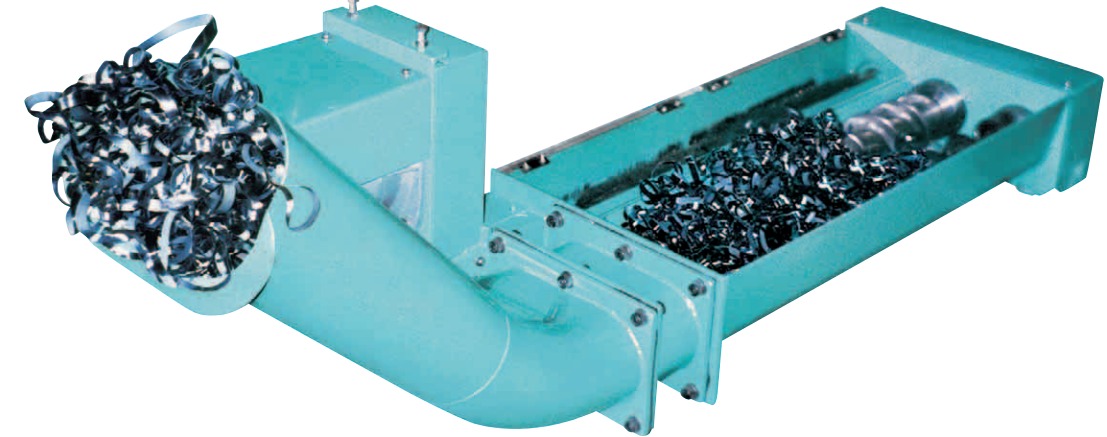


Machine tool built-in type conveyor

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 OHMINE 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.



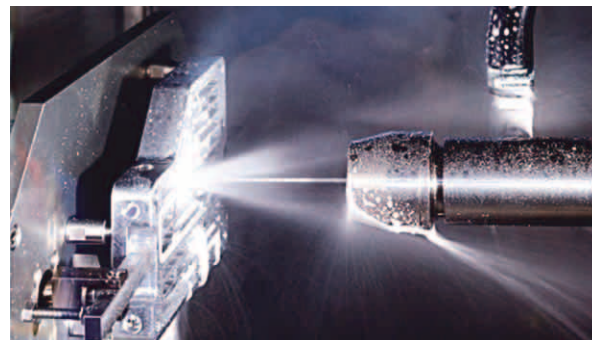
Precision washer designed for modern needs

CNC Washer

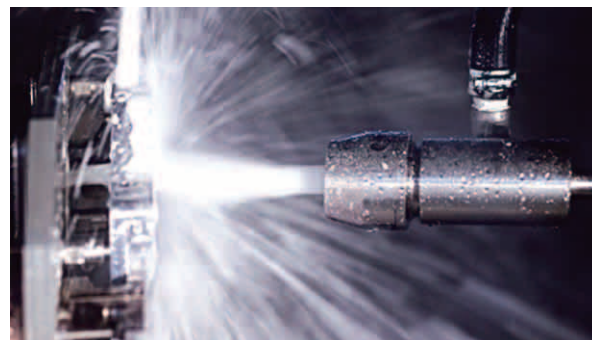
Combining revolutionary unique technology and outstanding operability in a precision washer.

KR-2 Series

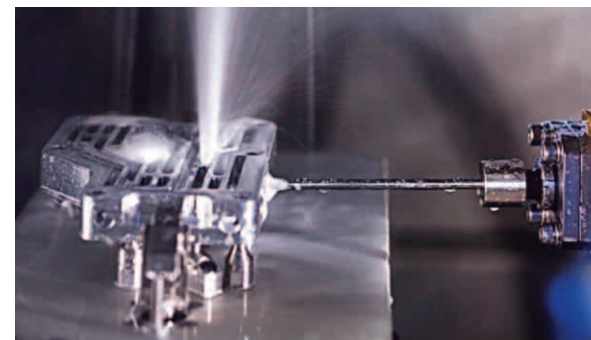
- Standard turntable enables workpiece setting and removal during washing.
- Improved drive unit doubles feed rate compared to conventional models.
- Ceiling door allows workspaces to be set and removed with a gantry, and supports automated lines.
- Work efficiency and cycle time reduction are greatly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



Direct-injection washing nozzle



Big shower washing nozzle



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 D
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

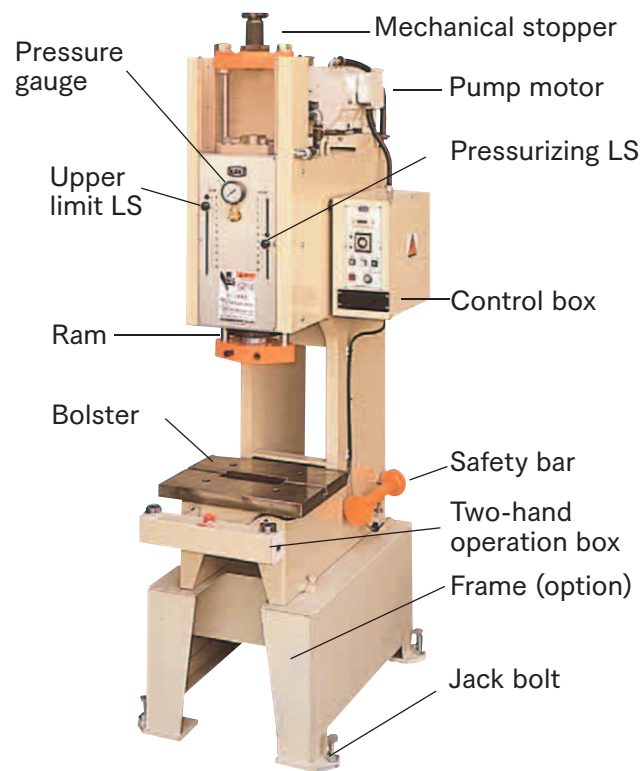
Assembly, processing, & precision press processing in automobile, home appliance, electronics, and other industries

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

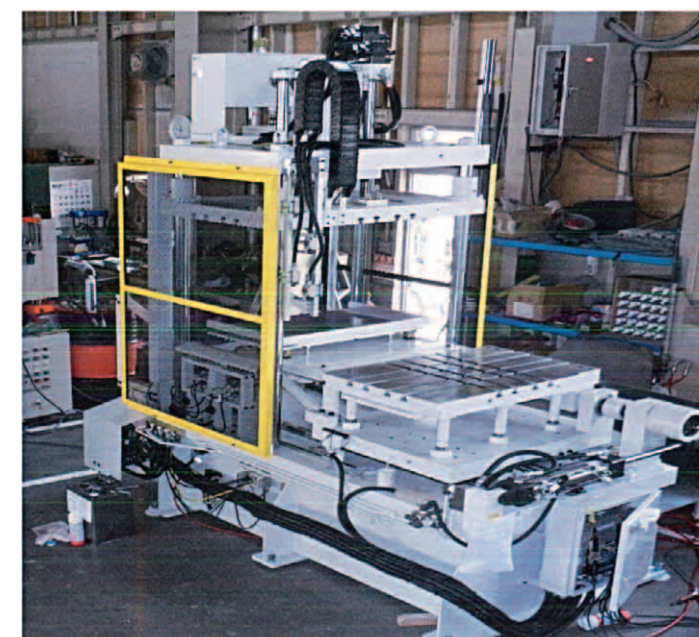


Four column hydraulic press



Electric servo press 5 TON KSV-5

1. **Electricity and hydraulic hybrid**
2. **High-precision, high -power**
3. **Stable pressurization**
4. **Energy-saving design**
Power is consumed only during operation
5. **Low hydraulic oil consumption**
One-sixth of conventional hydraulic press (KOEI comparison)



Hydraulic trimming press with reversing slide table 30 TON



Hydraulic servo press 30 TON KUS-30

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.

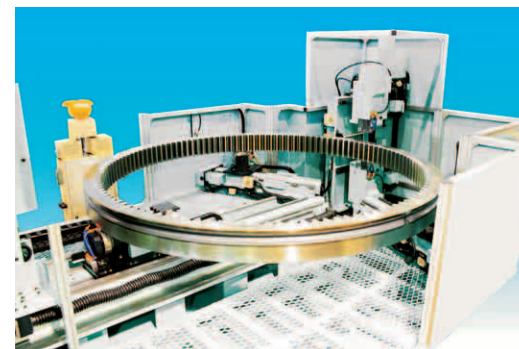
Machine examples



2-head type chamfering machine (with loader)

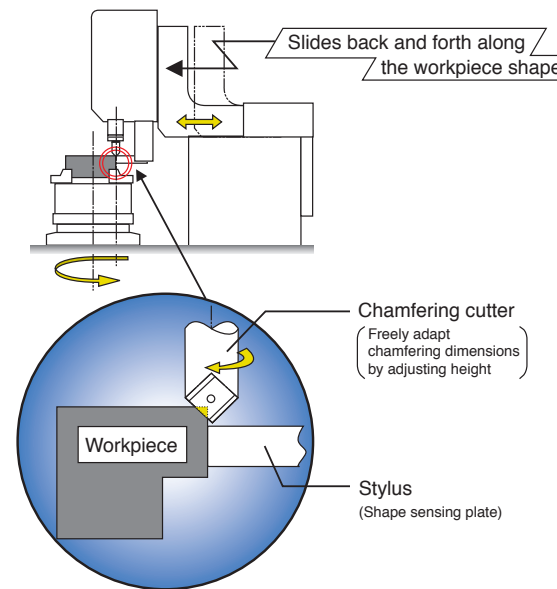


5-head type de-burring machine



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)

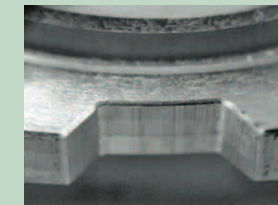
At just 550mm wide, 1030mm deep, and 1665mm high, the design is extremely compact and simple compared to robots and NC machines. Caster wheels make movement easy.

