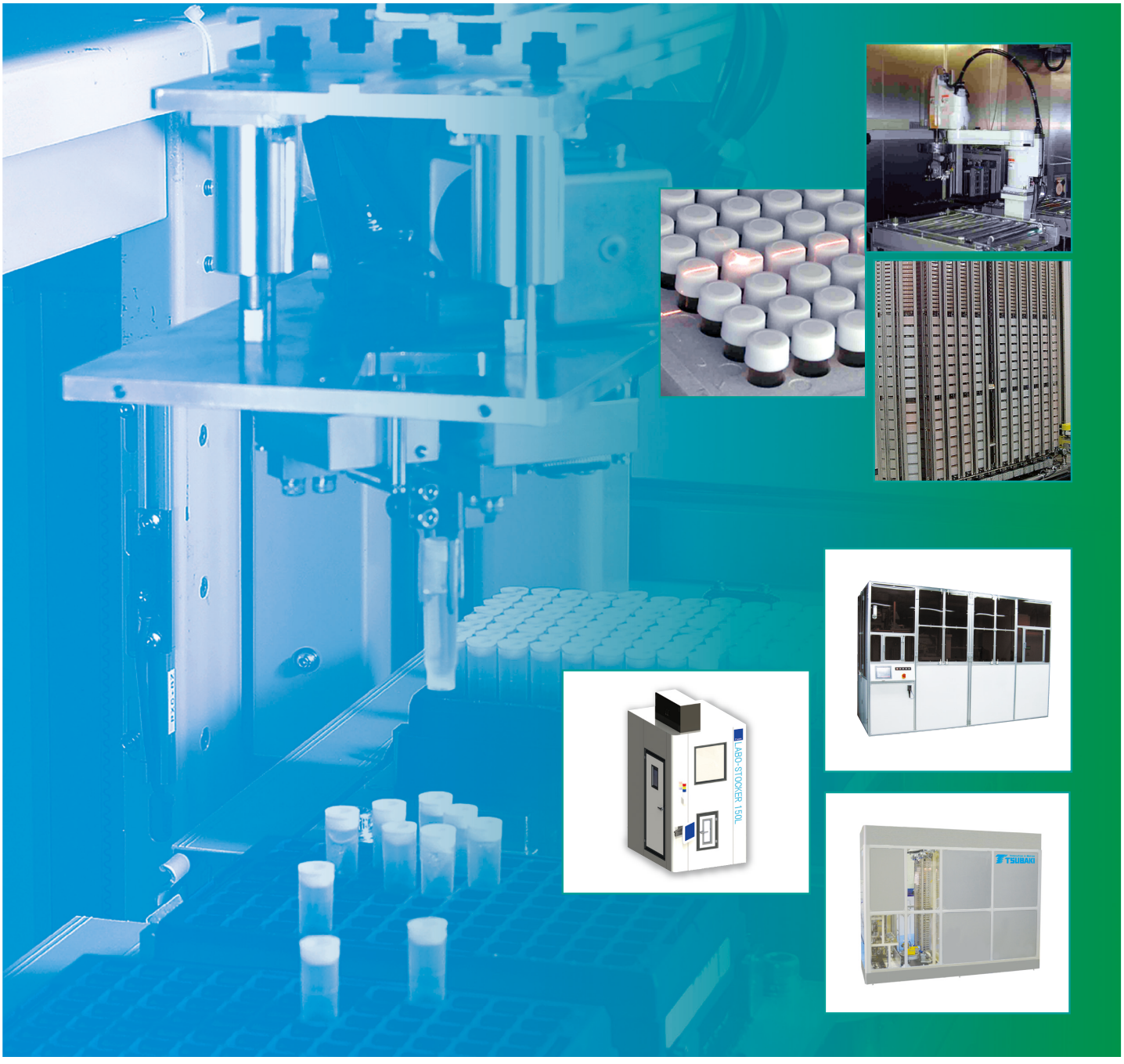
Innovation in Motion
TSUBAKI

TSUBAKI
LIFE SCIENCE SUPPORT EQUIPMENT



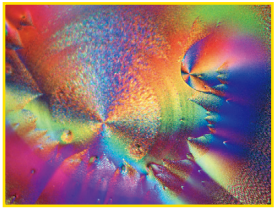
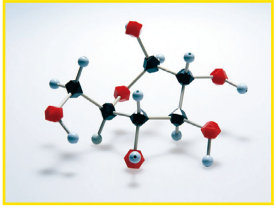
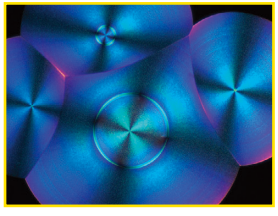
Proposals to the Fields of Life Science

