ORANGE NEWS

Total 175
Vol. 010 2025 SUMMER

Interview on Manufacturing

AI·B-sort: Envisioning the Future with Market Feedback

WORK&SOUL

SEINAN Corporation

TAKAMAZ RYUGI

Grips! Secures! Perfected! Precision Revolution with Hydraulic Chucks!

information

Exhibited at MEX Kanazawa 2025 Introducing the Official TAKAMAZ Mascot!

Traveling the Hokuriku Area to Experience Craftsmanship

Exploring Notojima Glass Art: Beloved Landscapes and Stunning Works

[Cover photo] Location: Notojima Glass Art Museum
The museum's garden overlooking the beautiful waters off Notojima Island feature a variety of glass artworks.

[Model] Seina Fukui

TAKAMAZ
TAKAMATSU MACHINERY
PR Magazine Summer 2025

AI·B-sort: Envisioning the Future with Market Feedback

It has over a year since the first commercial unit of our recyclable waste automatic AI sorting machine, AI·B-sort, went into operation. This first unit was installed at a customer facility in the Tohoku region, marking a significant step forward in the company's entry into the recycling industry, achieved through a collaborative project with PFU Ltd. At the NEW Environmental Exhibition 2025 held in late May, significantly more business discussions were held than in previous years. We interviewed Office Manager Uchikoshi of the FA Solution Section, who has been leading the development of AI·B-sort, about the machine and its new specifications designed in response to market feedback.

First of all, how was your experience exhibiting at the NEW Environmental Exhibition?

FA SOLUTION DIVISION MANAGER
UCHIKOSHI

We showcased the AI·B-sort with new specifications added in response to customer feedback, including the ability to sort not only glass bottles but also PET bottles containing leftover content. Customer interest in the added specifications was not as strong as we had hoped, but we were able to gather a variety of additional requests from visitors, including the possibility of sorting ferrous and non-ferrous metals. This provided valuable insights and helped identify challenges for future development.
Recycling involves different collection and sorting methods depending on the region, which creates varying needs in each area. In some regions, residents are allowed to place glass bottles, cans, and PET bottles together in a single bag, which is then delivered directly to an intermediate processing facility. In those regions, the first step is to tear open the bags using a waste bag opener. As glass bottles, cans, and PET bottles move together along the conveyor, the sorting process begins by separating steel cans using a magnetic force, followed by ejecting aluminum cans with an electric current, and finally blowing PET bottles away with air. After that, only glass bottles and PET bottles with leftover content remain. Sorting these items is the final step, and it is usually done manually. We believe AI·B-sort can take over this task, distinguishing between PET bottles and glass bottles, and sorting glass bottles by color.

Moving on, can you tell us about the sales system for AI·B-sort?

We have installed three AI·B-sort units and a 9-meter conveyor at our Asahi Plant, creating a setup that allows us to conduct demonstration tests according to customer requests. PFU first checks the actual flow rate and the proportion of colors and sizes.

Bottles prepared based on this verification data are fed onto the conveyor, where the number of picks per minute and the accuracy (precision of color sorting) are measured. Customers then evaluate the results and consider adoption of the machine. Since exhibiting AI·B-sort at the 33rd NEW Environmental Exhibition held in May 2024, we have received requests for such demonstration tests from several companies. We are currently coordinating the schedules for the two most recent inquiries. But just running a demonstration test doesn't mean everything will work out automatically. We will still need to address a variety of challenges, like operational methods and associated costs.

Currently, two units are running in Aomori City, right?

Yes, that's correct. As the customer who adopted the machine is one of the largest companies in the Tohoku region, many of the bottles collected in Aomori City end up at their facilities. So, a considerable number of bottles are sorted at those facilities on a daily basis. From the initial proposal, the customer was positively considering the adoption of automation. Moreover, given their significant visibility in the Tohoku region, we are extremely grateful that the first commercial unit was adopted by them.

The customer is located at Eco Plaza Aomori, quite a long way from Ishikawa.

Yes. Actually, we see it as a very positive step that the first commercial unit was installed in Aomori. Of course, it's not easy to visit the plant because of the distance, but that made it all the more important for us to stay in close contact with the customer remotely. This led to establishing a framework that enables us to respond quickly whenever an issue arises. Also, the customer's proactive approach has been a tremendous help to us. Whenever minor issues come up, they have been willing to take the initiative to improve the situation themselves.