Examples of Machining

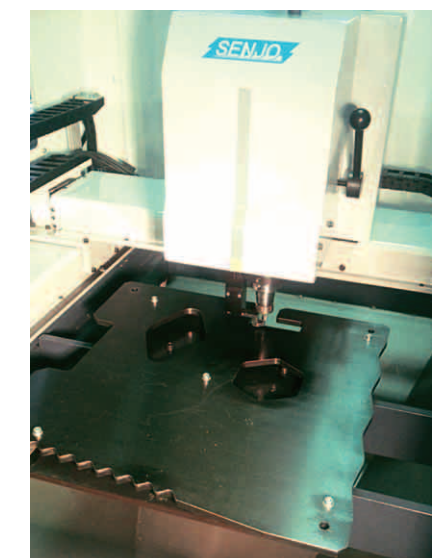
Before machining



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.

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



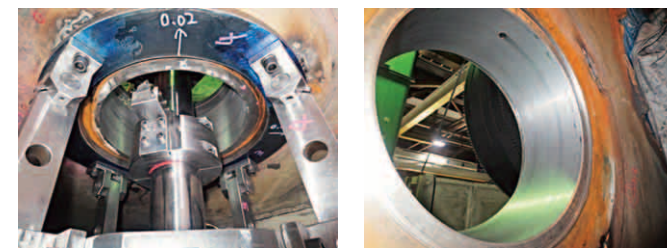
Welding and repairing 1600t slide damage



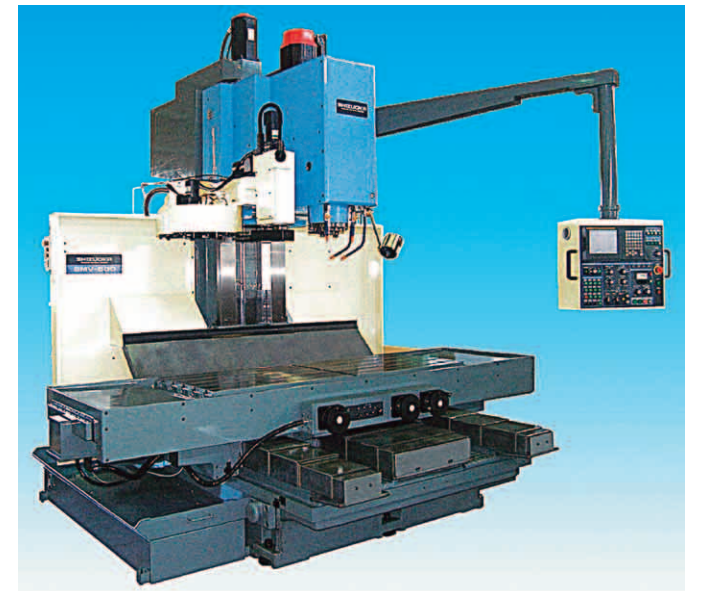
- NC lathe 2m, 182cm, 4m
- Slotter 300
- Radial machine 1650



New slide Length 6m, weight 25t



Onsite work (frame precision drilling)



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



Thai subsidiary COSMO (THAILAND) CO., LTD.

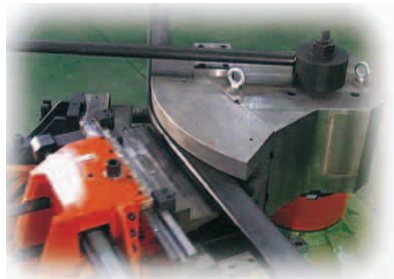


Inside factory at COSMO (THAILAND) CO., LTD.

Pipe Bender Specialists

Bending technology for wide-ranging pipe processing

BENDING

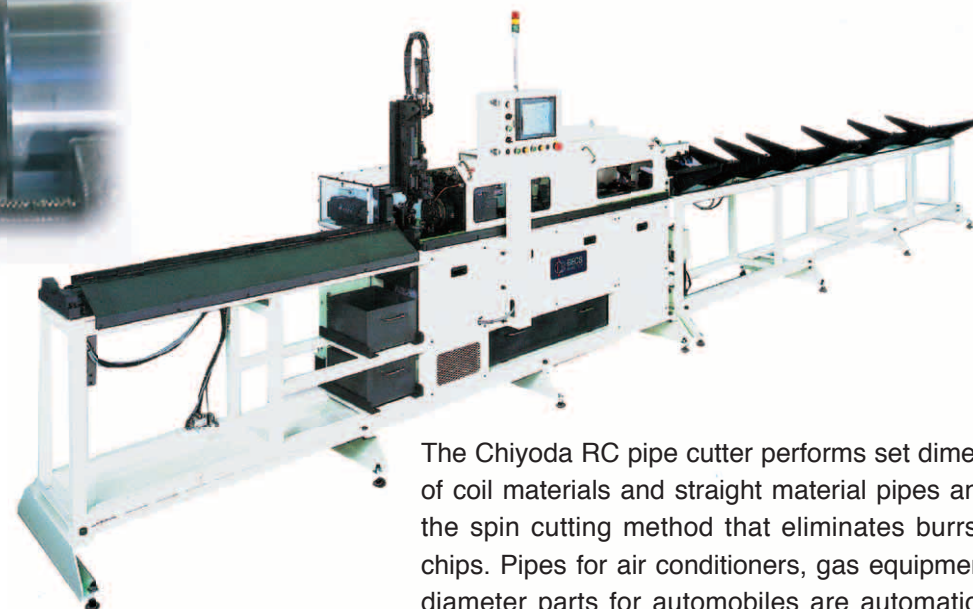
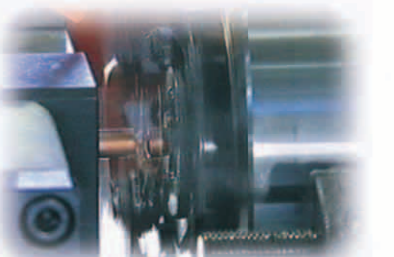


Chiyoda's CNC pipe bender greatly expands the world of pipe bending with highly precise processing, capable of bending up to 1DR, and high-speed operation using AC servo control. Our lineup includes high-performance machines in various sizes to match applications, unmanned pipe supply and discharge using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



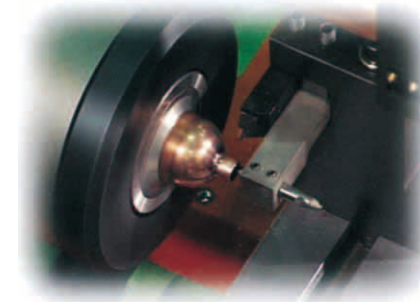
The Chiyoda RC pipe cutter performs set dimension cutting of coil materials and straight material pipes and tubes with the spin cutting method that eliminates burrs and cutting chips. Pipes for air conditioners, gas equipment, and small diameter parts for automobiles are automatically cut to a set length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

Bending, Expanding, Cutting, Measuring

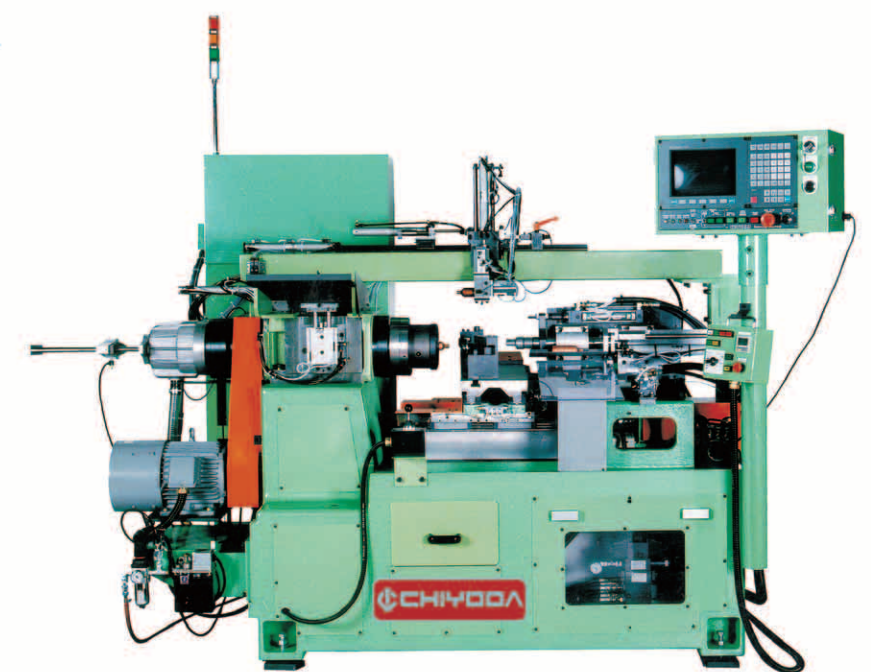
Supporting various pipe end working needs

Pipe end
working

EXPANDING & SWAGING

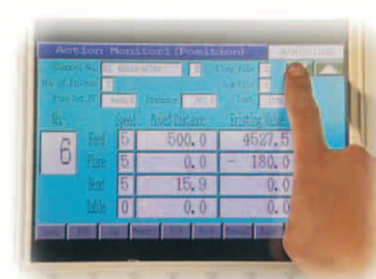


Chiyoda's pipe end working machines excel in high-speed pipe end forming and working. A variety of models are available to support various needs including machines with supply loaders for unmanned operation, rotary-type pipe drawing machine, pipe de-burring machine, and machines capable of ring insertion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

With the motto “Production technology for our customers”, U. TEC designs and manufactures production systems that pursue convenience and quality.