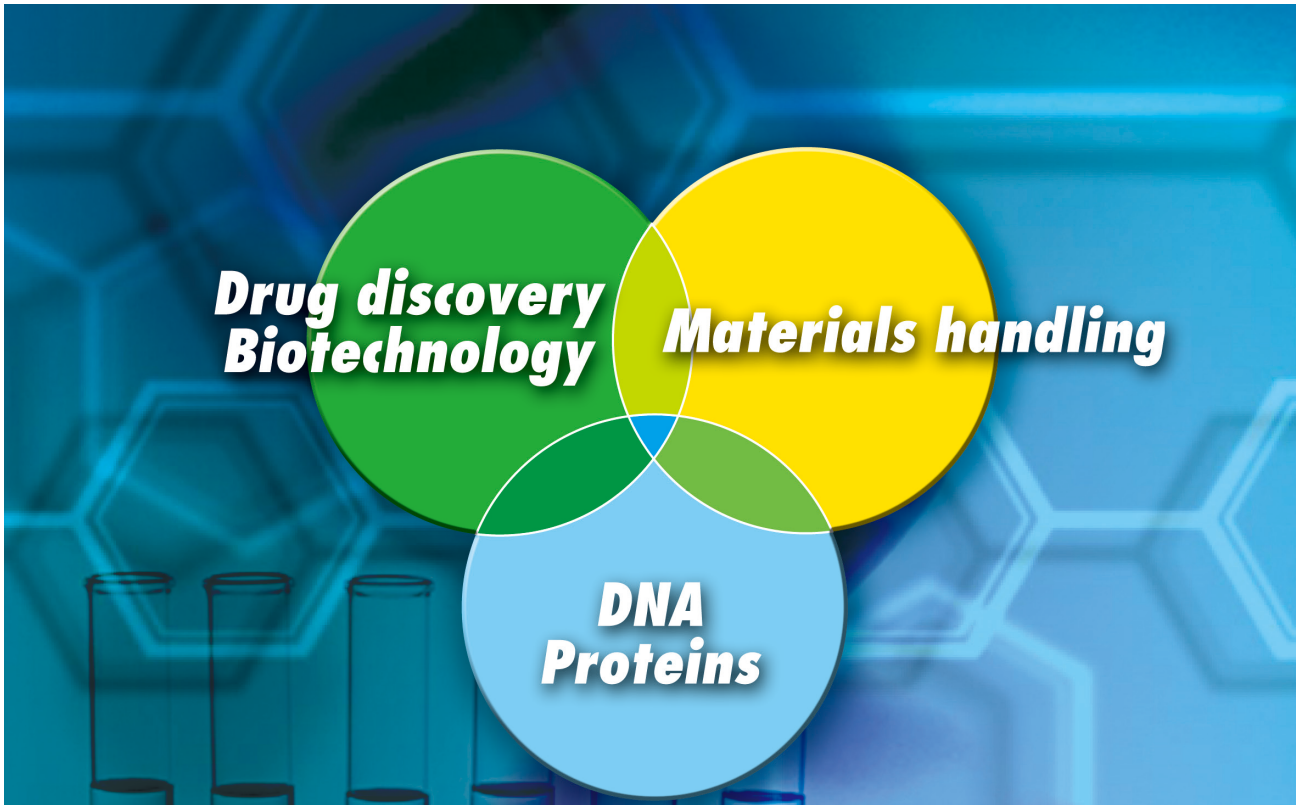
Tsubakimoto Chain Co. through its Material Handling Division, has been proposing diverse automated systems for the storage, transportation and sorting of materials that are best suited to the needs of our customers in the sectors of automobiles, IT, newspapers, and distribution. And now, the company is fortifying its proposals to the life science field by making the best of the know-how it has gained in these fields.

In recent years, automation has been making great strides in the field of life science. Candidates of future new drugs are being turned out in succession from samples of huge numbers of compounds and natural substances. How fast new drugs can be developed is a big concern in the area of the development of new drugs.

Drawing on its ample past achievements and diverse materials handling technologies, Tsubakimoto Chain Co. proposes, as a total system, automatic storage-and-picking hardware equipment that store samples at a stable quality and deliver them precisely, along with a software product that manages sample information in a centralized manner.

Tsubakimoto Chain Co. will continue to propose dream -inspiring automated systems that incorporate its cutting-edge technologies, including proposals suitable for handling materials at higher speeds and in minute amounts and proposals for DNA storage in the genetic-linked field and the biological sample storage field by the ultra-low temperature.