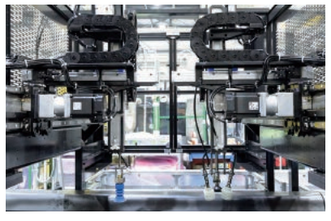
We've heard that the accuracy of bottle sorting has improved further since delivery. Can you tell us more about that?

We installed a camera on the first commercial unit and have been remotely monitoring its operating status. We've been able to identify several issues for improvement by monitoring actual operation videos. By addressing these issues as they arise, the accuracy of the picking process has steadily improved. We can adjust the parameters remotely, so, with the customer's permission each time, we've been gradually fine-tuning the settings, improving performance step by step.

What are your goals going forward?

The fact that the first commercial unit has been running for over a year has really given us confidence as we look ahead. Our greatest concern had been potential issues during the cold winter months, but we were able to get through the full season in Aomori Prefecture without any major problems, establishing a proven track record. Looking ahead, our goal is to deliver AI·B-sort to many prospective customers in the Kanto region, where there is strong interest. We'll be working hard every day to make that a reality.

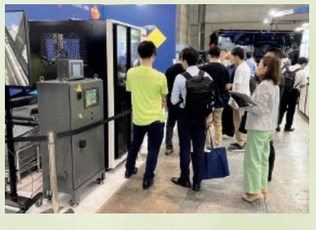
With AI·B-sort having taken its first steps into operation in Aomori, the interview highlighted the exciting opportunities to leverage the technologies and ideas that TAKAMAZ has cultivated over the years to meet various needs in the recycling industry. At the same time, it was encouraging to find out how our machines can contribute to addressing waste management challenges that have been a persistent concern in many regions.



Column

Highlights from the NEW Environmental Exhibition 2025

Held from May 28 to 30, 2025 at the Tokyo Big Sight, the 34th NEW Environmental Exhibition attracted a total of 96,192 visitors, and our co-hosted booth welcomed approximately twice as many visitors as last year. At the booth, we learned about the wide range of market needs for our automatic sorting machines and, most importantly, picked up valuable insights to guide our next steps. We truly appreciate everyone who stopped by and took the time to visit us.



SEINAN Corporation

We call, リサイクル

One-Stop Recycling: From Waste Collection to Final Disposal

【SEINAN Corporation】
SEINAN
5-4-5 Kanda, Hirosaki City,
Aomori Prefecture 036-8061, Japan
TEL.0172-35-1413 FAX.0172-35-1415

Representative: Genkichi Ando
Capital: 98 million yen
Number of employees: 630(SEINAN Corporation) 800(Entire Group)
Established: September 1972
Nature of business: Ferrous and non-ferrous metal recycling, automobile recycling, thermal recycling, container and packaging recycling, etc.

Tokyo Suntory Sungoliath's original baseball shirt made with recycled material

Headquartered in Aomori Prefecture, SEINAN Corporation operates recycling businesses across the six prefectures of the Tohoku region. What began as a modest venture collecting and selling scrap iron with a single handcart has grown significantly through automobile recycling, expanding its network of facilities throughout the Tohoku. By responding to changing times and the evolving needs of local communities, the company has made substantial contributions to the region.

Your recycling business has now expanded to 14 locations across the Tohoku region. What would you say have been the key factors driving its growth to this point?

【Mr. Ando】 Historically, I believe the construction of the Seikan Tunnel had a significant impact. I've heard that the industry took notice of our company because we handled the intake of large volumes of machinery and materials that were rapidly consumed and replaced during that major project. Another factor was that our company promoted mechanization early on. A prime example is the large shredders used to dismantle automobiles. Our current chairman was among the first in the Tohoku to introduce them, and the business soon expanded to other prefectures like Fukushima and Akita. On top of that, upon adopting those shredders, we reached out to the manufacturer and engaged in joint development to improve them.

It seems that your chairman has an engineer's perspective.

【Mr. Ando】 Yes. He studied at a technical high school and has always had a passion for machinery. So whenever he introduces a new machine to our plants, we purchase a customized version built to our company's specifications. I think that's what has led us to build our recycling machinery systems and even handle machine maintenance in-house.

What kind of strategies do you have for circulating the recycled materials from your company to the next stage?

【Mr. Ando】 The essence of the recycling business is taking materials that are no longer needed by society and returning them to their raw form. In the case of iron, for example, we sell what we collect to companies that refine it, and it is melted down and transformed into clean iron to be used in society once again. Taking this one step further, we took a pioneering approach by exploring overseas markets. We recognized that relying solely on the domestic market could heavily impact supply and demand, creating a risk of price fluctuations. To ensure continuity, we decided to expand into overseas markets. Today, the high quality of our recycled materials is recognized and well established under the SEINAN brand.

