

FOLDER

Toto Folder's product information magazine "Folder" Total Finishing Solutions

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SONIC-RAIL

Special features

To the completely different level of productivity

Rail Type Buffer System "SONIC-RAIL"

Testimonials

- Tokyu Linen Supply Co., Ltd.
- Prince Hotel Linen Supply, Inc.
- Kita Kanto Linen Supply Co., Ltd.

Testimonials Feeder with pillowcases clamp "PCF-500"

- West Japan Medical Services Co., Ltd.

To the completely different level of productivity

Rail Type Buffer System

SONIC-RAIL

What is Rail Type Buffer System?

SONIC-RAIL is the Rail Type Buffer System which can store linens in front of Feeder as a buffer. Storing linens as a buffer, it is possible to feed linens stably and continuously. Once fed, linens are automatically transferred to SONIC-Feeder and processed there. SONIC-RAIL is designed to handle a wide range of items.



Feeder models for SONIC RAIL

SONIC-ES4-R2/SONIC-ES4-R4

Items are handed over from RAIL to Spreading clamps at SONIC unit. After tips of items are firmly spread, the items are inhaled into the vacuum box and fed.



RAIL Rail Buffer System

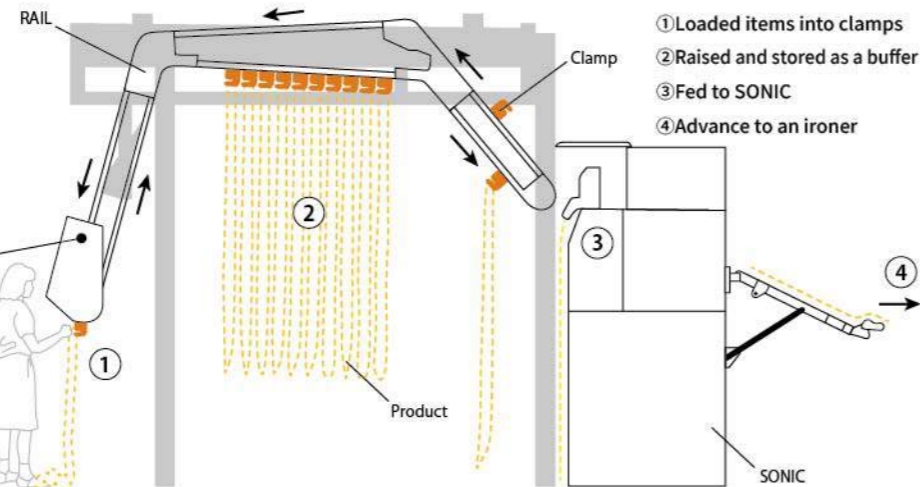
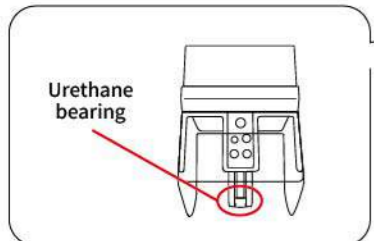
SR-C13-R2/SR-C13-R4

When operators load both tips of items into feeding clamps, the items are transferred to the rail, stored at the buffer and transferred to SONIC in sequence.

Features of SONIC-RAIL

High-performance functions

The clamps with the outstanding driving function by highly precise rails and highly accurate urethane bearing.



- ① Loaded items into clamps
- ② Raised and stored as a buffer
- ③ Fed to SONIC
- ④ Advance to an ironer

Available for a variety of linens

Sheets, Duvet covers, Table linens, you can feed various kinds of linens.



Increase efficiency by high volume processing

Productivity:
1,260 pcs / hour for 1 lane.



Benefits

Stable production

You can stably keep high productivity because interruptions in work flow are absorbed and the production can be standardized.

Save time

You can continuously feed linens during interruptions such as setup changes.

Improvement of quality

Shaking actions remarkably improve the finishing quality of double layered fabrics such as duvet covers.

Improvement of working conditions

Working conditions will be improved because of decrease of works around an ironer generating high temperature.



Tokyu Linen Supply Co., Ltd.