Line of Products

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

Factory equipment

- | | | |
|--------------------------------------|-------------------|---------|
| ● Vertical machining center | 1540×760×660 | 1 unit |
| ● Vertical machining center | 1050×560×520 | 1 unit |
| ● Vertical machining center | 820×435×485 | 1 unit |
| ● Vertical machining center | 560×460×450 | 1 unit |
| ● Vertical machining center | 630×410×460 | 1 unit |
| ● NC horizontal milling machine | 1600×1200×1000 | 1 unit |
| ● NC vertical milling machine | 710×305×400 | 1 unit |
| ● Vertical universal milling machine | 710×305×400 etc., | 3 units |
| ● NC lathe | φ430×563L | 1 unit |
| ● NC lathe | φ510×800L | 2 units |
| ● Lathe | φ500×200L etc., | 3 units |
| ● Radial drilling machine | 1100L | 1 unit |
| ● Mechanical CAD | Solid Works 3D | 8 units |
| ● Electrical CAD | | 4 units |



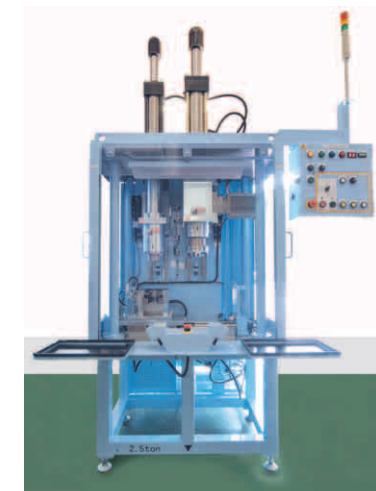
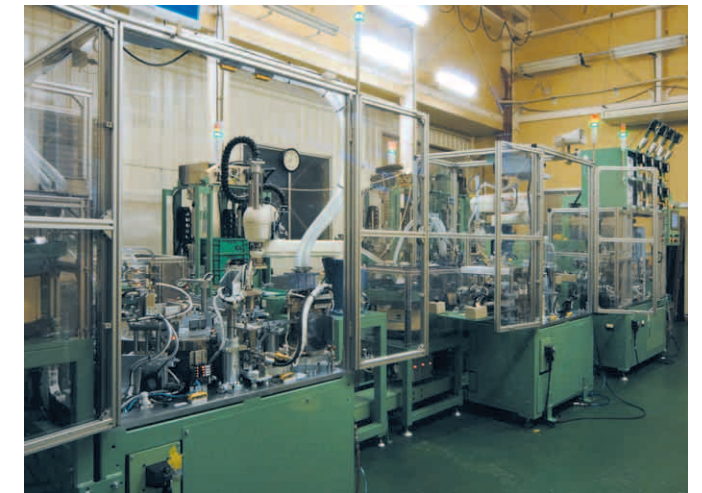
Head Office Assembly Plant



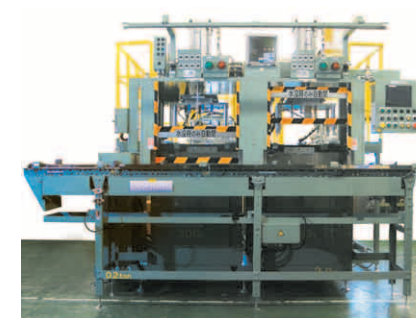
Jakarta Plant

U. TEC Products [Various manufacturing machines]

1. Various press-fit machines and assembly machines



2. Various inspection machines

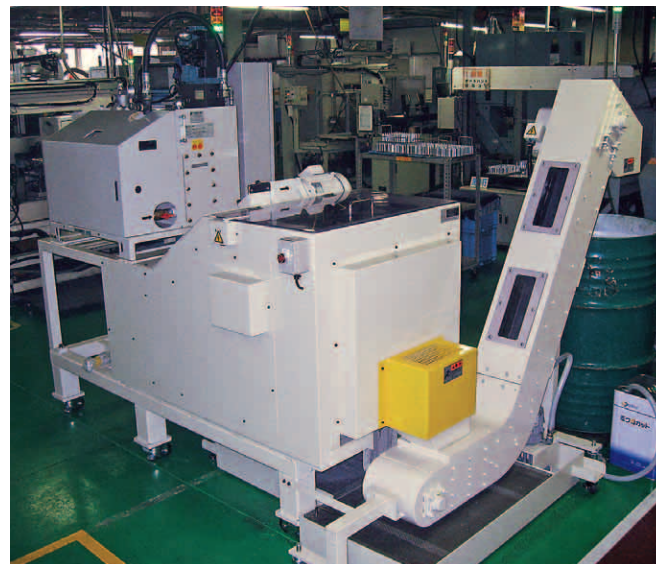


From waste to valuables Creating new value

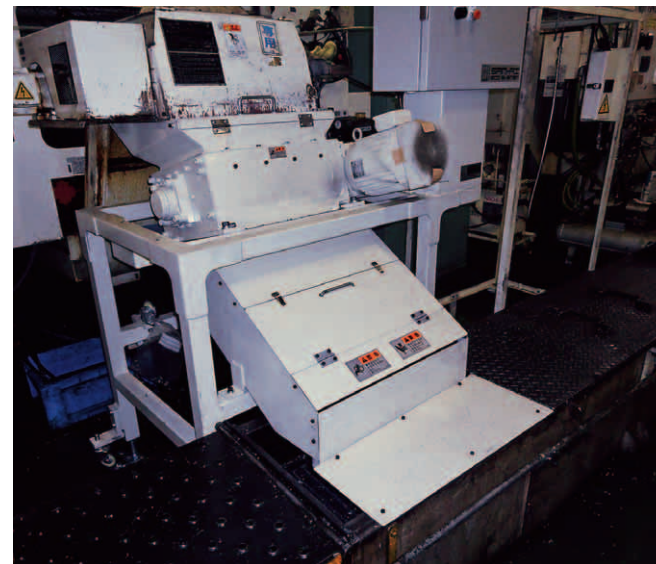
Rising social awareness of environmental issues has generated demand for rapid improvements in industrial waste treatment. This in turn has made industrial waste treatment an urgent issue for manufacturers.

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.



Installation Example of chip compressor SPS-40SYR



Installation Example of chip crusher SKE-150HL-60-400R

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.

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.

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.

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

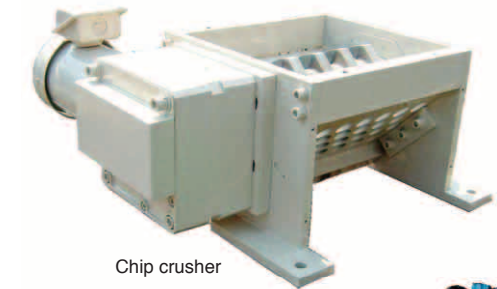
Cutting chips and sludge generated at metal processing plant



Cutting chips



Grinding sludge



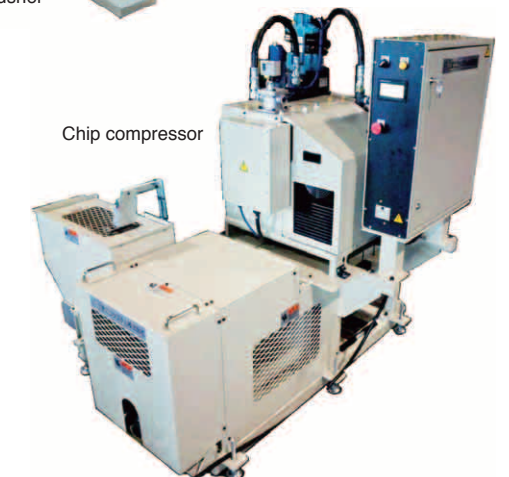
Chip crusher



Recycled for reuse as material



Collection of cutting fluid



Chip compressor

Iron ingots extracted by re-melting



Delivered to material manufacturers for use as source of iron

Crushed chips



Compressed chips

Contracting industrial waste disposal contractors for treatment of to treat and dispose the chips and grinding sludge that clutter and soil plants calls for considerable costs—costs that have trended up in recent years. Additionally, while grinding sludge has conventionally been disposed of in controlled landfills, recent environmental issues have put disposal of grinding sludge front and center as a key environmental issue to be addressed in earnest by

automotive and other manufacturers. Chips contaminate plant worksites, degrade work efficiency, and generate significant disposal costs. All these aspects make treating chips and grinding sludge a serious challenge. Lastly, the dumping of cutting fluid produced during chip processing has emerged as a major problem that can lead to soil pollution and other problems.


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



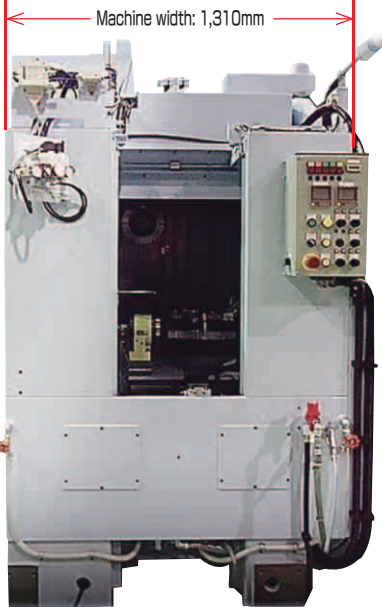
Machine width: 1,530mm

- 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



Machine width: 1,310mm

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

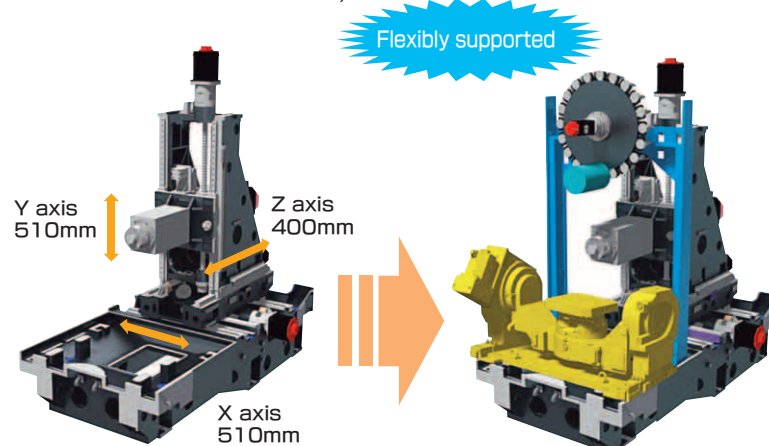
New Product Information

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.



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	---	φ550×850mm	φ650×975mm	φ750×1,000mm	φ900×1,000mm
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		620/425/400mm
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.



We also manufacture special production equipment and transfer equipment, etc.