Your recycling business also handles materials collected from households via collection stations. Are there any guiding principles or philosophies that you value in your recycling operations?

【Mr. Ando】 One of the lines in our corporate statement goes like this: "We will strive to provide the speed and precision desired by society." We really focus on speed in particular. I'm sure many of you can relate to wanting trash out of your house as quickly as possible. That's why speed is so important. Another key line in our statement is: "We will strive to provide the technology and services required by society." In the recycling business, the products that come out of the process need to be of high quality, or they simply won't be accepted by the market. We are committed to ensuring the quality of all the recycled products we produce, whether they are from PET bottles, metals, glass, or any other materials.
Handling waste from ordinary households, we see ourselves as essential workers. This is a job that can never be eliminated, and our work must never stop. For example, if this plant were to stop operating even for just one week, many residents in Aomori City would be seriously affected. With that in mind, we approach our work with a strong sense of responsibility.

As you've described so far, this plant emphasizes both speed and technology while bearing a significant social responsibility. Here, you have adopted our recyclable waste automatic AI sorting machine, AI·B-sort. Could you tell us about the background behind that decision?

【Mr. Ando】 A few years ago, AI sorting machines began attracting attention in the recycling industry, and we were interested in what could be done with AI. At first, we had discussions with PFU Ltd., which specializes in AI-based image processing technology. Later, your company joined the project, and this eventually led to the introduction of AI·B-sort. I'd say most companies handling intermediate recycling are facing the same situation, but bottle sorting is basically done entirely by hand, and labor shortage from an aging workforce and declining population is becoming a serious problem. At the same time, I feel this is an area where AI could fairly easily step in as a substitute. In fact, an automatic bottle sorting machine already existed and was being used in a nearby plant. But they it was very expensive and didn't achieve the level of accuracy needed, so apparently the machine was taken out of operation after just a few years.

In light of that, it's been a year since you adopted our AI·B-sort. How would you evaluate its performance so far?

【Mr. Ando】 Although the data showed that the machine's sorting accuracy exceeds 99%, there were discussions among the production floor staff that if 1 out of 100 bottles can't be sorted, manual sorting would actually be more accurate. But when we actually ran the machine, the items were sorted with 100% accuracy. I was truly impressed by that. Mistakes cannot be eliminated with conventional manual sorting, so I see the potential of AI in this field.

Moving on to the last question, could you share your honest thoughts on our support system, considering the significant distance between Ishikawa and Aomori?

【Mr. Maruyama】 The sorting staff at Eco Plaza are still somewhat inexperienced, and whenever they feel uncertain about the automatic AI sorting machine, they call your staff right away. It's very reassuring that our staff receive immediate support. I'm really impressed by how reliable your remote support is. In the recycling industry, remote support and IoT adoption have generally lagged behind, and when problems arise, companies often rely on service personnel that are sent on-site. But actually, problems often get solved faster over the phone or remotely.

The environmental sector is a field where TAKAMAZ is making new strides. Visiting Aomori for this interview, I felt grateful that our first commercial unit was adopted by a company with a deep understanding of manufacturing and excellent engineers, and I became excited about the even greater satisfaction we will be delivering in the environmental sector in the future by continuing to refine our machines.

HP

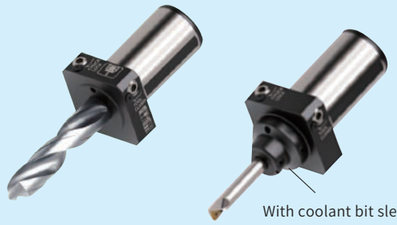
TAKAMAZ RYUGI 高松流 技 vol.25

Grips! Secures! Perfected! Precision Revolution with Hydraulic Chucks!

About Hydraulic Chuck for Lathes

Hydraulic chucks are widely used in machining centers as holders that enable easy tool changes while maintaining high clamping accuracy and clamping force. As demands for higher precision and productivity continue to grow, the use of hydraulic chucks in lathe operations also holds great potential. This installment of the series introduces our hydraulic chuck for CNC lathes.