Founded: July, 2018
 Located: Sano, Tochigi
 Employee: 51

**New factory for the first time
 in about 30 years
 Aiming for both high quality
 finishing and comfortable
 working environment**

Tokyu Linen supply Co., Ltd. started their

business activities in 1962 as the pioneer of a linen supply company who rents linen products with cleaning. Since then, they have delivered high quality products as the pioneer of "Hotel Linen Supply" in Japan.

Sano factory is the newest factory that started the operation in July, 2018 among the 4 linen supply factories located in or near Kanto region. Being established for the first time in about 30 years, this Sano Factory aims both "Delivery of quality products to customers by introduction of state-of-the-art equipment" and "Improvement of working environment for employees".

They own 2 x Tunnel Washer, 5 x Roll Ironer Line (1 line for Sheets / 2 lines for Duvet covers / 1 line for Pillowcases / 1



● Mr. Nomura, General Manager responding to the interview



● Sheet Folder「VS1V-N6-35K」



line for Yukata), Uniform Folder and Towel Folder as their main equipment. 2 sets of 4 station type “SONIC-RAIL” are introduced to the 2 Duvet cover lines at Sano Factory.

We asked Mr. Nomura, General Manager of Sano Factory, about the current operation of SONIC-RAIL.

Exactly “Labor Saving” we looked for

We introduced SONIC-RAIL because SONIC-RAIL was exactly “Labor Saving” we looked for and this is one of the elements of our factory concept. Anybody can easily operate SONIC-RAIL after short instruction, no need for technical matureness, which is another

reason of our introduction. We prepared for a pit so that large pieces may not be dragged.

When a pillowcase is in a duvet cover, an operator quickly recognizes and removes it from the cover soon, which certainly tends that machine stoppage gets less frequent and shorter. As we set “Labor Saving” as one of the main targets, frequent machine stoppage will trouble us very much. So, it is very important.

Feeding quantities do not depend upon operators’ working speed, which standardizes production and enables us to prospect the produced quantity. And, comparing with conventional feeders, the working environment is better

because operators work further from Roll Ironer. Another advantage is we can ask operators for small works, which enables us to make good use of time.

My impression on Toto products is “reliable machines”. Toto Sales and Service teams support us very much.

More trusts from customers

Customers trust us more than ever because Visual Inspection devise detects dirt and tear based upon the set standards instead of human eyes.

We shall supply high quality and reliable linen products to customers continuously.

GOOD COMBINATION WITH QPS

Sheets Picker **QPS**

Sheets Picker, “QPS” will automate separation works before feeding. Employed high performance Servo motors at picking arms, picking motions are highly and precisely controlled. By saving labors and stable supply of products, less load but highly productive line can be built.



●Untangle the sheets



Prince Hotel Linen Supply, Inc.

Founded: April, 1990
 Located: Akishima, Tokyo
 Employee: 175



Prince Hotel Linen Supply, Inc. introduced SONIC-RAIL to the 5th Ironer Line in June, 2020 in order to handle large sheets. They introduced their 1st SONIC-RAIL in 2016 when they added the new line to increase the capacity to



●Mr. Torii, General Manager of Production Department, responding to the interview



handle large duvet covers. So, this is their 2nd SONIC-RAIL. This factory started their operation in 1990. They mainly handle linens from Prince Hotels located in Tokyo Metropolitan area. They produce an average 30 ton a day, the total factory area is 3,720m². They own 3 x Tunnel Washer, 7 x Roll Ironer line (1 line for Pillowcase / 1 line for Multiple purposes / 3 lines for Sheets / 2 lines for Duvet Covers) and 9 x Towel Folder as their main equipment.

This time, the whole 5th line equipment was replaced. They introduced our Sheets Picker "QPS", Rail Buffer System "RAIL", Feeder/Spreader "SONIC". They selected space-saving type Calendar Roll as the Roll. They also introduced Folder



●Back Side Inspection Device「VISION」

"SS1V-N6" with 6 Stackers and Front-side Inspection device "VMS-GL-500S" and Back-side Inspection device "VISION".

We asked Mr. Torii, General Manager of Production Department, about the current operation conditions of Toto equipment.

