

SYL

Sharing Your Life

Muratec Customer Magazine 2022 | EN



>>>MESSAGE

Let me first express my heartfelt appreciation to all our customers for their continuous patronage of Muratec products. I would also like to express my deepest respect to all of you for your long-term efforts to keep your business healthy and strong, despite adverse effects given by the global inflation, added to the protracted COVID 19 pandemic and supply chain disruptions.

In this challenging environment, there are two important roles we at Muratec should play. First, we should provide better support to our customers than ever before. Second, we should continue developing and delivering machines that can produce high-quality packages by achieving the maximum energy-saving and labor-saving for all kinds of economic environment.

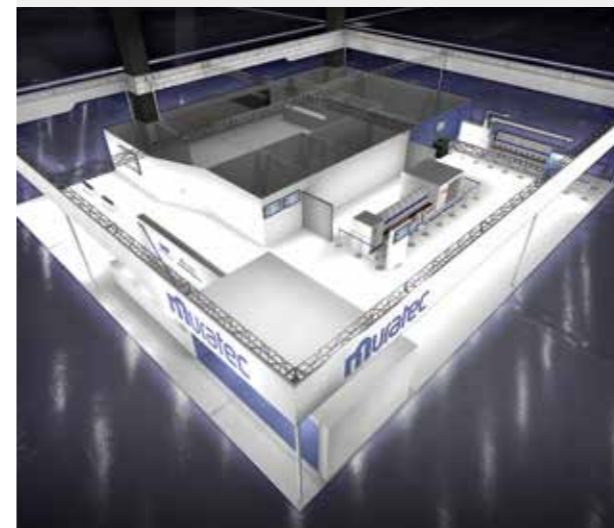
With respect to the former role, even though we cannot examine our machines with our own eyes at our customers' production sites due to travel restrictions, we provide appropriate online operational support using our web/IT systems from our service offices around the world. In particular, we have received very good feedbacks from the customers who have introduced the Muratec Smart Support System for the quickness and accuracy of its remote support services.

For the latter role, we are continuing development efforts in line with our consistent determination since the foundations of our company to make products that will "satisfy customers who will use our machines somewhere in the world" and with our commitment to quality, based on the experiences and knowledge accumulated for many years and feedback (requests) received from customers.

We are grateful that many customers around the world have selected Muratec products (automatic winders, Vortex spinning machines, and Muratec Smart Support System). This, we believe, is the proof that they recognize our "system to provide services and parts" and our "commitment to manufacturing." To live up to their expectations, we promise to continue evolving into an even better business partner that deserves their recognition.

In the feature article of this issue of "Sharing Your Life," which also includes the photos of our old product catalogues, we introduce readers to the history of challenges and development in our textile machinery division. I hope that the story will help you understand that our long history and many years of experiences (of both successes and failures) have culminated in all the present products of Muratec.

Tsuranori Nomura
Operating officer,
Sales & Marketing Department of
Textile Machinery Division



SYL 2022 | EN

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Sharing Your Life
Muratec Customer Magazine November 2022