● **Hydraulic Chucks for CNC Lathes　ST・M-PHC**



With coolant bit sleeve

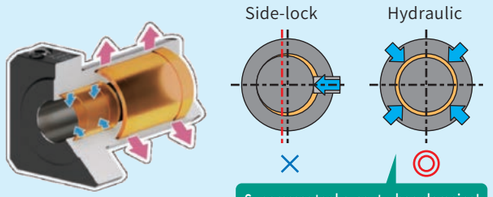
Hydraulic Mechanism

The hydraulic mechanism works by using hydraulic pressure to contract a thin-walled sleeve from the outside, securely clamping the inserted tool. Its operation is simple; the piston is pushed in by tightening a screw, offering excellent ease of use. Since the tool is clamped by uniform hydraulic pressure, it allows any operator to clamp tools easily with high precision and high clamping force. In addition, the internal oil layer helps dampen vibrations, reducing chattering during machining. This enables higher cutting conditions than when clamping a tool with conventional holders, resulting in improved surface quality and increased productivity.

Hydraulic Chucks for Lathes

Hydraulic chucks are widely used in machining centers, but they are rarely used on lathes, mainly due to difficulties such as the need to make a dedicated holder. To address this, a hydraulic chuck for CNC lathes that can be mounted on conventional ϕ32 and ϕ40 boring holders was developed. A unique feature of this chuck is that the hydraulic mechanism is also used when mounting it onto a boring holder. With side-lock clamping, the clearance causes slight runout. The hydraulic chuck, however, uses a hydraulic mechanism both for mounting onto the boring holder and for clamping the tool, suppressing tool runout relative to the holder's inner diameter.

● **Tool clamping system by hydraulic pressure**



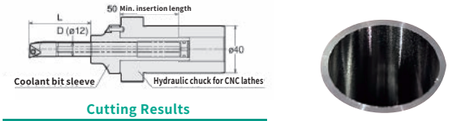
Advantages of Using Hydraulic Chucks

The above-described mechanism of the hydraulic chuck ensures that the clamped tool remains perfectly centered, eliminating a common cause of hole deviation during drilling. With its high clamping accuracy and ability to suppress tool runout and chattering, hydraulic chucks contribute to improved machining quality and extended tool life. Its excellent operability makes tool changes inside the machine easy, ensuring stable chucking accuracy and high tool clamping force regardless of the operator's experience. In addition, as chattering is suppressed, tools can be extended further than with conventional holders during boring operations without compromising machining performance, leading to improved quality and productivity.

An L/D of 4.75 to a surface roughness of 1,048 µm (Ra) achieved!

Workpiece material	S45C	Depth of cut	0.5mm
Tool used	ϕ12 steel boring bar	Cutting feed	0.1mm/rev
Insert	TPMT110304*	Surface speed	200m/min
Cutting dia.	ϕ15mm	Coolant	Center-through (water soluble)

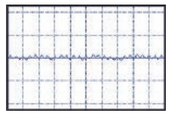
Hydraulic chuck for CNC lathes　with coolant bit sleeve



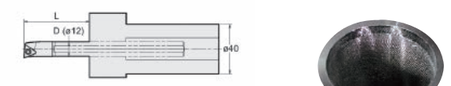
Cutting Results

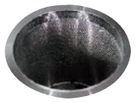
Boring bar overhang

L/D	3.75	4	4.75	5.5	5.75
Judgment	✓	✓	✓	✓*	✗
Ra(µm)	0.972	0.905	1.048	1.306	7.956
Rz(µm)	5.634	5.096	6.608	8.247	42.690
Chattering	None	None	None	None (Minimal)	Observed



Side-lock holder

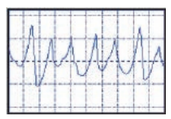




Cutting Results

Boring bar overhang

L/D	3.75	4	4.75	5.5	5.75
Judgment	✓	✗	✗	✗	✗
Ra(µm)	1.007	10.888	—	—	—
Rz(µm)	6.100	66.995			
Chattering	None	Observed	—	—	—



This time we introduced a hydraulic chuck for CNC lathes. We hope you consider using this optimal item for improving the quality and productivity of lathe machining.