Wire transfer system



Stamping system



Rotary stocker system

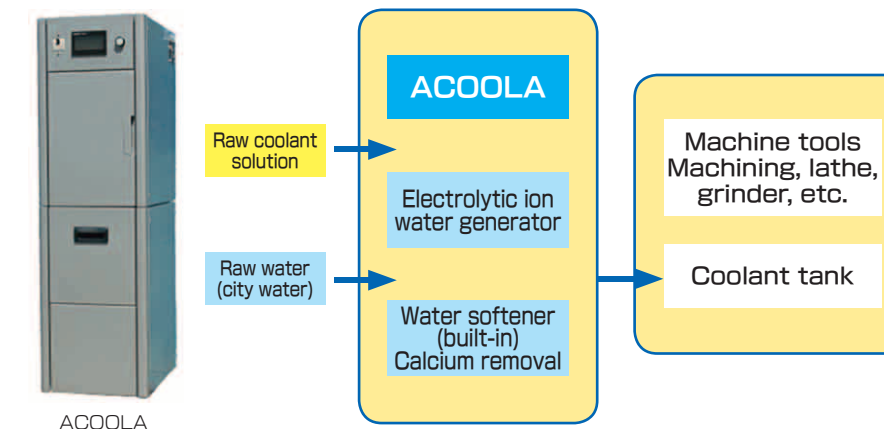
Electrolytic ion water washing system changes city water into washing solution!

This washing system is equipped with an electrolytic ion water generator that utilizes our original special electrolysis method. When raw water (city water, industrial water, etc.) is supplied, electrolytic ion water, which can be used as a washing solution, is automatically generated. No detergents or chemicals are used. In addition, a system with high washing performance and environmental performance can be realized by using this system with our peripheral devices (oil-water separator, volume reduction device, etc.).



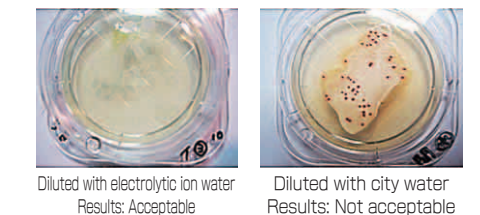
Increase coolant power with high-function electrolytic ion water

- Greatly extend coolant life (Improve antiseptic properties with bacteria suppressing effect of electrolytic ion water)
- Improve rust-prevention effect (Extend rust prevention time of workpiece with rust-prevention effect of electrolytic ion water)
- Improve surface roughness during cutting (Fine dispersal and emulsification of coolant)
- Extend tool life (Improve coolant's cooling effect, and extend tool life)



Coolant shelf test

The coolant solution was diluted with each type of water, and cultures were tested. Bacteria cultivated when left at 25°C for seven days was confirmed. Bacteria cultivation was suppressed in the sample diluted with electrolytic ion water.



Diluted with electrolytic ion water
Results: Acceptable

Diluted with city water
Results: Not acceptable

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) (Frontage x depth x height)	1500×1100×1700	

■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

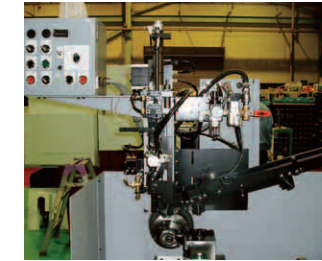


Front cover

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

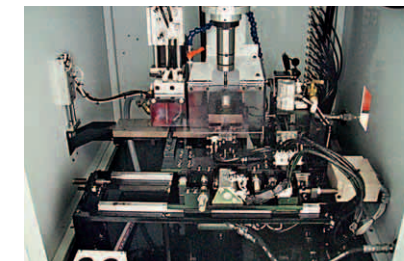


Multi-row chute (supply unit)

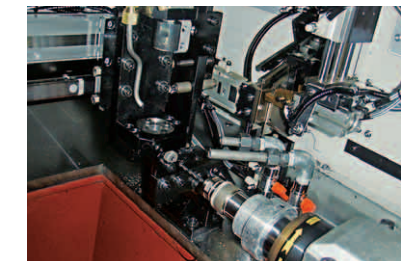
Processing dedicated system supporting processing of various workpieces with flexible ideas

Fuji Seiki Original Processing Dedicated Machines

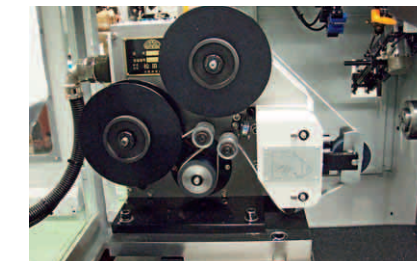
In addition to cutting machining, our flexible ideas enable a variety of processing applications including drilling, grinding, and de-burring.



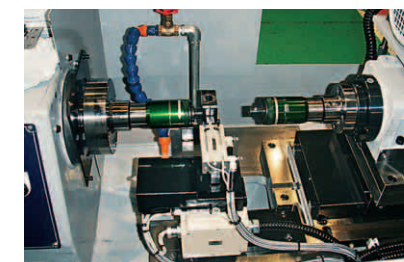
Tapping (dedicated machine)



Drilling (dedicated machine)



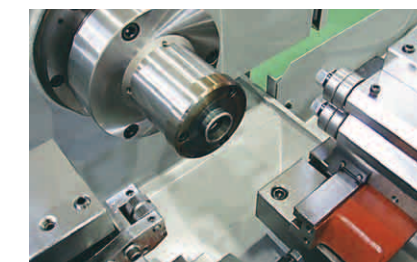
Grinding with film grinding unit (dedicated for FM machine base)



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



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

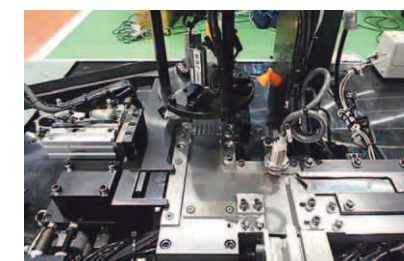


Knurling (dedicated for hydraulic single-function base)

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)

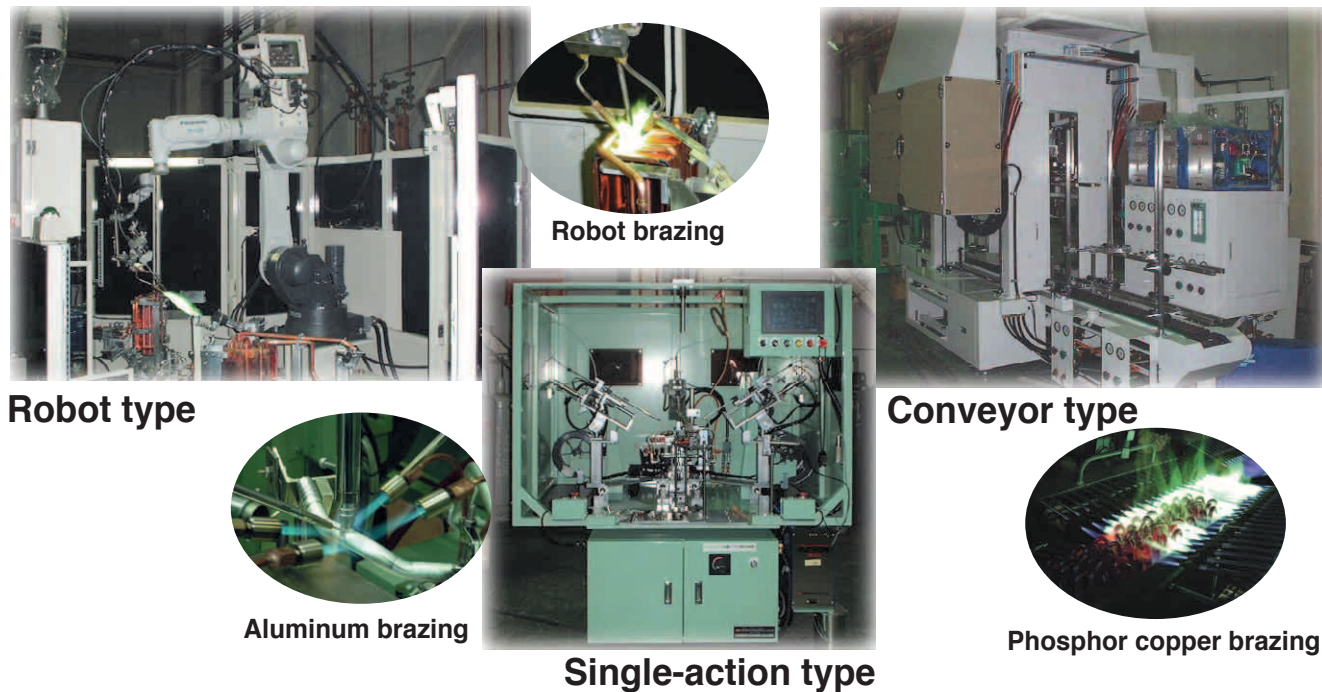


Width thickness Poka-Yoke system (Monosashi-Kun)

BRAZING



Typical types of brazing machines



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.