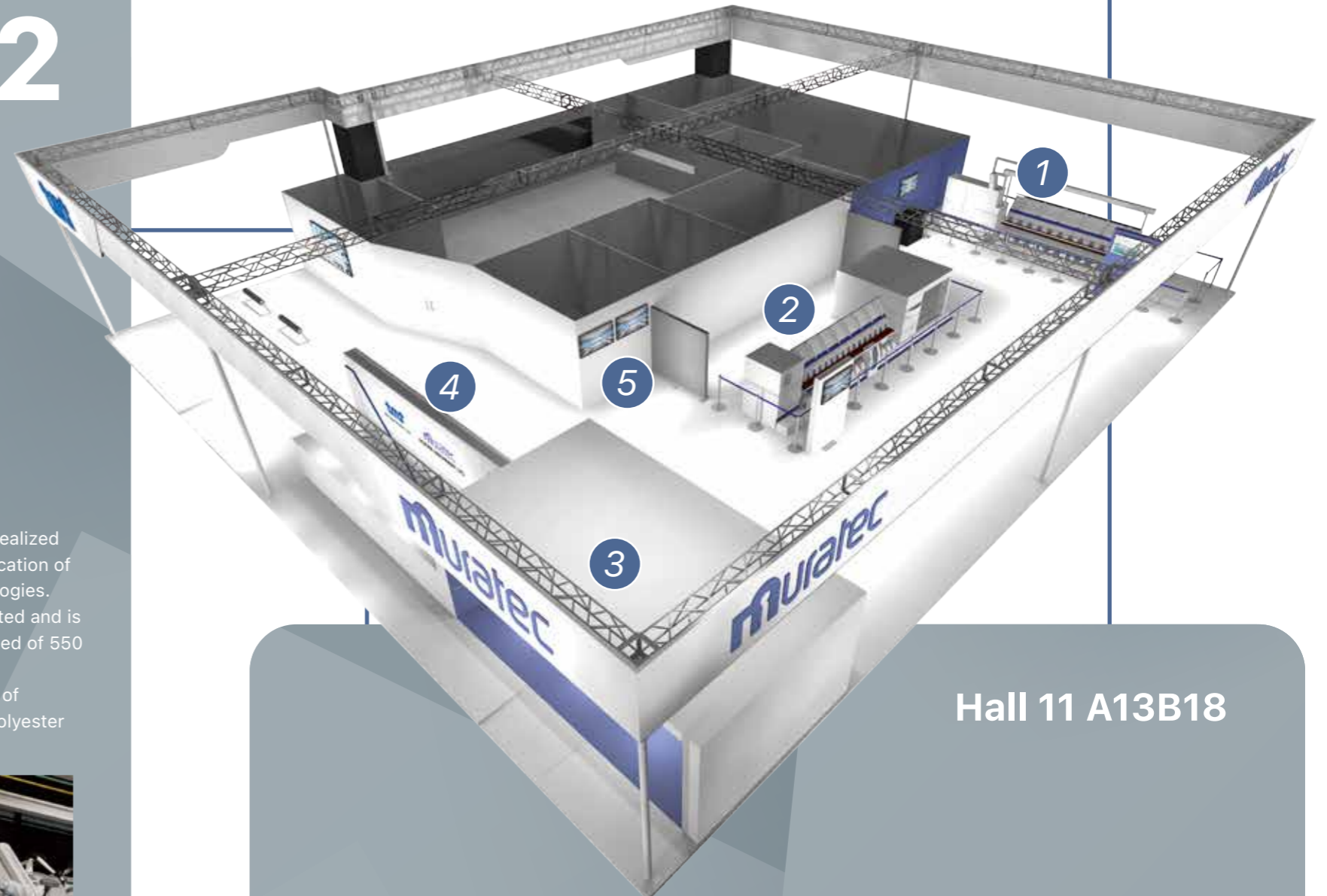
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[Cover photo] Courtesy of Banshu-ori Kobokan

India ITME 2022

8-13 December 2022
India Exposition Mart Ltd., Greater Noida, INDIA

Muratec showcases our stars!



1 Automatic Winder

PROCESS CONER II FPRO EX
Link Coner Type 12 spindles



We will be exhibiting a Link Coner type which has become more popular with the increasing demand for labor saving in recent years.

At the venue, we will hold a demonstration of the "Stretch Air Splicer" which splices CSY (core spandex yarn) with air.

The FPRO EX can achieve high quality winding of a diverse range of package shapes. We will be exhibiting the machine together with a variety of package samples.

2 VORTEX Spinning Machine

VORTEX 870 EX 16 spindles

VORTEX Spinning Machines have realized high speed spinning through the application of Muratec's original air spinning technologies. The latest model 870 EX will be exhibited and is capable of spinning at a maximum speed of 550 m per minute.

We will be holding demonstrations of spinning of two types of yarn: 100% Polyester and Poly/Cotton.



3 VORTEX Yarn

Fabric & Apparel Sample

We will show an even greater range of applications than ever before in the VORTEX yarn sample corner. We will particularly be focusing on bags and other unique application examples for this event. We will also be offering recycled polyester VORTEX yarn eco-bags as exhibition novelties.

5 Genuine Parts

We will introduce our genuine parts and various retrofit cases by Video. Variety of proposals with retrofit conversion parts & maintenance pack items, not only for 870 EX / QPRO EX but also for 861 / 21C for much longer use.

4 IoT Solution

Muratec Smart Support (MSS)

For this event we will have a special video space setup within our booth where visitors can watch an MSS concept movie. The movie introduces the history of the development of MSS products since the 1970's, the "3 E" features of MSS, "Easy-Access, Easy-Solution, and Efficient-Support", as well as opinions and reviews from customers who use MSS.

Hall 11 A13B18

QPRO Success Builds on Development of No.11

When the Mach Coner 7-II series, equipped with a single spindle splicer, was exhibited at the International Textile and Garment Technology Exhibition (ITMA) in 1979, the winders of Murata Machinery reached a major turning point. After that, the Process Coner series was released, followed by the QPRO series and subsequent machines, which has led us to the present day. These machines were all built based on the No.11 Conematic series which were developed through a technical partnership with Gilbosof Belgium with production starting in 1965 and market release in the early 1970s. This game-changing model was equipped with one knotter per 20 spindles, a major improvement from the one knotter per 200 spindles of previous models, leading to a dramatic increase in productivity. However, what is surprising is to discover just how many other basic developments which are used now were already embodied in this model. Here are some of those developments.