【Contact】
Sales Affairs
Technical Sales & Cutting 076-274-1402

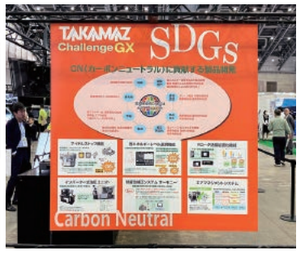
Scan for TAKAMAZ RYUGI Vol.1 to 24!!

information

TOPIC1

Exhibited at MEX Kanazawa 2025

We exhibited again this year at MEX Kanazawa 2025, which was staged over the three days from May 16 to 18.
With the theme Hokuriku Industrial Revitalization Project: Launched!, we exhibited a wide ranging from 3- to 10-inch machines that address diverse automation needs and help reduce energy consumption on production floors.
In addition to unveiling the XTL-8MYS for the first time at this exhibition, we demonstrated machining workpieces with the XYT-51, allowing visitors to experience firsthand the performance of this high-rigidity, multi-tasking machine capable of cutting both ends of a shaft.
We sincerely thank everyone who stopped by our booth.



TOPIC2

Introducing the Official TAKAMAZ Mascot!

A new member has joined the TAKAMAZ family.
Named Takamaaaru, this official mascot was selected from 55 creative submissions in our in-house contest.
Takamaaaru embodies both our technological expertise and passion beneath its charming appearance. Its rounded form symbolizes our commitment to being approachable and attentive to customer needs. Its name comes from the Japanese words takamaru (meaning "to rise" or "to lift one's spirit") and maru (meaning "circle," symbolizing goodness and smooth resolution). It reflects our wish to uplift our customers' experience through TAKAMAZ products.
With the mission to cheer on manufacturing in Japan and across the world, Takamaaaru will be traveling far and wide to meet everyone, spreading smiles at trade shows and beyond. We hope you'll come to like this mascot as a little symbol of the bond between us.
Stay tuned to find out where you might spot Takamaaaru!

Name origin
- *Takamaru* (meaning "to rise" or "to lift one's spirit")
- *Maru* (meaning "circle," symbolizing goodness and smooth resolution)

Our wish to uplift our customers' experience through TAKAMAZ products

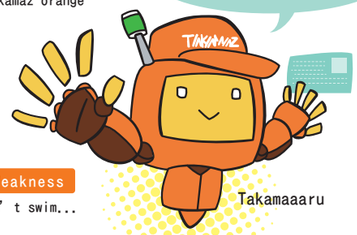
Height
The length of four standard Takamaz collets!

Weight
I'm as heavy as a 12-station turret!

Special skill
I can fly!

Favorite color
Takamaz orange

When speaking in Japanese, I speak in the local Kanazawa dialect!



Takamaaaru

Weakness
Can't swim...

Favorite thing
Your smile!!

Lovable feature
The color of the indicator on my head changes with my mood!

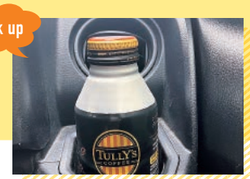
Strolling Through TAKAMAZ

Osaka Office Chief/Servicing Operations　Riki Suzuki

At 27 years old and now in his ninth year with the company, Mr. Suzuki works as a service staff at the Osaka Branch, covering areas from the Kansai region all the way to Shikoku. On weekdays, he usually cooks for himself to maintain a balanced diet. On weekends, he enjoys immersing himself in online games or playing golf with coworkers.

- ☑ Clients' sites typically take about an hour and a half drive. Enjoying Tully's black coffee is his usual routine to switch into work mode.
- ☑ Relationships with the clients of the Osaka Branch are good, and he often finds himself spending more time talking with customers than actually repairing machines—something he feels is very typical of the Kansai spirit.
- ☑ His favorite spot within the company is the assembly area at the head office plant. Assigned there shortly after joining the company, he spent four years in the area, where memories of fun times with coworkers still come to mind.

Pick up



Traveling the Hokuriku Area to Experience Craftsmanship

— CRAFT CONSCIOUS —

Exploring Notojima Glass Art: Beloved Landscapes and Stunning Works

On Notojima island, where time flows gently, the splendor of sublime glass artworks (which were damaged by the 2024 Noto Peninsula Earthquake) can once again be admired. The Notojima way of spending time is back; rejuvenate in nature, get inspired by the exquisite glass artworks, and immerse yourself in crafting art. This summer, embark on a creative journey to Notojima, where you can also encounter wild dolphins and immerse yourself in its rich natural beauty.

Notojima Glass Art Museum

The museum has reopened, beginning with the Japan Glass Art Triennale 2024 held from July 12 to Oct. 19, 2025.
Along with its art-filled garden overlooking the waters off Notojima island and the building designed by Kiko Mozuna, the museum offers art lovers a truly immersive experience.

Notojima Glass Studio

From observing glassblowing demonstrations to hands-on workshops, visitors can enjoy a variety of glass activities. The shop offers a charming selection of handmade glassware including cups, vases, glass pens, and decorative items.