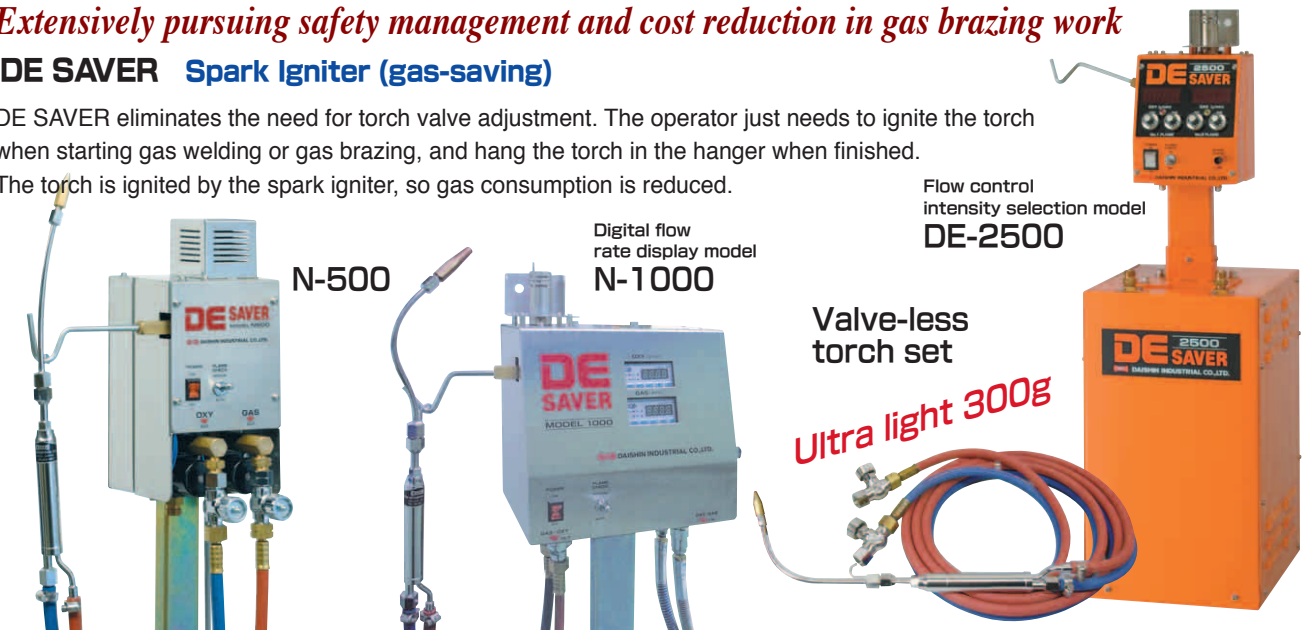


DE SAVER

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

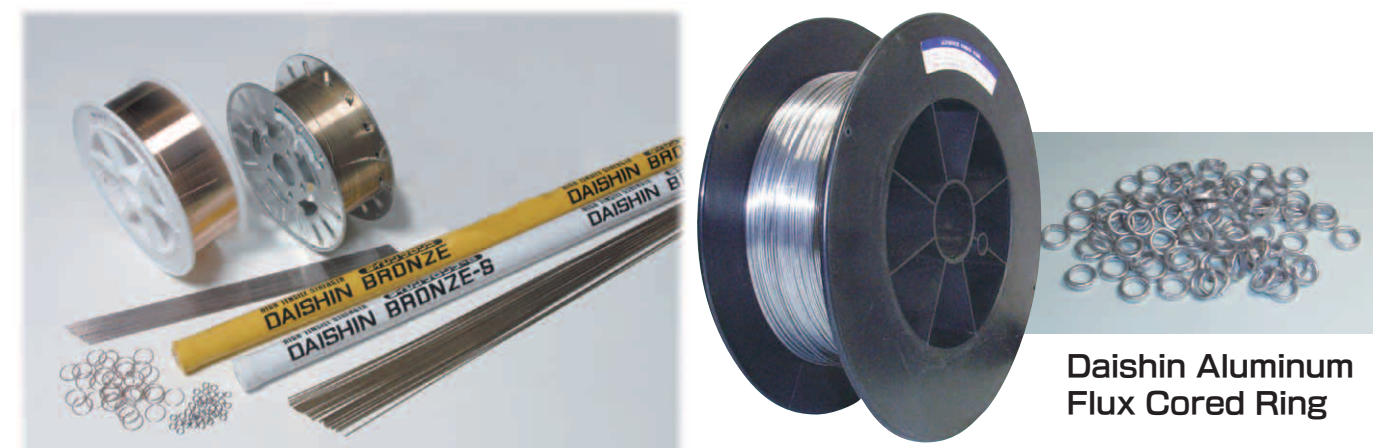
Vapour Flux Vaporizing Tank

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



Daishin Bronze

Daishin Aluminum Flux Cored Wire



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.

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



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.



Spot welder

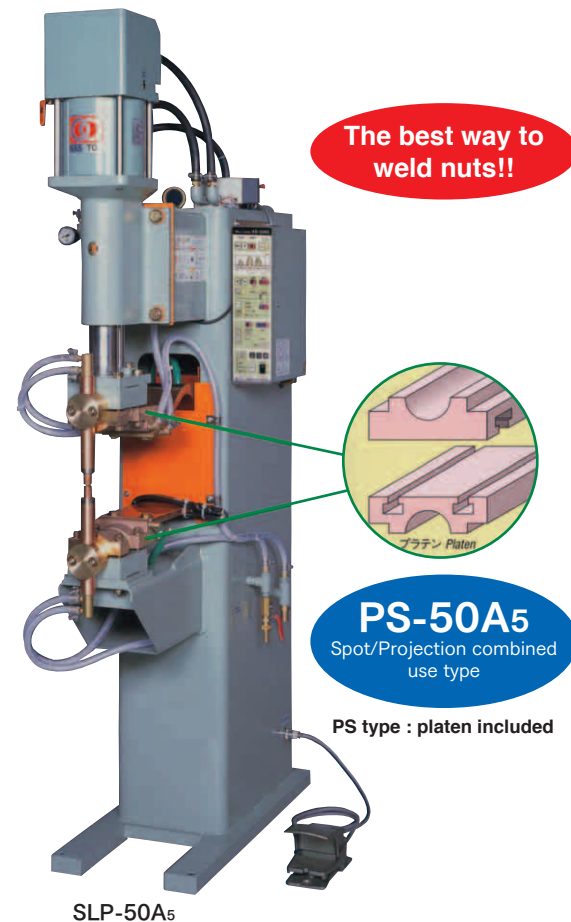
SLP Series

Diverse variations

A full line of variations is available including the energy-saving SLP-A Series for welding small parts, the SLP-B Series with ample space to weld items, and the PS-A/B Series for projection welding. Find the perfect system to match your needs for welding capacity and maximum energy-saving benefits.

Welding capacity		(mm)					
Model	Thickness	1.0	2.0	3.0	4.0	5.0	6.0
SLP-35A ₅ SLP-35B ₅		■	■	■			
SLP-50A ₅ SLP-50B ₅			■	■	■		
SLP-75A ₅ SLP-75B ₅			■	■	■	■	
SLP-100A ₅ SLP-100B ₅			■	■	■	■	■
SLP-125A ₅ SLP-125B ₅			■	■	■	■	■

Note: This is a capacity guide in consideration of "B" class mild steel plate.
It is recommended that a model with sufficient with some margin capacity be selected for a large size surface treating purposes



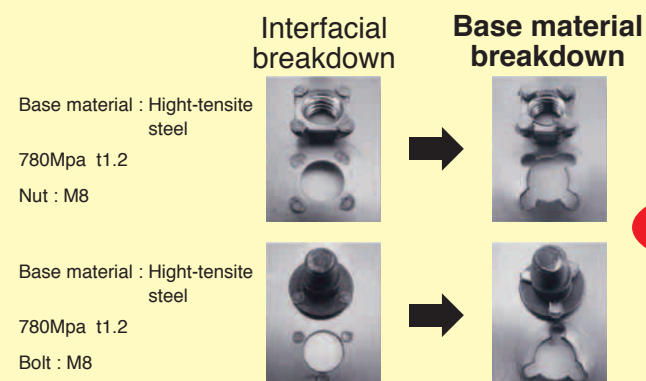
SLP-50A₅

Resistance welding control devices

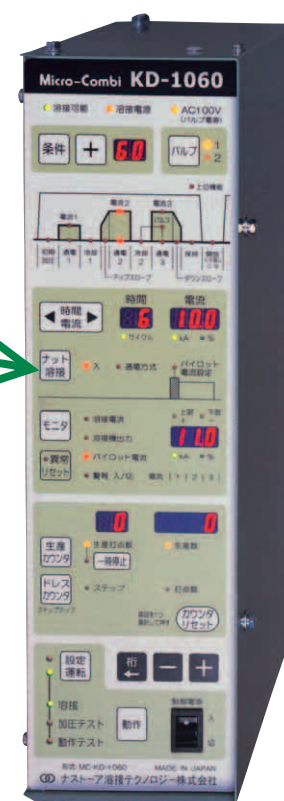
Microcomputer Timer

Powerfully weld nuts and bolts onto high tensile steel plates.

Trouble shooter



Easy operating button



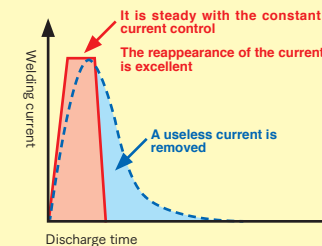
Inverter type condenser discharge resistance welding machines

MESA CON

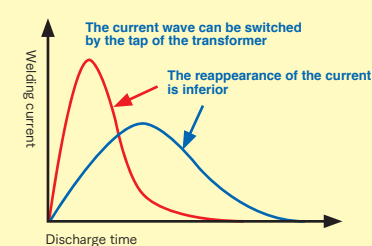
Directly set welding current and discharge time

The inverter type condenser discharge resistance welding machine is the product that was born from the our original technology. Patent No. 3667428

The discharge wave, Product that was developed "MESA CON"



The discharge wave, conventional condenser discharge resistance welding machine.

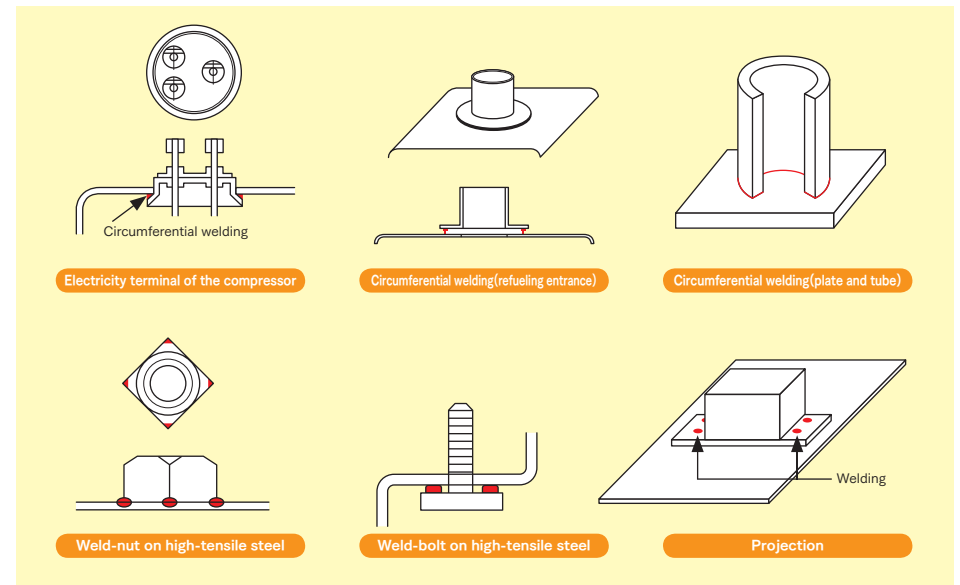


POCI-500

CIT-1027-4

Weld with minimum heat distortion, burning, and indents

Welding Samples



Multipoint projection welding,
Ring projection welding, Spot welding

Car	Body composition parts
	Engine surrounding parts
	Motor surrounding
Electronics	Compressor
	Elevator cage out side panel
	Battery electrode pillar
Furniture and Fixture	Locker
	Partition
Metal fittings and various parts	Parts of can
	Parts of shovel