Bobbin Feeding Automation

When the company name was still "Murata Textile Machine Co., Ltd" (which was renamed to the current name in 1962), basic developments that led to current automation were realized then, including automatic bobbin feeding from the end of the frame, a searcher to aid finding the end of yarn in the bobbin, a device for picking up the end of yarn and making preparations (yarn end picking device).



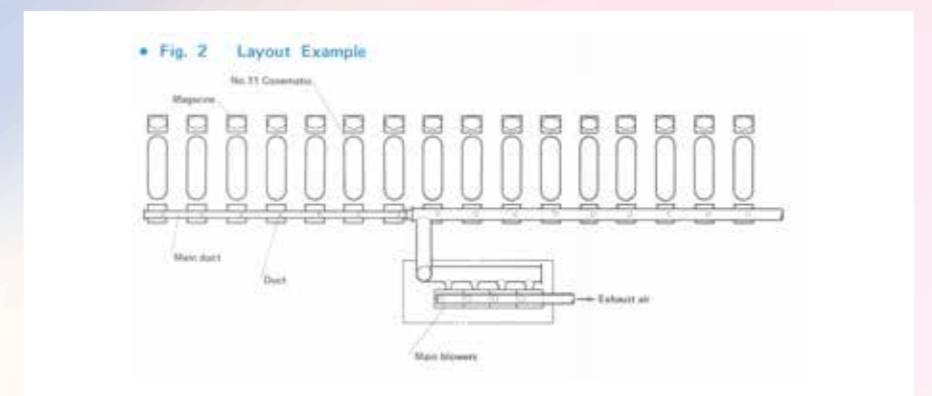
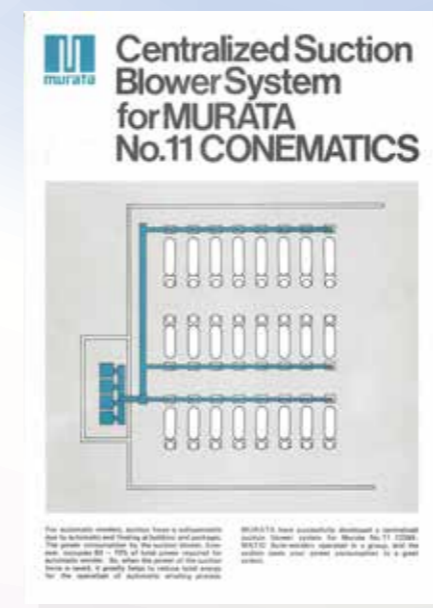
Catalogues Give Glimpse at Previous Efforts to Develop Textile Machinery from 1960's

In 2019, an internal project, Chronicle Project (C-PRO) was launched. After 87 years since the foundation and 74 years since the launch of the spinning machinery business, there are very few employees who know the history of our previous extensive and bold challenges. If young salespersons listen to the stories of the challenges faced by senior engineers and explore the background, they will understand that there were many difficulties in responding to the environment of those times such as the social context and changing markets and competitive trends. C-PRO was launched with the aim of passing on the accumulated experience and expertise to the next generation, and history of development, progress over time, etc., are compiled by listening to the stories of retirees, former managers and others.

As part of these efforts, several thousands of archived past catalogues were selected, organized, sorted and digitalized, and now, about 900 catalogues are displayed in the showroom.



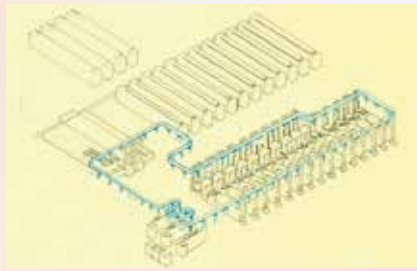
While organizing the catalogues, many surprising facts came to light. Some of the catalogues offered a precious glimpse into our journey of machinery development, such as equipments which were developed too early to be accepted by the market, or some were actually not developed but abandoned, and few surprised us with the fact that they had already been proposed at that time. In this issue, we focus on development and not just the history of Murata Machinery. We also introduce some of the bold challenges of our predecessors. However, what we introduce in this issue is only a part of the bold challenges of our predecessors, and many of their efforts are not presented here due to space limitations.



Centralized Blower

The centralized blower covered up to 20 units. It was widely adopted for Mach Coner machines. Today, inverter control and energy-saving technologies have advanced, but it was difficult to use an inverter at that time, so the centralized blower was offered as a solution for connecting multiple units with a large blower motor. The catalogue also states that energy consumption is reduced by 55% to 65%. This tells us that energy-saving was already a major focus of attention in those days.