Achieved appr. 30% production efficiency increase

Our factory introduced the first SONIC-RAIL to the 7th Line for production of duvet covers. The 2nd introduction is decided for the purpose of production of large sheets. It is now right after introduction and we have not finished verification to fully utilize the performance. But, at the time of 2 months after introduction, we notice production increased by about 30% at feeding side. (Ironer speed: 45m for sheets, 40m for duvet covers)

Utilizing Buffer Systems at the both sides during small troubles, stable supply to Feeder/Spreader after restart seemingly

increases the efficiency.

On top of that, we have experiences of this machine at the 7th line, which the production efficiency of this 2nd machine is expected to increase at the earlier stage than 1st machine at the 7th line.

High Safety because the works are done away from the machine

Introduction of Rail System enable operators to work away from the Ironer, which lead them to concentrate on the jobs with peace of mind because safety is ensured.

Occupation rate at the hotels in Tokyo remains at a low level due to the Corona virus pandemic, which affects our operation very much. In such an unprecedented situation, we suppose that it is hard to return to the previous style. Therefore, we should return to our origin and be particular with linen quality and providing customers added values along with safety and security.

SONIC-RAIL FEATURES



store from 1



Max. 13 (standard setting)

SONIC-RAIL can store from 1 to Max. 13 (standard setting) as the buffer. The number of rails is selectable, 2 rails or 4 rails. The standard setting SONIC-RAIL has Max. 13 clamps / rail, which can be increased as option. One of SONIC-RAIL features is flexibility of specifications according to factory conditions and/or productivity.

03



Kita Kanto Linen Supply Co., Ltd. was founded in 1992. They handle linens from hotels and wedding halls in Ibaraki prefecture. The total factory area is 2,000m². They own 2 x 10 Compartments Tunnel Washer, 7 x Dryer, 6 x Roll Ironer Lines (3 lines for sheets / Yukata / Cross / Pillowcase) and 7 x Towel Folder as their main equipment. They introduced Rail Type Buffer System "SONIC-RAIL" in September, 2015 to increase the efficiency at Flatwork finishing line operation which had been on a downward trend due to increase of duvet covers. We asked Mr. Ichikawa, General Manager of the Factory, about the current operation conditions.

Kita Kanto Linen Supply Co., Ltd.

Founded: June, 1992
Located: Mito, Ibaraki
Employee: 45



Productivity jumps up to more than double, which is the factor in the success of cost reduction

We considered to increase the production site efficiency because demands for duvet covers from hotels had increased. Then, I saw the actual machine prior to the introduction. The first glance made me sure



● Mr. Ichikawa, General Manager of the Factory responding to the interview

that this machine would increase the productivity. Actually, the calculation of quantity per time shows us that it gets twice or more. Certainly, SONIC-RAIL increases production in short time. The machine is now in normal operation and effective as expected. At the time of introduction, we had to modify the building, which was additional costs to us. But this machine is, nevertheless, the machine we wanted to introduce. Increase of production quantity to twice means increase of speed. The production site is busier than before. We try to maximize the efficiency by deployment of staff according to the situation (production

items). This leads to decreases of overtime hour works, which means cost reduction for that.

Durable and excellent machine Trusting for a long time

Toto Folder's supports are reasonable, not too bad, not too good (laughing). We have used Toto Folder's machines for a long time and regard them as really durable and excellent machines. We trust Toto Folder as a company and their products.

We are now considering to introduce Yukata Feeder as the next investment. That will be probably Toto Folder's again.



Feeder with Clamps for Pillowcase

PCF-500

PCF-500-33/PCF-500-35

For conventional Feeders, operators often had to remove wrinkles. With PCF-500, operators have to only load items into Clamps. After that, the machine removes wrinkles and feeds items. This machine increases productivity because operators can quickly and continuously start preparation for next feeding actions.

1 Easy for anyone



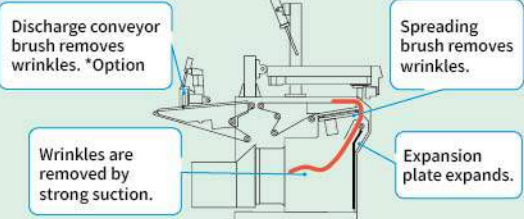
Operators only need to load items into clamps. After that, the machine removes wrinkles, and feed. Quality differences by personnel would not occur.