Mild steel

High-tensile steel

Stainless steel

Aluminum alloy

Dissimilar material

Non galvanized steel

Galvanized steel

Cosmetic steel plate



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



► Compact gantry loader with no cable conduit
YGRJL-100B



► IN-OUT stocker & gantry system
Loading/unloading stocker RT-2016B
Special 3-axis gantry loader YGR-100C

Robot Mechanical

YMG robot group



► Floor traveling robot transfer system

Auto Loader

Auto loader group

► Swing arm type automatic loader

SL700-4PS-4D



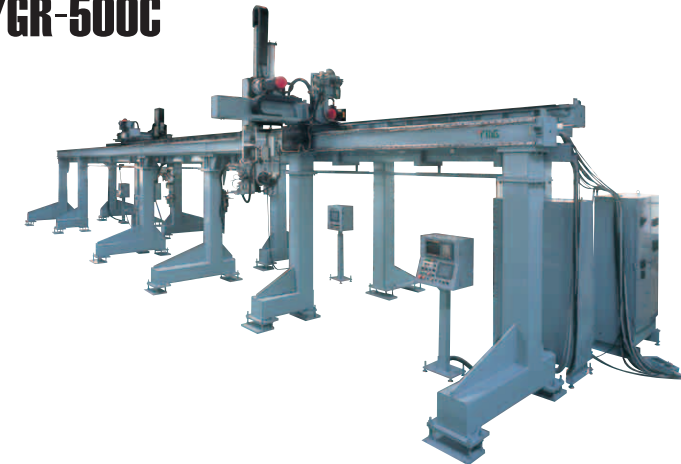
Gantry System

Gantry system group

► Large loader and transfer system for 100kg workpieces

3-axis gantry loader

YGR-500C



Tray Changer

YMG standard tray changer group

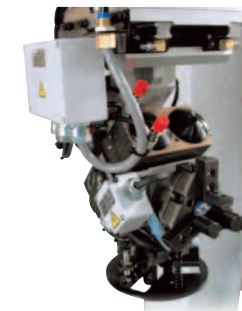
► Standard tray changer

TC-100PX



Hand Unit

Hand unit group



► Swivel turning double-hand unit



► Servo turning double-hand unit



► Double-hand unit

Operation

Operation group



As a manufacturer of peripheral devices for plastic molding machines, MATSUI proposes solutions to **“double” the wealth of plastic molding factories, while “halving” resource consumption.**

What is “factor 4”, the ideal state of molding factories that MATSUI aims for?



Example of proposal **<Solutions for wet areas>**

■ Process of solutions



Next-generation type cooling tower

→ Air-cooled fully-enclosed water cooling system

Dry Cooler

ecobrid

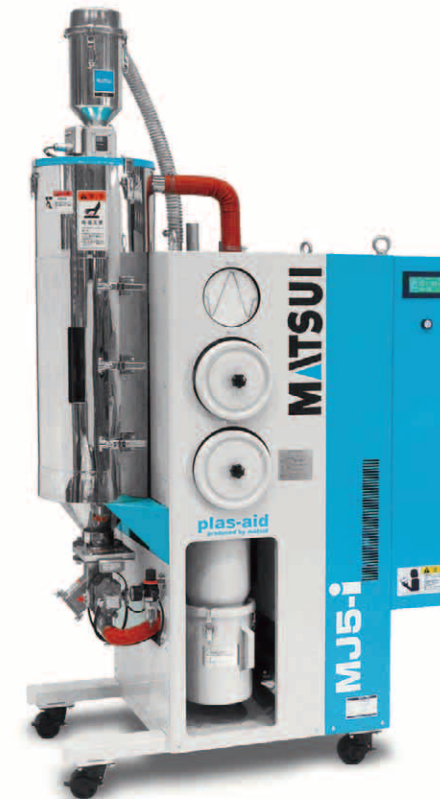
Energy saving Water saving Sanitary

Energy-saving operation aligned with outdoor temperatures!

Maintain water quality while realizing stable production for a long time!



MATSUI proposes optimum solutions for processes from acceptance of materials to shipment of products!



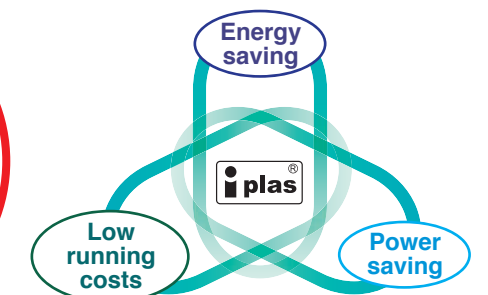
Dehumidifying Dryer

MJ5-i

plas-aid®

iplas®

Intelligent dryer with iplas self-control function.



Mold Temperature Controller **kanaon®**

MC5 G3/G1 **NEW !!**



G3 Supporting next generation materials and new processing methods
High value added model

G1 Mainly designed for injection molding applications
Basic model

Gravimetric Subtractive mass type blender

JCLW



- Prevent separation of materials during transfer!
- Accurately blend materials!
- Reduce use of MB materials!
- Drastically reduce labor, time and material wastes when changing materials!
- Self-control function incorporated!

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.
- **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



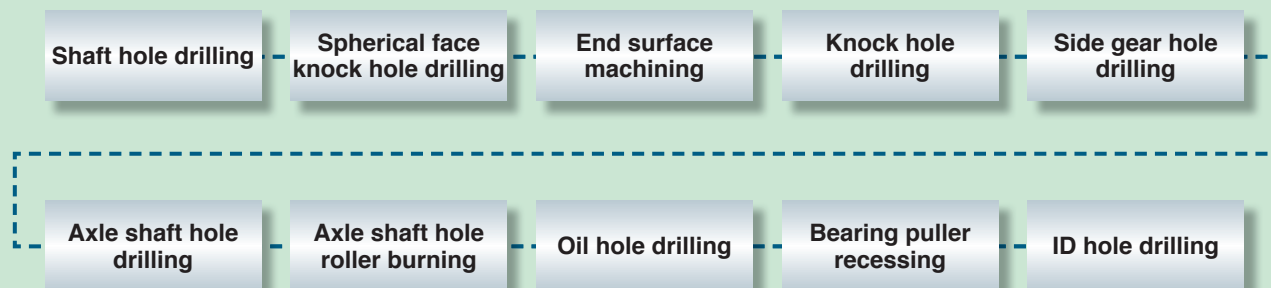
※ With optional workpiece stocker and internal loader

Perform various complex machining with one chuck motion.

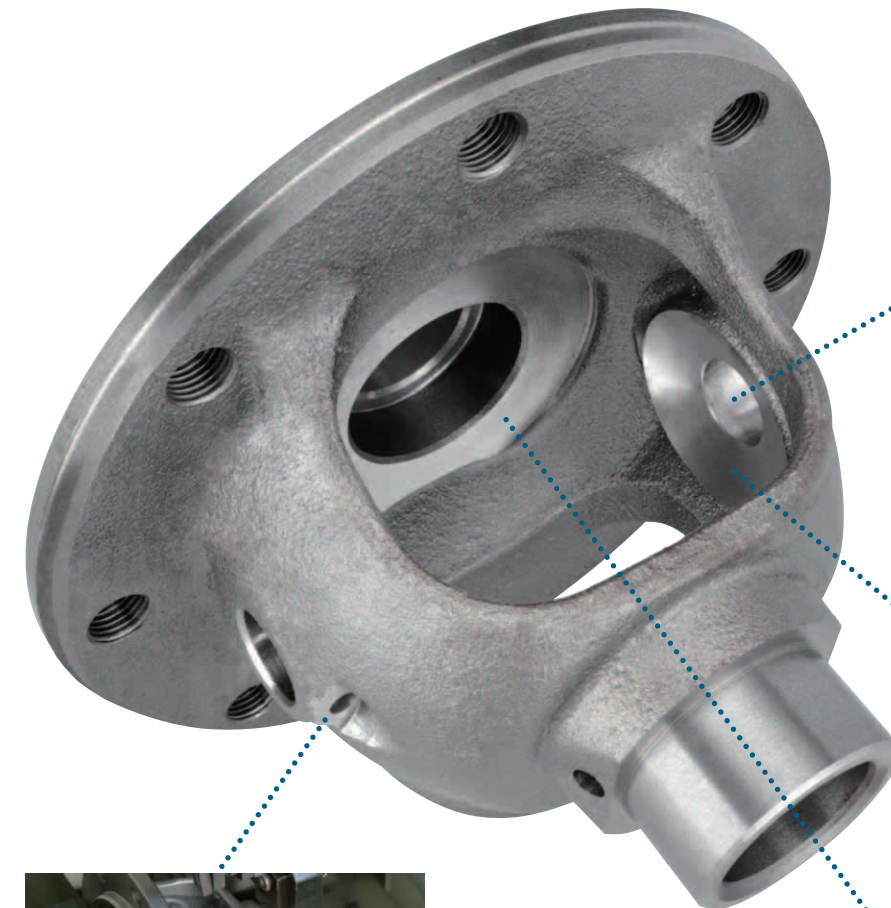
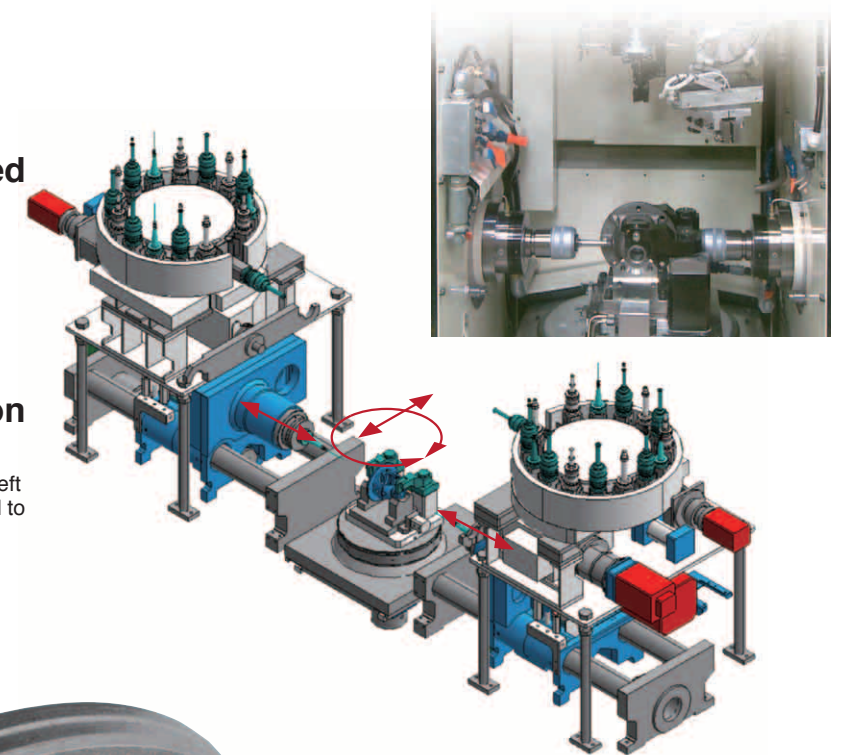
The compact body is equipped with a laterally opposed spindle unit and an indexing unit in the middle. Shaft holes, spherical face machining, end surface machining, knock holes, side gear holes, and axle shaft holes, etc., can be drilled from both sides while rotating and positioning the differential 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