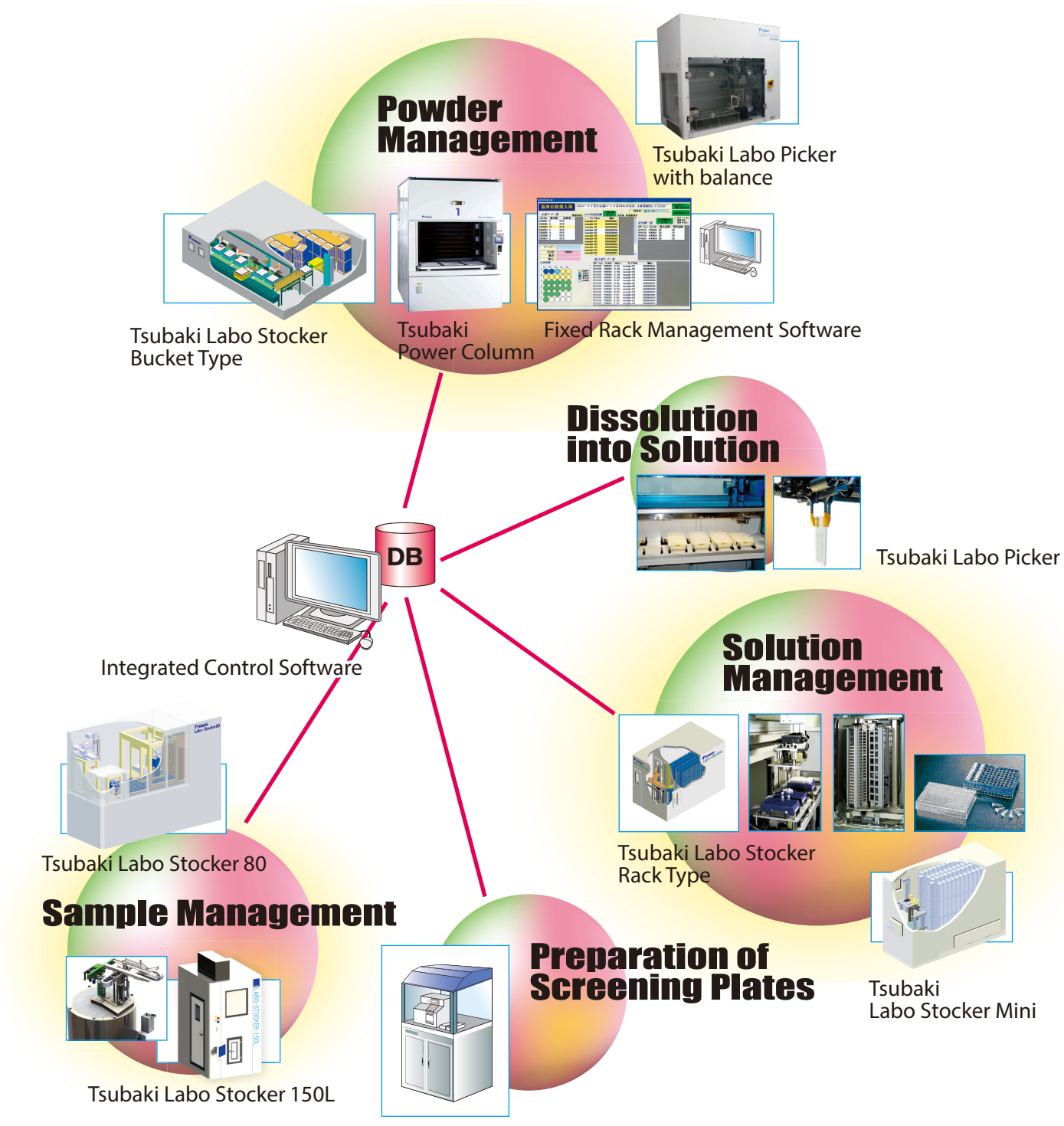




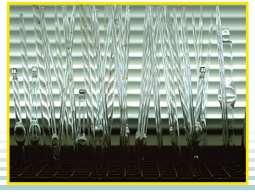


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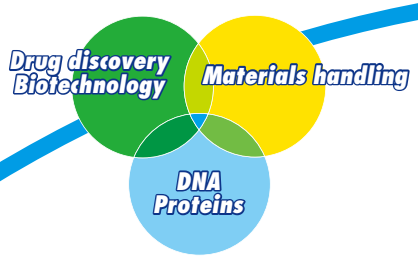
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Shooting for the Fusion of Automatic Storage, Picking,




Air-Conditioning and Information System



Development of Elemental Equipment

- Development of handling mechanisms suitable for intended containers
- Automatic storage applicable to special environments (Refrigeration, high temperature, high humidity)
- High capacity and compactness

Information Processing

- Operation and management software that pursues operability
- Control software that facilitates the efficient transportation and recovery of faulty systems
- Ability to adapt to the user's operational requirements

Implementation of Operation

- Successful track record of introduction of materials handling systems
- Proposal for combination of standard modules with special type equipment
- Tie-up with business enterprises of diverse specialties

After-Sale Services

- On-call service 24 hours a day, 365 days a year
- Remote monitoring
- Maintenance centers located in numerous areas

Peripheral Equipment

Not only storage systems, but also labor-saving equipment in the library field are proposed making the best of Tsubakimoto Chain Co.'s technologies.