2 Enhancement of Bypass function



Bypass could be made lane by lane. As manual feeding and clamp feeding can be made simultaneously, it can be used variously.

3 "Wrinkles removal" function enhancement



Piece Select Folder

PSF-5

PSF-5-33/PSF-5-35

Multiple lane operations, such as 2 fold / 4 fold of top cloths, are possible as well as individual stacking by lanes for pillowcases, napkins. Work efficiency will be increased by various combinations.



This is the device to automatically detect defects occurred during "Drying, Ironing, Folding" process. When defect is detected, the product is automatically eliminated by Folder.

Stain

Dirt

Tear

Mildew

Video Measure System(Automatic Inspection Device)

VMS-GL-700

In combination with PSF-5, inspection process can be automated. Severe quality control standards beyond human vision can be set, which enables to provide standardized high quality.

GOOD COMBINATION WITH VMS-GL-700



West Japan Medical Services Co., Ltd.

Founded: July, 1963

Located: Sanyo-Onoda, Yamaguchi

Employee: 600



● Piece Select Folder "PSF-5-33", Automatic Inspection Device "VMS-GL-500M-33"



West Japan Medical Services Co., Ltd. diversifies their business from leasing hospital bedclothes, meal services to operation of hotels / drugstores and others. They own 1 x 15 compartments



● Mr. Azuma, Division Manager and Mr. Sato, General Manager of Production Department responding to the interview



Tunnel Washer, 3 x 8 compartments
Tunnel Washer, 6 x Roll Ironer line (3 Sheets & Covers Medical uniform Pillowcase & pants Sheets, Pillowcase & Cover) as their main equipment. They introduced PCF-500-33 and PSF-5-33 in May, 2020. We asked Mr. Azuma, Division Manager and Mr. Sato, General Manager of Production Department about the current situation.

Realized improvement of safety as well as increase of productivity

We had a chance to visit the factory of our same profession and saw the machines working in high productivity there. That is the trigger we introduced Toto Folder machines to our factory. Before introduction, the works were done by 4 people for feeding and 3 people for receiving and the productivity

was 2,000 pcs / hour. After introduction, the same works is done by 5 people for feeding (not always 5 people) and 1 person for receiving, the productivity is 2,500 pcs / hour. We confirmed the resuet 4,000 pcs / hour momentarily (800 pcs / person / hour).

As items from Roll Ironer were too hot to touch by bare hands, operators worked with working gloves on in the past. Now gloves are not ragured. We improved safety as well.

Quality maintained regardless of age range

Our impression of the machines is that it is very easy to load items into the feeder. Operators' age ranges are broad, but quality is maintained without decrease of productivity. Complains on pillowcases were a few, but sometimes

received in the past, but we have not received any since the introduction, which makes us relieved. This is surely the benefit.

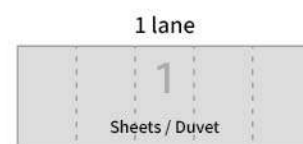
Especially after Corona Virus pandemic, the environments around hospitals and medical facilities have been changing dramatically. Entering "Declining birthrate and aging population" era, Life hospitalization is difficult and patients requiring higher degree of care are not accepted by care houses. The government has the policy to reduce the number of beds. We are afraid to enter the era requiring concern how to protect human dignity.

Therefore, we seek how to contribute to the society as far as we can and proceed to the future with the principle that we should supply customers with "Safe" and "Security" from customers' viewpoints.

PCF-500 FEATURES



Items not to be loaded into Clamps can be fed to bypass operation. All kinds of items like, pillowcases, napkins, top cloths, sheets and covers, can be folded by one machine. Various lane operations are available.