>>>FEATURE



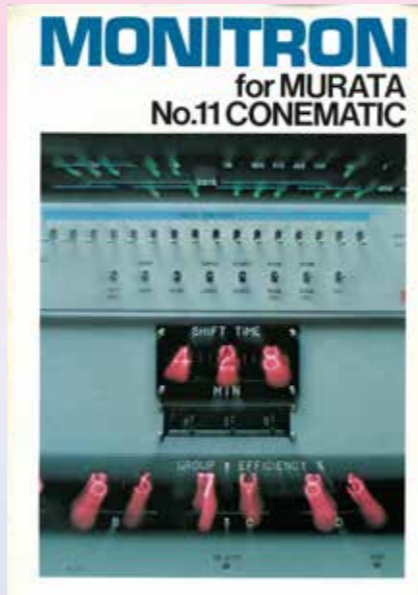
**Link Coner,
Package Transfer System**

The package transfer automation was also offered. In the catalogue, the Link Coner, which allowed direct connection with the spinning machine, was also offered. It is surprising to discover that the bobbin and package transfer automation was already offered at that time.



Data Collection System

The frame data collection system was already offered in the early 1970s, allowing connection of up to 40 units. In addition to efficiencies and error rates, the data collection system was offered for the number of bobbins fed, yarn picking error rates, the number of doffs, turnout and many more. This system has led to the current Muratec Smart Support (MSS).



**Full Operation at
3,000 m2 Booth at ITMA 91**

Take a look at the exhibition map for the ITMA Hannover 1991. Various automation features were promoted, such as connection of the Twin Spinner (MTS) to the 377 double twister, automatic transfer from the winder, false-twisting and other machines. During the 10-day exhibition period, the staff presented these machines in full operation based on the Murata Machinery's policy. Now, we would say, "That is unimaginable!" A total of eight winders were presented with five winders placed in our company's booth and three winders in the booth of another company. A total of two double twisters were also presented with one twister connected to the winder and another to the Twin Spinner. For automation, the presentation included package transfer, inspection and packing lines for each of the spinning and synthetic fiber fields. A total of 186 staff members participated in the ITMA91 from our locations in Japan and overseas. This is really fantastic!



A drawing frame machine was presented and the cans transfer feature was offered. Sliver connection was also demonstrated.

Absurd But Bold Challenges

We are impressed at the foresight of our predecessors, but also often astonished at their "absurd" efforts. Here are some of those bold challenges.

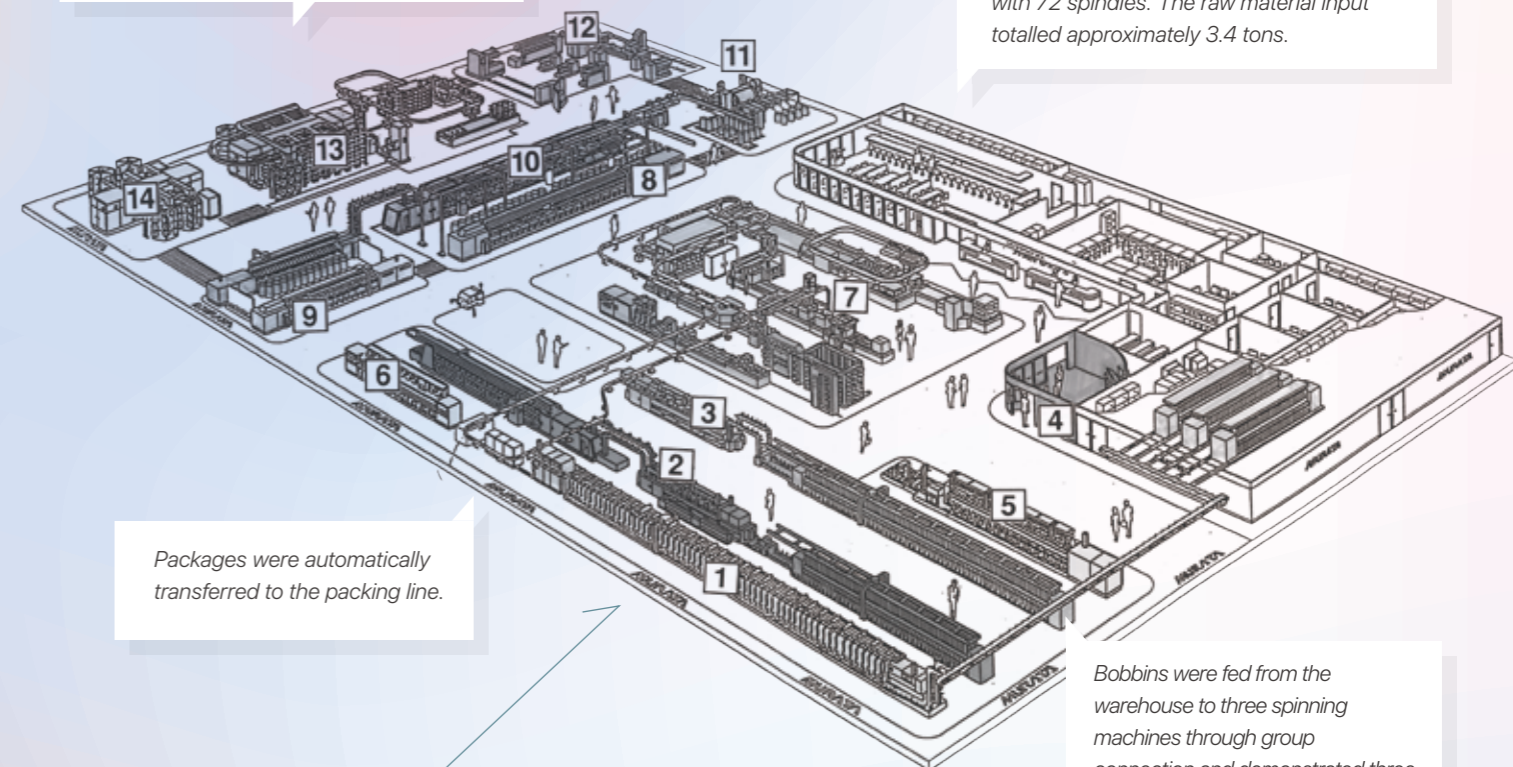
**Many Models Commercialized
One After Another Around 1980**