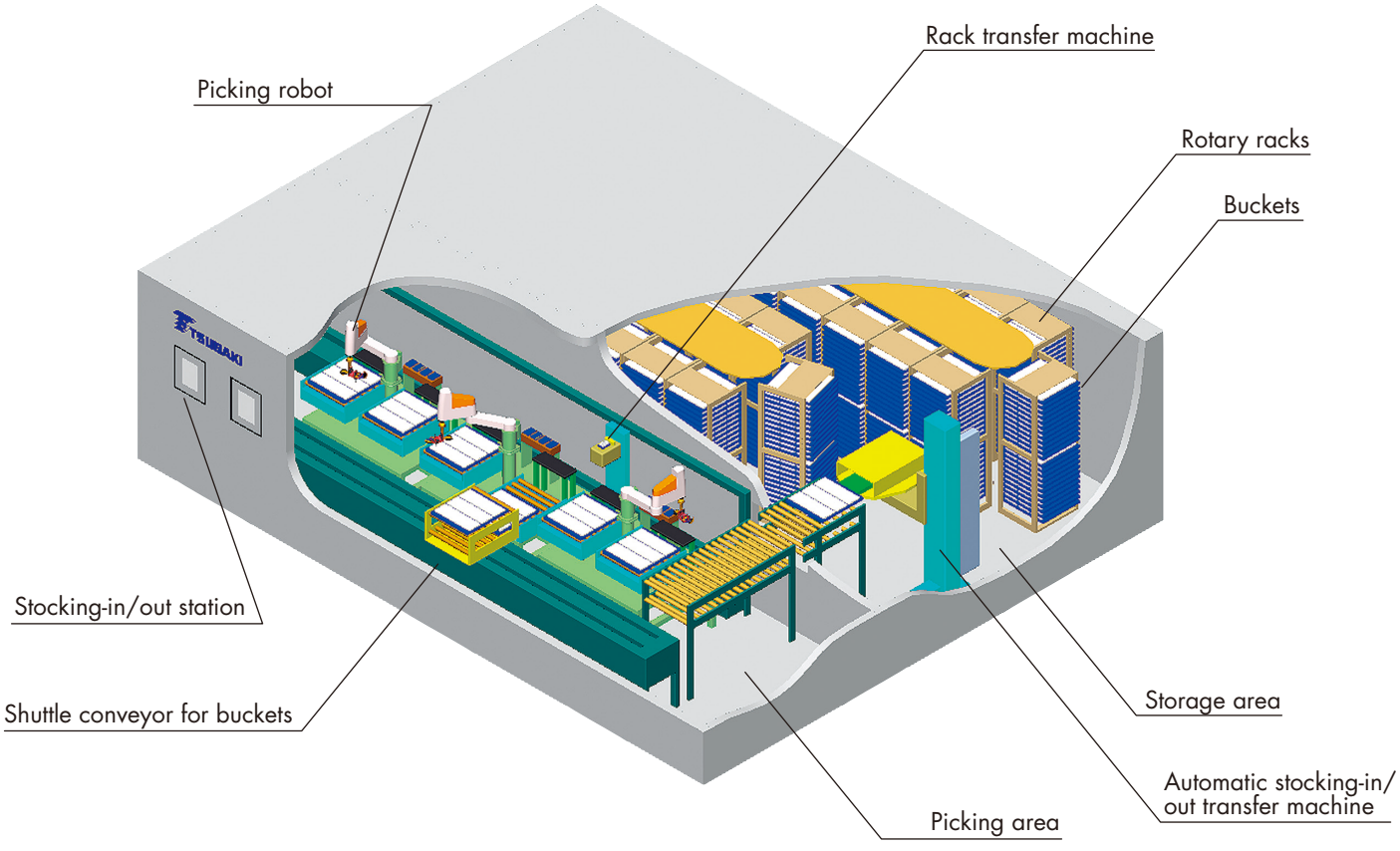
- Tsubaki 2D Vision
- Tsubaki Labo Picker
- Tsubaki 384 tubes
- Tsubaki Liquid Checker
- Tsubaki Tsubaki Dispensing system

Tsubaki Labo Stocker Bucket Type

The Tsubaki Labo Stocker Bucket Type is an automatic storage system that flexibly accommodates a wide variety of articles to be stored, including vials, microtubes, plates, and so on. It employs dedicated buckets of high-density storage and, for example, can achieve stocking-in/out with excellent space-saving and at a high speed for a storage amount of over one million 96-well microtubes. Moreover, the stocker supports the optimum storage temperatures suited to the articles to be stored, ranging from room temperature to freezing and refrigeration.

Features

- High-density storage and high-speed stocking-in/out using buckets.
- Buckets can be customized to meet specific articles to be stored.
- Sure-fire storage based on bar codes and 2D codes.
- Ability to retrieve data and to instruct stocking-in/out from the terminal of each researcher.
- Data management for samples, remaining amounts, number of uses made, etc.
- Possible to design systems consistent with intended operation modes and to select flexible layouts suited to installation sites.