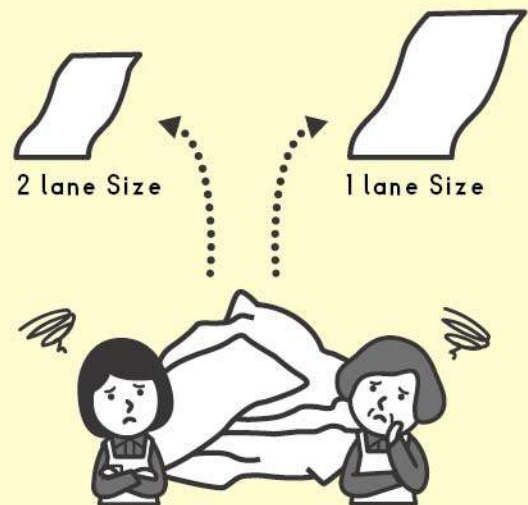
What is Automatic 1 lane / 2lanes Feeding System?

Difficulties at working sites...

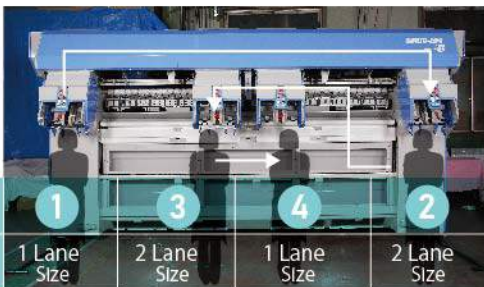
It is fairly troublesome and heavy-labored to select and sort items for 1 lane or 2 lanes at a linen factory where 1 lane items and 2 lane items are mixed up. This seems a serious problem for the linen supply industry in this "aging operators" and "shortage of labor" era.

If sorting were done at washing stage or preprocessing stage, all would have to do would select the programs, 1 lane or 2 lanes and might be quite easy, but this might cause other troubles...

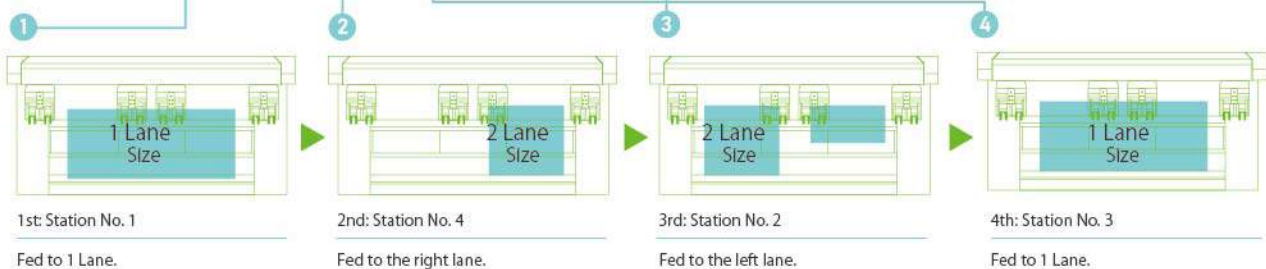
The machine with Automatic 1 lane / 2 lane Feeding System accepts mixture of any items regardless of sizes without changing programs.



Example



Feeding Order	1	3	4	2
Feeding Size	1 Lane Size	2 Lane Size	1 Lane Size	2 Lane Size