- 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



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

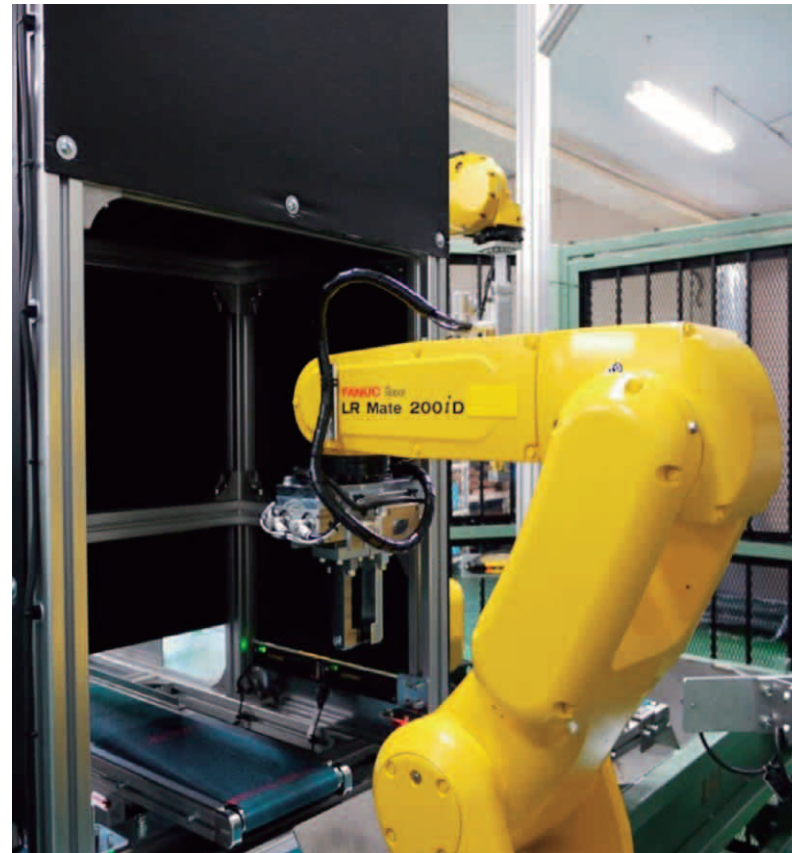


End processing (left-right)
High speed machining with vertical cutter

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.

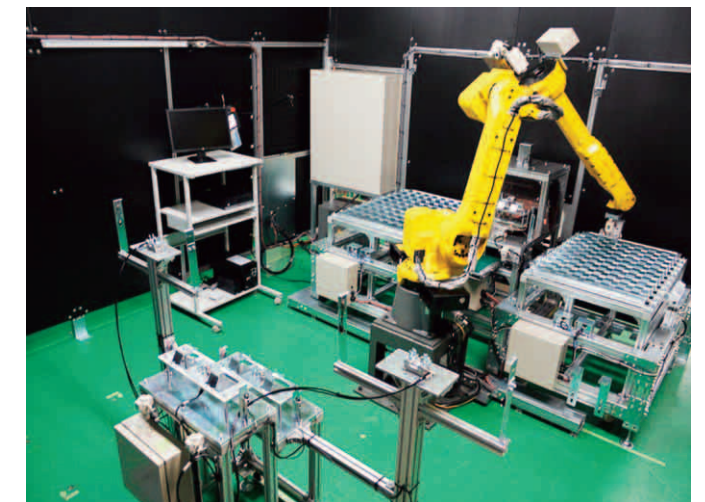
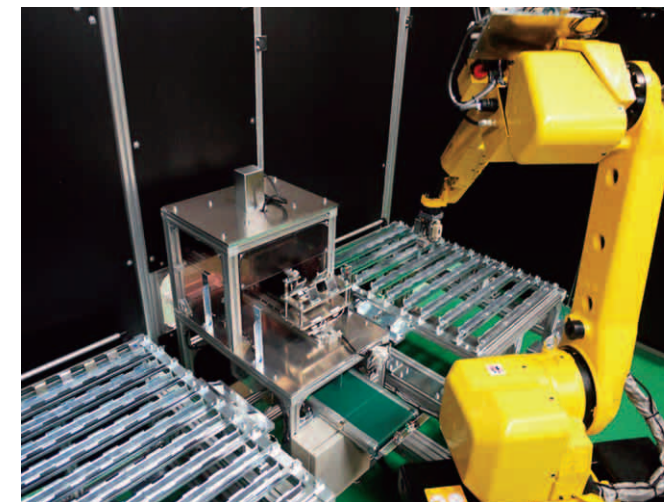
Robotized automation system (bulk loading/handling system)

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.



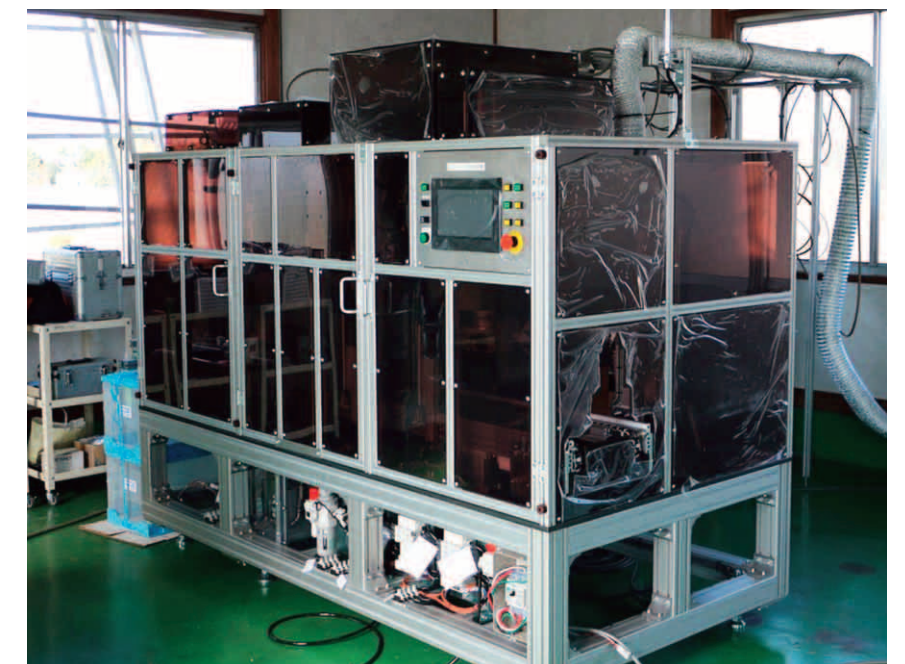
Automatic measurement and transfer system

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.



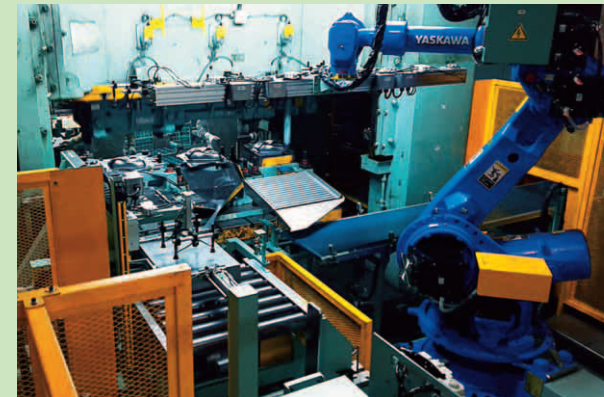
Automobile part assembly, application, tightening, and inspection system

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.

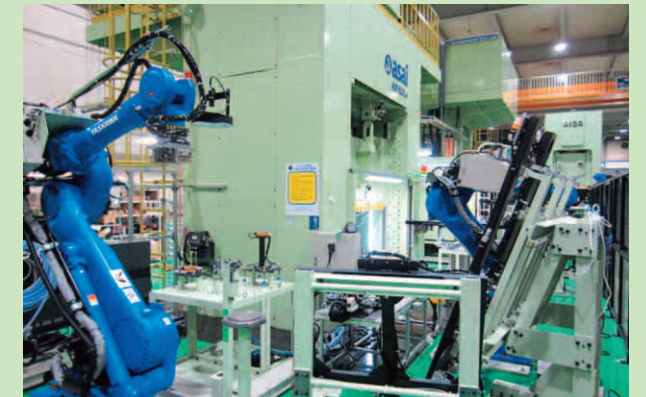


NICHIZOTECH aims to increase productivity and support customers' needs with 30 years of robot technology.