Labo Stocker Bucket Type

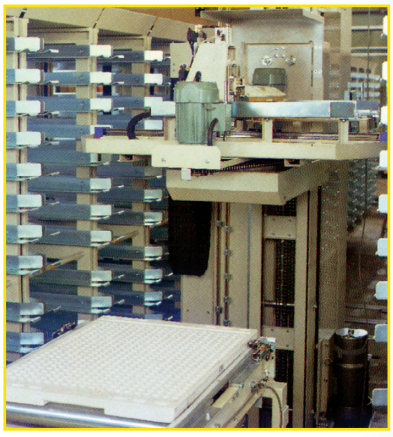
Stocking-in/out station

- Picking racks with excellent security and operability.



Automatic stocking-in/out transfer machine and rotary racks

- Transfer machine that has achieved high-speed stocking-in/out, and rotary racks that have made high-density storage possible.



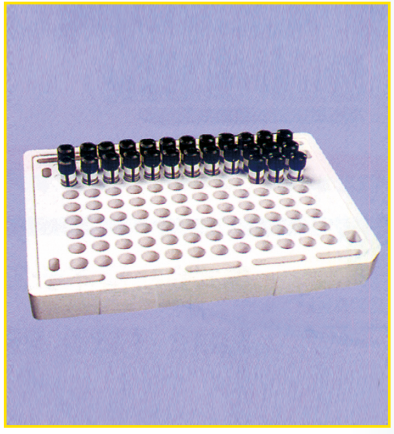
Picking robot

- Robot to securely pick up vials and microtubes.



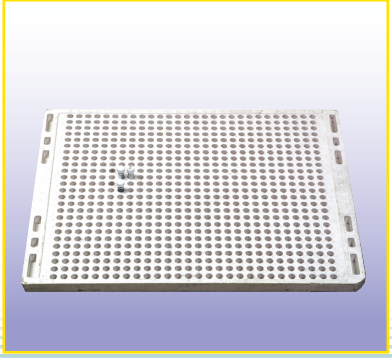
Dedicated tray for vials

- Dedicated tray reflecting high workability.