The filament Take-up Winder was launched in 1976, followed by the launch of the Murata Jet Spinner (MJS) in 1978. In addition, false-twisting machines and air jet false-twisting machines were also commercialized in the first half of the 1980s. The speed of launching new products in those days surprises us. The Take-up Winder and false-twisting machines were transferred to the currently owned by TMT Machinery. The MJS, which had been sold until the second half of the 2000s, was transferred to VORTEX after confirming that VORTEX spinning machines could cover the range of the MJS. The actual sales volume of the MJS, which was mainly sold in North America and Southeast Asia, was on the order of several thousands of units.



The transfer feature was also offered for the false-twisting machine.

A total of three MJS machines were demonstrated: one unit each of 881 (Twin spinning) with 24 spindles, 882 (Twin spin for long fibers) with 24 spindles, and MJS with 72 spindles. The raw material input totalled approximately 3.4 tons.

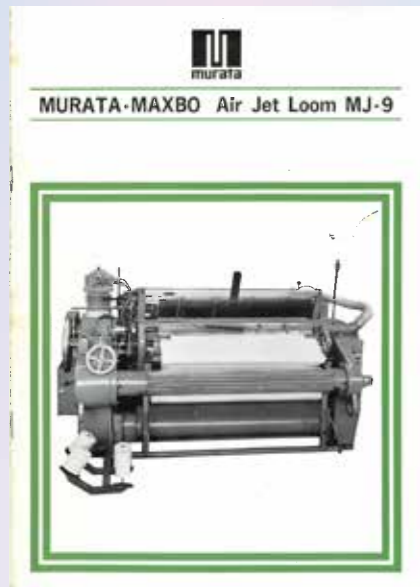


Packages were automatically transferred to the packing line.

Bobbins were fed from the warehouse to three spinning machines through group connection and demonstrated three types of yarn feeding features. The bobbin transfer feature was also demonstrated using a conveyor belt placed at a high position.

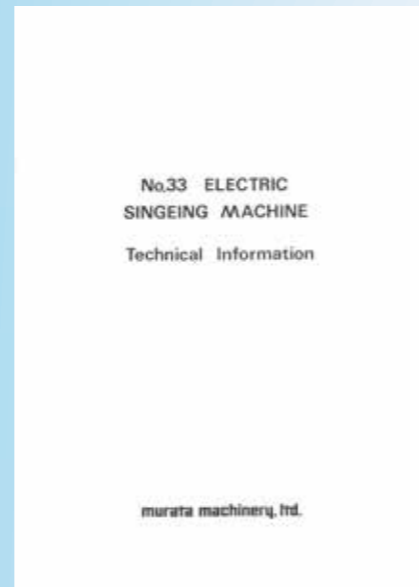
Booth drawing at ITMA 91

Did They Do Such a Thing? -Development that Anticipates Needs, But Never Unveiled.