Dolphin Smile

This facility offers a variety of marine activities, including stand-up paddleboarding and kayaking. Among them, we highly recommend dolphin activities, where you can swim with or simply watch wild dolphins.

What makes Notojima island a home for glass art? It all began when Ishikawa Prefecture and Notojima Town launched the Island of Glass Art initiative, aiming to inspire Ishikawa's traditional craft community and to establish a sustainable tourism industry on the island. In 1984, the Notojima Glass Studio was established and the Notojima Glass Art Museum opened, leading to Notojima becoming known as the "Island of Glass." The striking glass museum, a symbol of Notojima, houses glass artworks from around the world, creating a mesmerizing space where contemporary architecture and glass artistry intertwine.

Over time, wild dolphins made Notojima's thriving natural environment their home, becoming another symbol of the island alongside Notojima glass. After immersing yourself in glass art, explore Notojima's breathtaking sites in anticipation of encounters with dolphins, or fully enjoy marine activities—making for a day that is sure to soothe your body and mind.

Forced to close following last year's earthquake, the glass museum has reopened this month. We extend our gratitude to all who contributed to this feature.

TAKAMAZ

Scan this QR Code for more details.
https://www.takamaz.co.jp

MIX Paper | Supporting responsible forestry FSC® C174219

VEGETABLE OIL INK

TAKAMATSU MACHINERY CO., LTD.
■HEAD OFFICE & PLANT
1-8 ASAHIGAOKA HAKUSAN-CITY ISHIKAWA JAPAN. 924-8558
TEL +81-(0)76-207-6155 FAX +81-(0)76-274-1418
■ASAHI PLANT
4-13 ASAHIGAOKA HAKUSAN-CITY ISHIKAWA JAPAN. 924-0004
TEL +81-(0)76-274-0123 FAX +81-(0)76-274-8530

TAKAMATSU MACHINERY U.S.A., INC.
■CHICAGO HEAD OFFICE
1280 LANDMEIER ROAD ELK GROVE VILLAGE, IL 60007 USA
TEL +1-(0)847-981-8577 FAX +1-(0)847-981-8599

TAKAMAZ MACHINERY EUROPE GmbH
IM HÜLSENFELD 19, 40721 HILDEN, GERMANY
TEL +49-(0)2103-789-4882 FAX +49-(0)2103-789-4883

TAKAMAZ MACHINERY (HANGZHOU) CO., LTD.
■HANGZHOU HEAD OFFICE
NO.6800, JIANGDONG 3RD ROAD, JIANGDONG INDUSTRIAL PARK, XIAOSHAN, HANGZHOU, ZHEJIANG, CHINA
TEL +86-(0)571-8287-9709 FAX +86-(0)571-8215-3732

TAKAMATSU MACHINERY (THAILAND) CO., LTD.
■BANGKOK HEAD OFFICE
888/59 MOO 9, TAMBOL BANGPLA, AMPHUR BANGPLEE, SAMUTPRAKARN PROVINCE, THAILAND
TEL +66-(0)2-136-7831 FAX +66-(0)2-136-7834

PT. TAKAMAZ INDONESIA
JL. FESTIVAL BOULEVARD BLOK AA 11 NO.30,31 GRAND WISATA TAMBUN, BEKASI 17510
TEL +62-(0)21-8261-6431 FAX +62-(0)21-8261-6430

TAKAMAZ MACHINERY MEXICO, S.A.DE C.V.
AVENIDA DE LOS INDUSTRIALES 522, LOCAL 4, INDUSTRIAL JULIAN DE OBREGON, 37290 LEON, GUANAJUATO MEXICO
TEL +52-477-784-0468

TAKAMATSU MACHINERY VIETNAM CO., LTD
NO.76 M HOANG QUOC VIET, PHU MY WARD, DISTRICT 7, HO CHI MINH CITY, VIETNAM
TEL +84-(0)28-3620-5671 FAX +84-(0)28-3620-5673

HANGZHOU FEELER TAKAMATSU MACHINERY CO., LTD.
NO.6800, JIANGDONG 3RD ROAD, JIANGDONG INDUSTRIAL PARK, XIAOSHAN, HANGZHOU, ZHEJIANG, CHINA
TEL +86-(0)571-8215-3760 FAX +86-(0)571-8286-5311

※Our PR Magazine Revamp
TEL (076) 274-1408 FAX (076) 274-8530