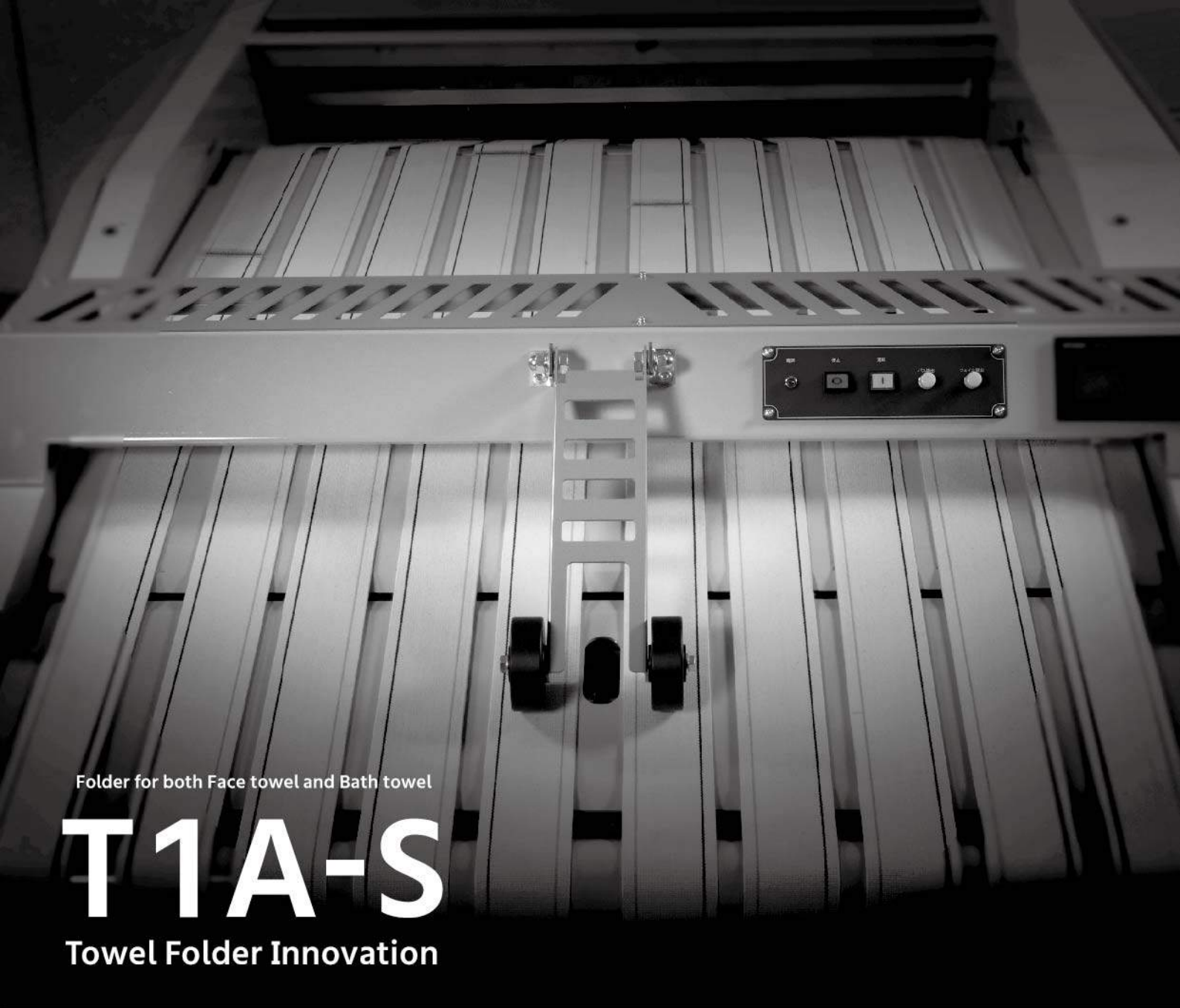


In this system, when mixture of items for 1 lane and 2 lanes are fed, the machine automatically selects 1 lane or 2 lanes, and handles all the line process from feeding to folding completely. Usually, items are fed in 2 lanes to seek higher productivity, but when items too large for 2 lanes operation are fed, the machine is automatically switched to 1 lane operation. Folder and Inspection Device (both Front and Back) also automatically select 1 lane or 2 lanes and switch.

This system will serve as one of the solutions to the problems which Linen Supply industry is confronting these days such as promotion of labor saving and reduction of burdens on operators. (As to Folders, a type to be used for both 1 lane and 2 lanes is required.)



*1. It may not possible depending upon the width of items and/or width of Roll.*2. Factory modification only, not retrofittable at site.*3. Automatic 1 lane / 2 lane feeding system needs a set of Feeder and Folder in which this system program is installed.



Folder for both Face towel and Bath towel

T1A-S

Towel Folder Innovation

01 Design for ease of use

It got easier to feed by lowering the feeding height to 940mm.
This is a design with less oppressive feeling.

02 For thick items, for 2 folding

The new folding mechanism folds thick items more stably.
And, it is also possible to make 2 folding of Bath mats.