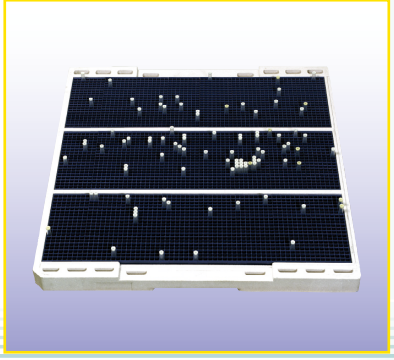


Bucket application

- Bucket for vials



- Bucket for microtubes



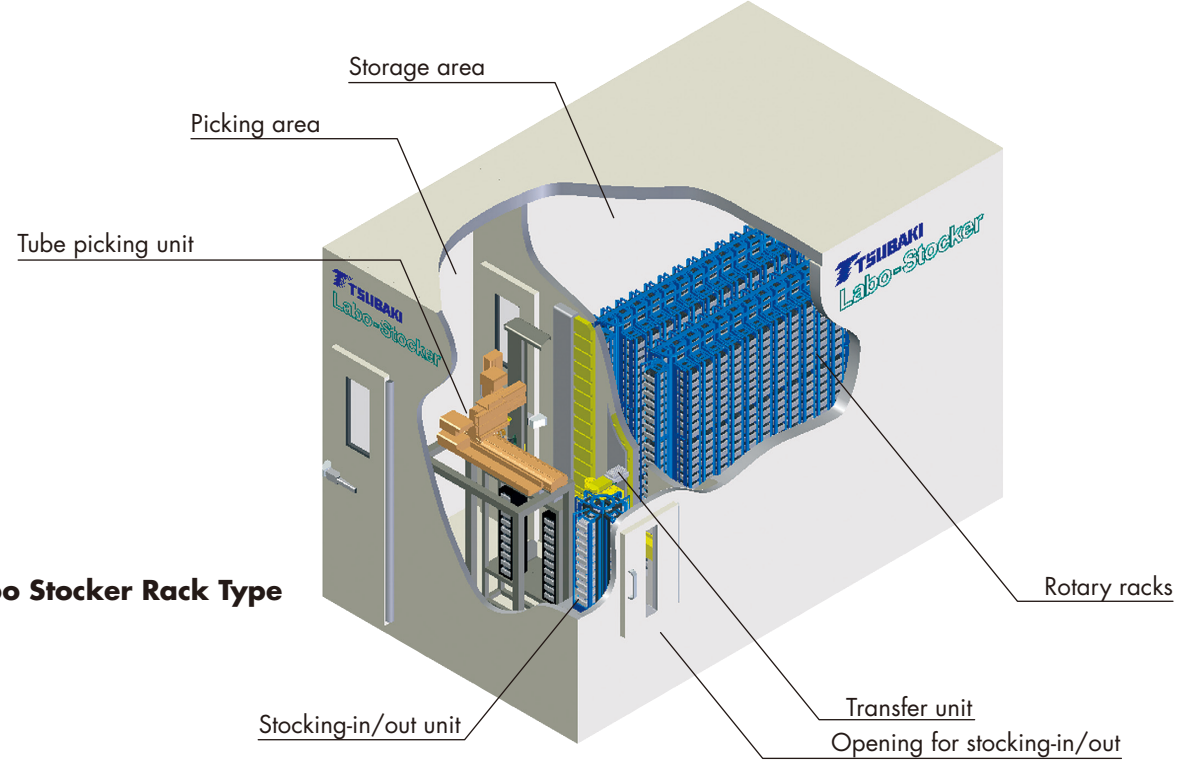
Tsubaki Labo Stocker Rack Type

The Tsubaki Labo Stocker Rack Type is an automatic picking storage best suited to small- to medium-scale amounts of storage in laboratories and such. It stores microtubes or plates (products conforming to SBS Standards) individually on rotary racks and picks up the tubes precisely and at a high speed by means of a transfer unit and picking unit. Moreover, the stocker supports the optimum storage temperatures suited to the articles to be stored, ranging from room temperature to freezing and refrigeration.

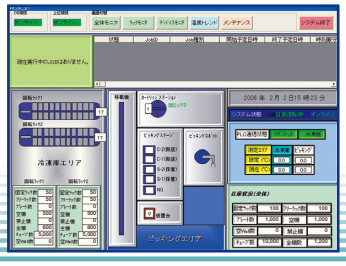
Features

- Compact and capable of high density storage.
- Ability to retrieve data and to instruct stocking-in/out from the terminal of each researcher.
- Data management for samples, remaining amounts, number of uses made, etc.
- Stocking-in/out capacity and layout to meet needs are achieved through the combination of standard modules.
- Sure-fire storage based on bar codes and 2D codes.

Labo Stocker Rack Type

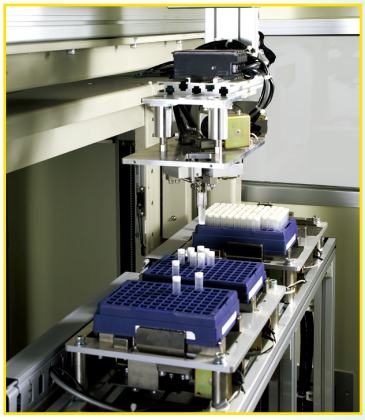






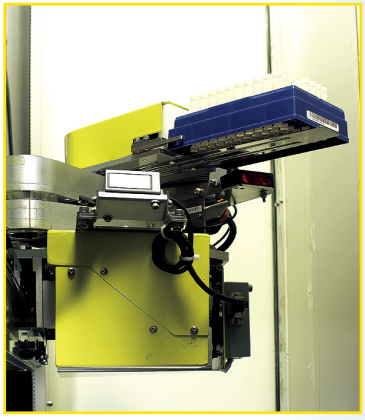
Tube picking unit

- Picks up microtubes precisely, one by one.
- The unique floating mechanism adopted securely protects the tubes even in the event that double stocking-in of tubes occurs.



Transfer unit

- Executes sure transfer by chucking plates or tube racks at multiple points, i.e., by the bottom surfaces and both sides.



Stocking-in/out unit

- The auxiliary defrosting function adopted reduces the time of returning the frozen state to normal temperature.
- Accommodates plates and tube racks in cartridges that are convenient for carrying.

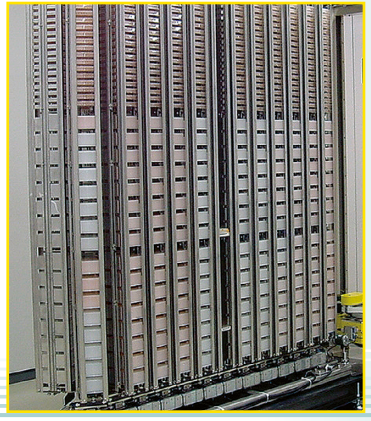


Rotary racks

- These racks achieve high-density storage, and in addition, are designed to secure the circulation of chilled air for uniform storage temperature.
- The linear motor adopted as the driving source lends itself to creating a quiet and clean environment.
- High-precision positioning results in sure transfer.



Linear motor section



Tsubaki Labo Stocker Applications

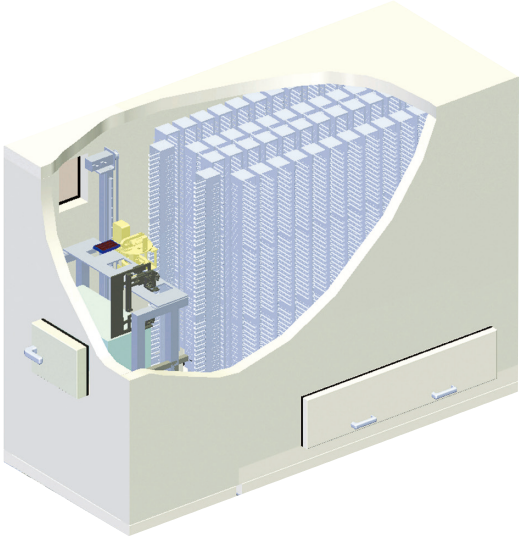
The Tsubaki Labo Stocker Mini is a storage unit with automatic picking functionality that meets the needs of customers with limited installation spaces. The compact automatic Labo Stocker Mini ensures the maximum storage capacity for the available space while allowing for future expansion and relocation.
Similar to the previous Labo Stocker, it provides a frozen environment for individual storage of micro tubes, Tsubaki 384 tubes, plates (SBS-compliant models), and vials. The transfer unit and the picking unit provide quick and accurate picking.