Never Unveiled Air Jet Weaving Machine

Some of us in the company knew that Murata Machinery was trying to develop an air jet weaving machine in the 1960s. For that machine, a copy of the catalogue, a valuable copy, was finally found. This catalogue contains a photo showing more than one such units placed.



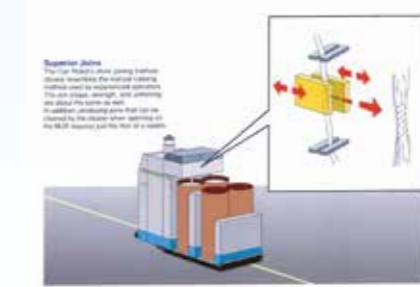
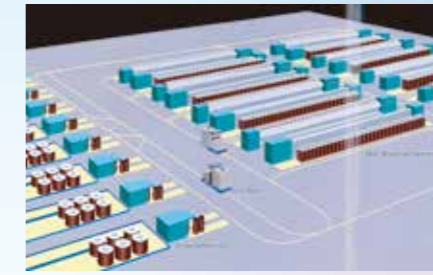
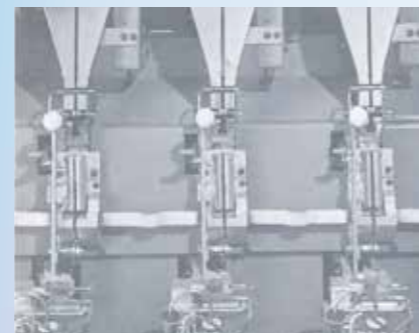
Fluff Burning Winder

Murata Machinery promotes many fluff-related products, such as fluff binding devices for automatic winders (Perla), fluff binding winders, and fluff reducing VORTEX. And "fluff burning winders" were also offered in the 1970s. Some customers in Japan still use them.



WT Device

The WT device is a special device to feed the weft of the weaving machine while adding false-twist to the yarn. The feature allows the user to decide false-twisting settings while actually checking how the false-twisted yarn would be woven into textile. The device was exhibited at the ITMA 91.



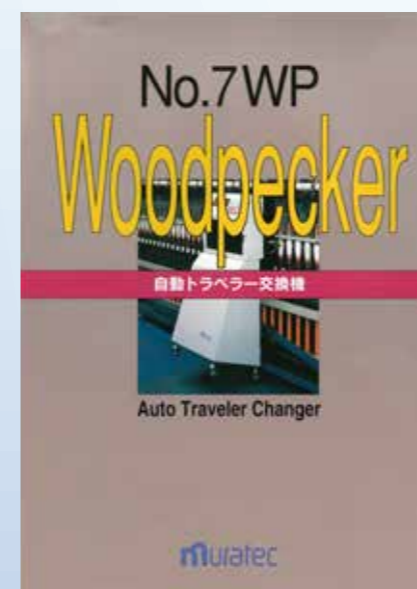
Can Robot

The cans transfer robot for the MJS was rolled out in the first half of the 1990s. Automatic transfer, cans exchange and sliver connection features were offered. The robot was actually presented at the American Textile Machinery Exhibition (ATME) 1992, a trade fair held in the United States.



Warper Creel Robot

The Warper Creel Robot was offered as an extension of package transfer. Packages remaining in the creel were collected and new packages were fed. The feature to enable automatic feeding to the creel of the false-twisting machine and other labor-saving features to reduce the need for feeding heavy materials to higher or lower positions were offered at that time (in the first half of the 1990s).



Woodpecker

This really surprises us and we would say, "Did they do such a thing?" The Woodpecker is an automatic traveller replacement device for ring spinning machines. When the company was promoting and marketing automation from every angle, it received many requests for this type of automation and worked on the development. The company realized a 99% success rate, but found that the Woodpecker was difficult to commercialize and abandoned further development (in the first half of the 1990s).





>>>INTRODUCTION OF TRADITIONAL JAPANESE "CLOTH"

播州織

Banshu-ori

The Banshu-ori began when textile techniques were brought back to Nishiwaki City in Hyogo Prefecture from Kyoto's Nishijin District in 1792. Taking advantage of the warm climate, cotton was grown in the area around Nishiwaki City, and the area became very prosperous for textiles using cotton as a raw material. The area around Nishiwaki City also featured many rivers, which provided the water sources that are so vital to the dyeing industry, so the area provided much of the infrastructure needed for the textile industry to flourish.

One of Banshu-ori's major characteristics is its use of yarn dyed fabric. It holds an over 70% share of Japan's yarn dyed fabric market. It provides rich colors and a gentle texture, and is used to help decorating people's lives in a variety of products which focus on quality, including everything from one-pieces and shirts, to bags, hats, and table cloths.