03 Employment of Color Touch Screen

Color Touch Screen employed to operate easily
Realized functions longed for, such as "Easy Adjustment", "Mode Selection"

04 Abundant Variation

We are ready to offer various options to suit customers' factory situations.
Please contact us.



Employment of "Drop Plate" method

As the dropping height has been lower than before, stacking accuracy gets improved.

Lower and more comfortable

More comfortable height for females
Decrease of operators' loads

Evolution of "BODY"
changes feeding.

P4i(H)-FE

Feeder for Yukata, Gown, Patient's gown

[Trunk width and Collar width
stepless deformation type]

To more beautifully feed Yukata & Gown products in diversification, Yukata Folder has been more evolved. At P4i(H)-FE, Trunk width and Collar width stepless deformation type "BODY" is employed. So, even stroke shoulders can be also processed. Both high quality finishing and efficient works are realized at the same time.

01 Employment of Trunk width and Collar width stepless deformation type "BODY" which gets closer to the ideal expansion for various product shapes.
(Possible to make 360 – 660mm stepless deformation, 4 steps deformation)

02 Kids Yukata wider than 400mm can be fed. And, finishing of items for stroke shoulders and waffle fabrics is improved.

03 The total line length is reduced by 400mm compared with P4S Series line. Possible to install in a small area.

04 Equipped with Bypass function. Preparation time remarkably shortened.



Feeder for
Yukata, Gown, Patient's gown
Trunk width and Collar width stepless deformation type

P4i(H)-FE

* Conveyor width: 1,450mm for P4i-FE, 1,540mm for P4iH-FE

* Please inquire us about Roll width, Folder which P4i(H)-FE will be used with

* Sample test may be required prior to delivery

* For more details, please refer to the brochure

**By using dedicated "BODY",
realized high throughput.**

WFO-7-COMB

Combination Folder for Bathrobe, Gown

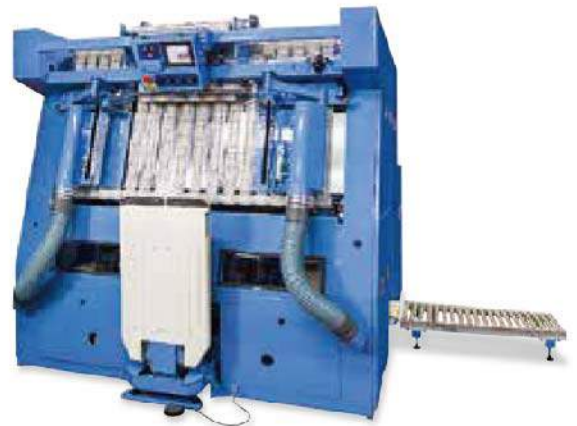
WFO-7-COMB realizes "easy to feed" and "beautiful finishing" by using dedicated "BODY". Equipping manual correction feeding function, items with high grade requirements would be finished satisfactorily.

01 Feeding is made with dedicated "BODY" which can accommodate to 4 trunk sizes.
Throughput increased by 40% compared with the conventional model.

02 Equipped with manual correction feeding function, items with high quality requirements could be finished satisfactorily.

03 Possible to smoothly fold thick bathrobe and process stroke-shoulder-shaped items.

04 By the sleeve inhale portion being sucked from below, the sleeves are naturally expanded.



Combination Folder
for Bathrobe, Gown

WFO-7-COMB

* For more details, please refer to the brochure or visit our Web site.

* Sample test may be required prior to delivery.

* For better performance, specifications are subject to change without prior notice.

T-ROLL

Large Diameter Chest Type Roll Ironer



Click here for
product information
<http://www.totofolder.jp/en/products/chest-roll/>



Accepting demonstration application now!

Toto Folder launches Large Diameter Chest Type Roll Ironer.
We are pleased to perform demonstration with your actual samples.

Why don't you experience high quality finishing by T-Roll?

The process and result of demonstration will be provided on video.
Contact us at the following URL.

Inquiries about this paper

Contact Form

(If QR code on the left can not be read, please visit URL below)

URL:<https://forms.gle/8v8pUKwsVgvQD67A7>