Robot handling system between compact presses

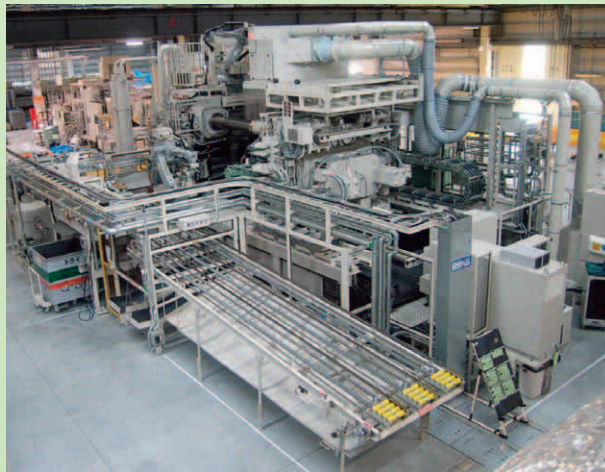


[Reduce cycle time]

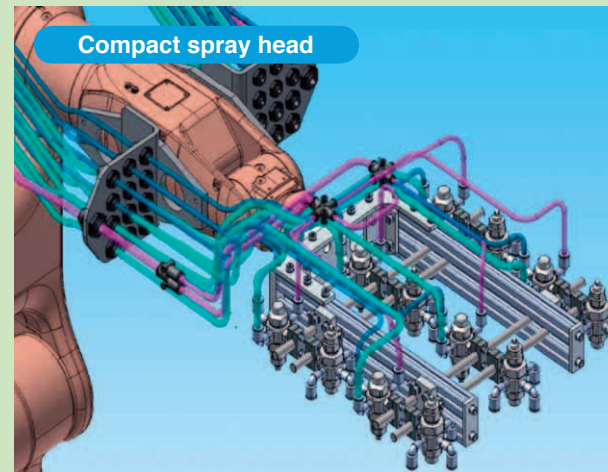


[Support multiple varieties using camera]

Die cast machine ancillary robot system



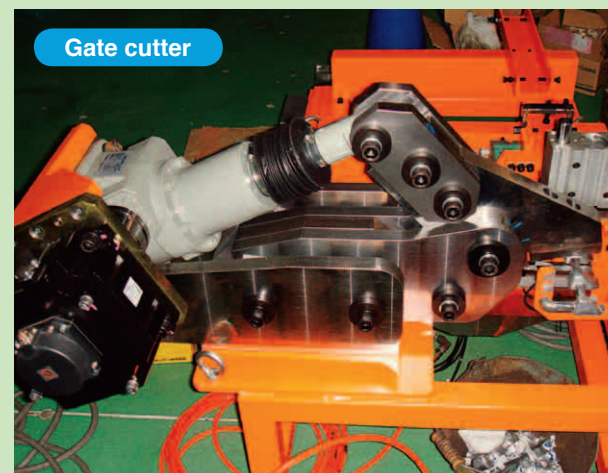
[General image]



[Optimum application according to type]



[Reduce load in robot work]



[Gate cutting independent of press]

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]



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.



Office/Design Dept.

List of main equipment designed and manufactured

- CAD software
- Machine design (MICRO CADAM Helix)
- Control design (UNI DRAF)
- CAD/CAM (Master CAM)
- Machining center (YAMASAKI YZ-402HR)
- Planer (Oigo Works 1500x6000)
- Planer (Oigo Works 1500x4000)
- Radial drilling machine (OOYA RE3-1600)
- Drilling machine (YOSHIDA ECO-3)
- Drilling machine (ASHINA AVD-550)
- Drilling machine (KIRA KRT420)
- Tapping machine (YOSHIDA YBT-50)
- CNC vertical milling machine (OKK MHA-400)
- Vertical milling machine (OKK MH-2V)
- CNC lathe (OKUMA LB3000EXII)
- Lathe (WASINO LEOG-100A)
- Lathe (TUDA 500x860G)
- Surface grinding machine (NAGASE SGW-52A)
- Universal band sawing machine (Yashiro Koki YB8-305)
- Band sawing machine (AMADA H250-SA)
- Semi-automatic welding machine (NATIONAL SL350)



Assembly plant



Inside assembly plant

Product



Articulated robot - Palletizing system



Original ball feeder - Material feeder



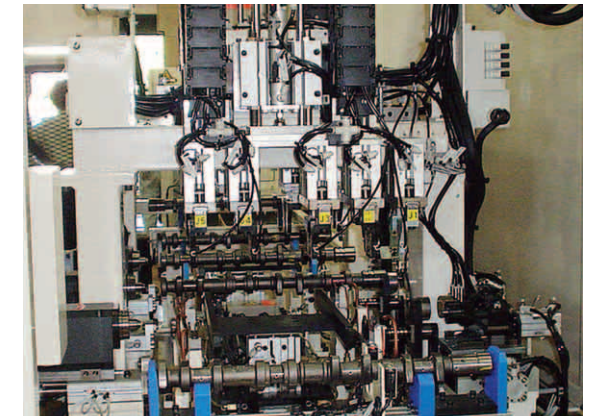
Differential ASSY - Clearance inspection device



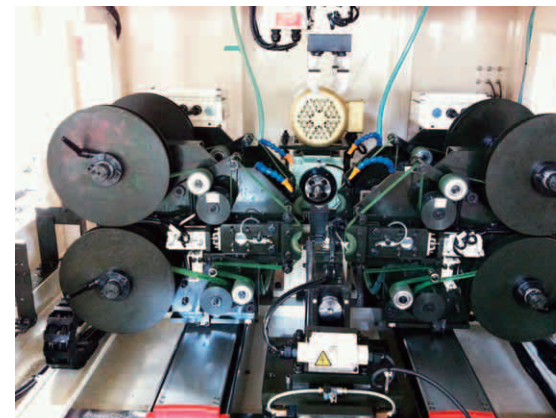
Pulley shaft - Deflection measuring instrument



Differential side gear - Final inspection device



Camshaft - Oil hole penetration inspection device



Camshaft - Journal lapping machine



Balance shaft - Gear/pin press-fit machine

Sophisticated functional beauty created from the pursuit of “optimization”

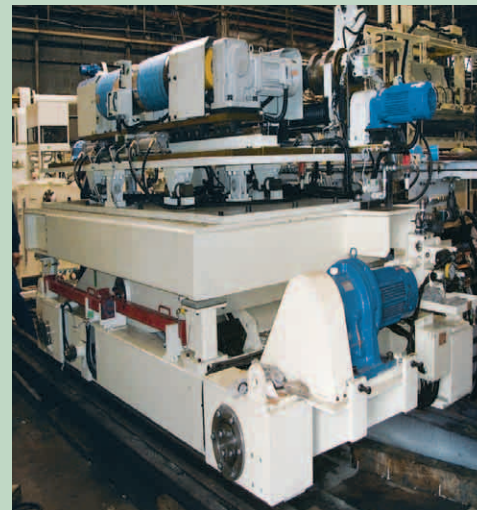
Just as things become more functionally sophisticated and beautiful with the passage of time, an FA (factory automation) system never fossilizes into a fixed form. Under the age-old proposition of realizing “a highly efficient system capable of making high-quality products,” we are always pursuing the 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 products produced by every customer.

Concept of Simple Coil Lines

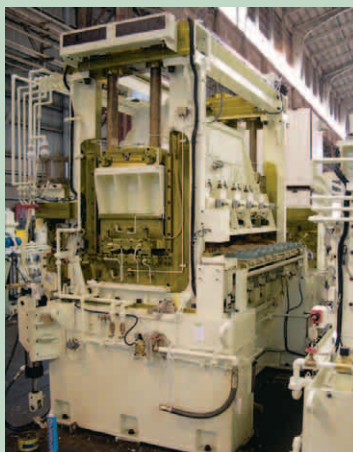
Coil line systems for exterior automobile body panels for Company T's domestic factories and group company's overseas factories. Our customers demand system lines that heavily incorporate the know-how of our company and customers, and are characterized by unprecedented space-saving line composition,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



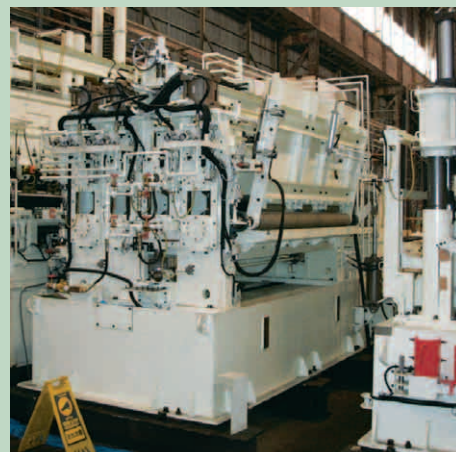
Full view



Coiler (lift type) device



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 15 to 80 spm
Line speed Max. 60 m/min

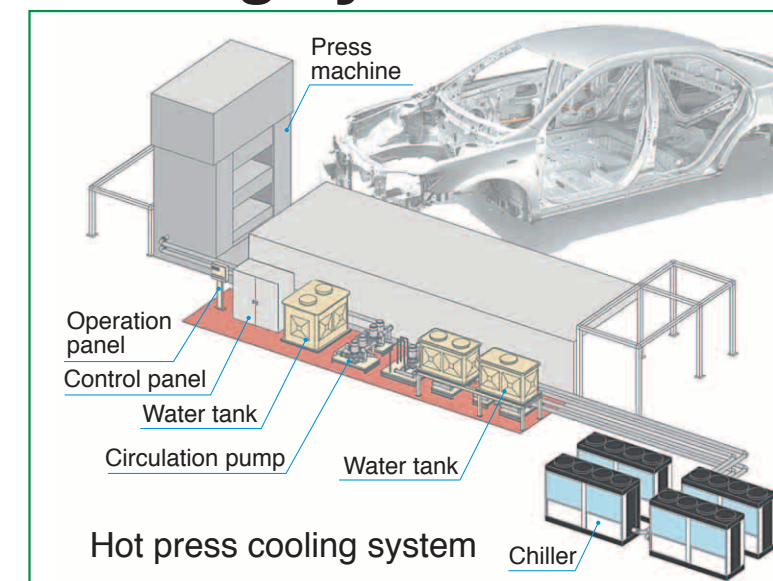
<Leveler feeder line>

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)



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