However, the Banshu-ori industry faces a variety of issues, including the aging of producers and shortage of replacements, and both the production quantities and production value continue to decline bit-by-bit compared to the industry's peak. In addition, another issue the industry faces, is that recognition and brand power have been lacking because fabric production regions were not displayed their final products, so end-consumers rarely saw the name "Banshu-ori".

It was under these conditions in 2015 that industry, government, and academicians joined together to launch the "Nishiwaki Fashion Toshikousou" ("Nishiwake Fashion City Vision") project aimed at revitalizing production areas. The project carries out a variety of initiatives, including working to attract designers to production areas and supporting the training of new industry personnel, as well as holding workshops aimed at producing finished products, exchanges between designers, and more. The project also carries out initiatives aimed at cultivating young, new members of the industry such as tours of production areas for fashion related university and vocational school students. In addition, the project also works to provide locations for development of end products and unrestricted prototyping, and also carries out initiatives aimed at cultivating sales channels, such as providing support for exhibition participation.

In recent years, these initiatives have greatly increased the recognition of

Banshu-ori products. As evidenced by a young designer who made Banshu-ori shawls a major hit all over the country, more businesses have emerged who are searching for business opportunities to sell their original products. In parallel with the growth of Internet shopping, one can also see more cases of textile trading companies and weaving mills which have begun to establish their own original apparel brands and sell shawls, handkerchiefs, hand towels and miscellaneous goods directly to consumers via the Internet. Young designers and entrepreneurs, long established companies and the government have cooperated to convey the value and appeal of Banshu-ori to consumers.

SDGs initiatives

Residual yarn accumulation system

Residual yarns from various companies are collected and managed with IC tags. This system allows for purchases of small lots of yarns whenever required, for preparing samples, etc.

Composting dyeing sludge

The sludge from waste liquids remaining after dyeing is dried, and then used as an ingredient in fertilizer for horticulture.

Use of cotton producing land offcuts as fuel

Research on converting offcuts from cotton cloth into bioethanol and applying it for practical use is currently underway by the Hyogo Prefectural Institute of Technology.



Banshu-ori handkerchiefs were distributed to guests at ITMA 2011 (in Barcelona).

Information being distributed by the Banshu-ori Kobokan

This is an information center which also serves as a shop and museum for Banshu-ori. The building is a renovated wooden textile mill, which really conveys a sense of history. Fabric is available for purchase at the facility, in addition to collections of miscellaneous goods and fashion items from various Banshu-ori producers. The facility also offers handmade production experiences and weaving loom demonstrations, and truly plays an important role in the preservation of Banshu-ori culture.



Banshu ramen

A female operator of nearly 20,000 women at the textile factory in Nishiwaki City, where the textile industry was popular. Imposes to fit the ramen to the mouth of women, and the current gentle taste of sweet soup is produced and continues to be loved even if the times change.



Shozo Katayama
Mayor, Nishiwaki City
(Murata Machinery OB)
also provided assistance.

Special thanks to Nishiwaki Tourism & Products Association

Division: Textile Machinery

VORTEX dedicated website renovated!

The VORTEX dedicated website muratec-vortex.com provides information on VORTEX as a yarn aimed at apparel industry related individuals and organizations. Some other examples of content the website covers are the unique properties of VORTEX yarn, "VORTEX Partners" which are businesses who can produce VORTEX yarn, information on VORTEX Spinning Machine features, and more. Please visit the site if you have the opportunity.



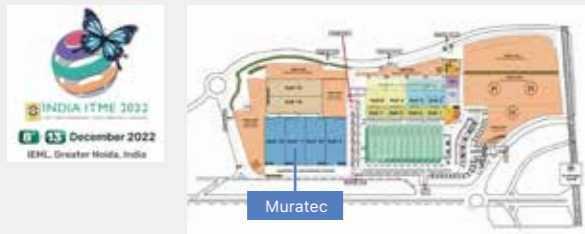
Division: Textile Machinery

Exhibition calendar 2022 -2023

INDIA ITME 2022 8-13 December 2022

India Exposition Mart Ltd., Greater Noida, INDIA
MURATEC BOOTH : Hall-11 A13B18

Exhibit VORTEX spinning machine - VORTEX 870 EX
Automatic Winder - Process Coner FPRO EX
Muratec Smart Support(MSS)



ITMA 2023 8-14 June 2023

Fiera Milano Rho, ITALY
VORTEX YARN BOOTH : Hall-2 D208
MURATEC BOOTH : Hall-3 D107



*Exhibition schedule is subject to change without notice.