Features

- Achieve high storage capacity in a compact unit.
- Expand storage capacity easily by adding units.
- Transport and install the unit with ease.
  Carry in one unit at a time → Transport in an elevator*
- Allow researchers to retrieve data and manage indication of insertion/extraction of samples from their own terminals.
- Manage data on samples, times of use etc.
  (residual concentration and compound information optionally available)
- Combine standard units to tailor the sample insertion/extraction capacity and layout to your specific needs.
- Achieve secure management through bar codes and 2D codes.
- Share data with existing Labo Stocker products.

*Based on an elevator size of at least 1,050 W × 2,000 H × 2,000 D

Single unit



***Optional**
Triple unit expansion + Bulk insertion/extraction unit (with thawing function)



Specifications

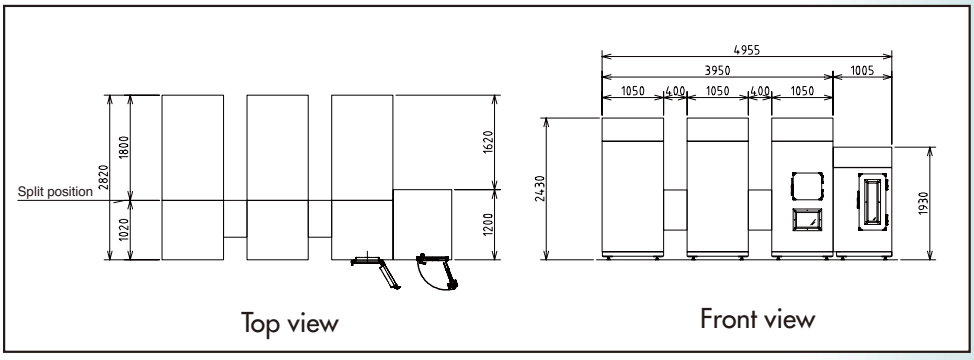
- Sample extraction : 150 tubes / hour (Converted at HIT rate of 1)
- Maximum stock-out capability : 450 tubes / hour (Converted at HIT rate of 3 to)

Storage capacity

Storage container			Main body 1 unit installed		After expansion 2 units installed		After expansion 3 units installed	
Storage container type			Number of racks	Storage capacity	Number of racks	Storage capacity	Number of racks	Storage capacity
96-tube	Made by Company F	0.5ml	2,106racks	202,176tubes	4,212racks	404,352tubes	6,318racks	606,528tubes
		1.0ml	1,404racks	134,784tubes	2,808racks	269,568tubes	4,212racks	404,352tubes
		1.3ml	1,134racks	108,864tubes	2,268racks	217,728tubes	3,402racks	326,592tubes
	Made by Company M	0.5ml	1,890racks	181,440tubes	3,780racks	362,880tubes	5,670racks	544,320tubes
		0.75ml	1,404racks	134,784tubes	2,808racks	269,568tubes	4,212racks	404,352tubes
		1.4ml	1,134racks	108,864tubes	2,268racks	217,728tubes	3,402racks	326,592tubes
TSUBAKI 384TUBE		Seals	2,646racks	1,016,064tubes	5,292racks	2,032,128tubes	7,938racks	3,048,192tubes
		Caps	2,376racks	912,384tubes	4,752racks	1,824,768tubes	7,128racks	2,737,152tubes
Vials		43.0mm	1,134racks	27,216tubes	2,268racks	54,432tubes	3,402racks	81,648tubes
		49.0mm	1,026racks	24,624tubes	2,052racks	49,248tubes	3,078racks	73,872tubes

*Note: For 96-tube trays, the storage capacity is based on the number of plug-cap tubes.
(Please contact us if you are using screw-cap tubes).