Division: Research and Development Headquarters

Autonomous Floor Scrubber with Muratec control system in action at a renowned museum

The R-Quartz autonomous floor scrubber of Adiatek, an Italian floor cleaning machine manufacturer, has been in operation at a museum in France since 2021. R-Quartz is equipped with It's NAVI®, an autonomous mobility control system developed by Muratec's R&D HQ. This robot is equipped with an autonomous driving function, allowing it to perform unmanned cleaning operations. The entrance hall area of the museum is an intricate area of stairs, escalators, and corridors, and in the past, people had to carefully operate the cleaning machines, but now robots can perform the cleaning work more efficiently. Muratec's automated technology contributes to keeping the area beautiful for visitors from around the world.



TMT Machinery, Inc., is the total supplier of synthetic fiber machinery. The company is jointly incorporated by the three Japanese leading manufacturers of synthetic fiber machinery in 2002. - Toray Engineering Co., Ltd, Murata Machinery, Ltd. and Teijin Seiki Co., Ltd. (now Nabtesco Corporation). TMT Machinery, Inc. brings together the technological expertise and engineering capability built up over many years by the three parent companies. As an expert of synthetic fiber machinery, we can build a complete production system from Spinning to Take-up & Winder with process technology. We will support the production of all kinds of yarn according to customer's demand by providing synthetic fiber machinery including any solution to fulfill the customer's requirements.



*TMT Machinery
- A leading synthetic
fiber machinery company*



Line up of TMT's DTY machine can create products with higher durability than natural fiber such as cotton, linen and wool. Furthermore it can produce fiber with value added functions such as hygroscopic fast drying, moisture absorption heat, antibacterial, etc. We can deliver a wide range of custom solutions following the ever changing demand in today's quick moving world. In provision of engineering and processing know-how that satisfies customer needs, and in all areas of customer support from sales to after-sale services, TMT Machinery, Inc. delivers quality that is World Top Class.



Continually creating innovative technologies for the fulfillment of a prosperous society



Textile Machinery



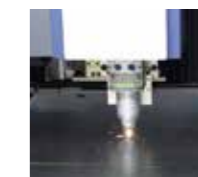
Logistics Systems /
Factory Automation
Systems



Automated Material
Handling Systems
for Clean Rooms



Machine Tools



Sheet Metal
Machinery



Communication
Equipment

Kintsugi

金接



Pottery has an immeasurable value for those who treasure it. Even pieces which are not generally considered high quality or luxury items are treated as family heirlooms, or rice bowls become keepsakes of departed loved ones. Even when one of these pieces is accidentally cracked, they just cannot be simply thrown away.

"Kintsugi" is a uniquely Japanese traditional repair method where cracked or chipped pottery is reinforced with urushi Japanese lacquer, which is a naturally derived adhesive, which is then flecked with gold dust from above. Urushi lacquer has been used for wooden items in the humid countries of Asia

since ancient times, but traditionally required very strict humidity control. However in recent years interest from the US, Europe, and the rest of the world has led to new technological advances which allow the lacquer to withstand even dry climates.

The practice of making these repairs something strikingly beautiful lends the repaired pieces a slightly different demeanor, and has made this tradition much-loved in the worlds of tea ceremony and antique art. It connects the pieces to those who want to still continue treasuring and using these dishes for a long, long time, and is a living, breathing example of human wisdom.

对于珍藏家而言，陶器具有不可估量的价值。即使不是高级品，也可以是家人聚餐时使用的餐具，或是已故之人的遗物茶碗。哪怕不慎导致裂痕，也不会轻易丢弃吧。

“金继（源于古代的金繕工艺）”是日本独有的修复工艺，使用源于自然的漆作为粘合剂，对破裂或破损的陶器进行加固，并使用蒔绘工艺描金。由于难以对其进行湿度管理，漆自古以来在湿润的亚洲圈各国一直被用于木制品的涂料。但近年来在欧美等全球范围内，金继也备受关注，耐干燥技术也被设法不断改进。“金继”工艺敢于展现裂痕的独特美，使之别具韵味，因此也深受茶道及古玩界的青睐。这其中蕴含着人们希望永远珍惜使用器皿心情的智慧。

Collaboration - **Kintsugi Studio RIUM**
(Shimogyo Ward, Kyoto kintsugi-rium.jp): Located in one corner of a hotel which is located in a renovated traditional building, Kintsugi Studio RIUM holds demonstrations of kintsugi techniques in its open studio, allowing tourists and others to experience traditional Japanese-techniques up-close.

合作 / **Kintsugi Studio RIUM**
(京都市下京区 kintsugi-rium.jp): 位于由古建筑改造的酒店内的一处工坊，为了让游客也能近距离地感受日本传统工艺的魅力，会在开放式工作室中现场演示“金继”工艺。