External dimensions



Layout patterns

	Expansion: None	Expansion: 1 unit to the left	Expansion: 2 units to the left	Expansion: 1 unit to the right	Expansion: 2 units to the right
Expansion module: None Expansion module insertion/ extraction door: None	Storage area, Picking area, Insertion/ extraction port				
Expansion module: Right side Expansion module insertion/ extraction door: Bottom	Bulk insertion/ extraction port				
Expansion module: Right side Expansion module insertion/ extraction door: Right side					
Expansion module: Right side Expansion module insertion/ extraction door: Top					
Expansion module: Left side Expansion module insertion/ extraction door: Bottom					
Expansion module: Left side Expansion module insertion/ extraction door: Left side					
Expansion module: Left side Expansion module insertion/ extraction door: Top					

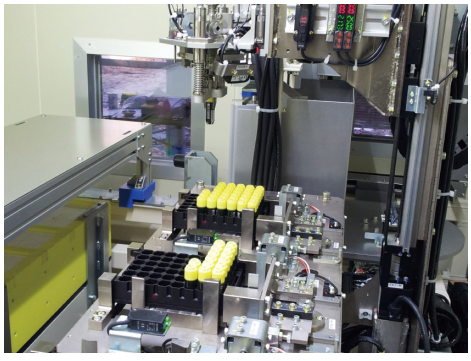
Tsubaki Labo Stocker 80

The Tsubaki Labo Stocker 80 is a storage unit with automatic picking functionality that enables the highly demanded storage at –80°c.
It provides a frozen environment for individual storage of micro tubes, Tsubaki 384 tubes and plates (SBS-compliant models).
Our unique transfer and picking units provide quick and accurate picking.

Features

- Achieve high storage capacity in a compact unit.
- Handle three racks at a time with the dedicated cartridge. Three-rack handling.
- Picking in –20°C environment.
- Backup function (freezer tandem system).
- In case of abnormality, samples are forcibly transferred to the –80°c environment.
- Prevent exposure with faster 2D reading.
- Rack/Tube separation function.
- Achieve secure management through bar codes and 2D codes.
- Backup function using carbon dioxide gas (separate consultation required).
- Security function equipped.

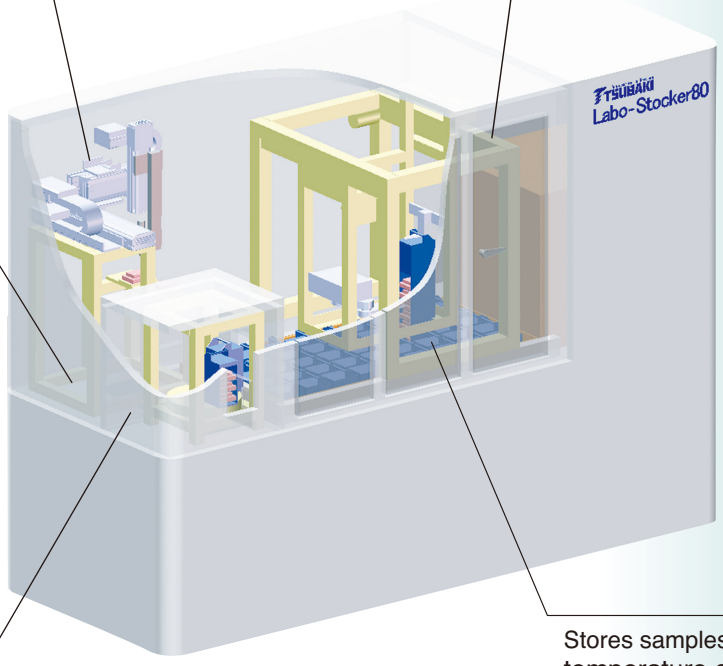




Transfer & conveyance device

Samples are extracted from the freezer room on a rack-by-rack basis. Because only the required cartridges are extracted, other racks are not affected by temperature fluctuations.

Pick up tubes precisely one by one



Separation mechanism

Effectively detaches tubes from racks when they are stuck together due to freezing.

Freezer room

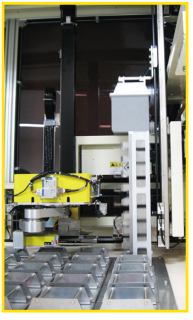
Stores samples at the ultra-low temperature of –80°c. Micro tubes and plates are contained in cartridges.

Carbon dioxide backup ensures stable temperature control.

Insertion/extraction port

Interface with researchers
Inserts and extracts samples in units of small cartridges at room temperature.





Extracting cartridges



Cartridge storage conditions

Specifications

- Storage capacity : 51,408 tubes (number of 48 tubes) 2mℓ
- Storage Temperature : Freezer room : –80°c
  Picking room : –20°c
- Sample extraction capacity : 60 tubes / hour (converted at HIT rate of 1) to 300 tubes / hour (converted at HIT rate of 5)
- Storage unit size : Installation area : 5.1m × 2.1m = 10.71m²
  Storage unit height : 2.3m

Automated ultra-low temperature storage

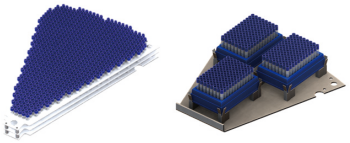
Tsubaki Labo Stocker 150 (LN_2 type)

Life science support equipment

We have added a –150°c automated ultra-low temperature storage unit to the Tsubaki Labo Stocker series lineup.
With liquid nitrogen cooling, you can keep your samples safely for extended periods.
Picking is also carried out within the –150°c environment, so the samples are not exposed.

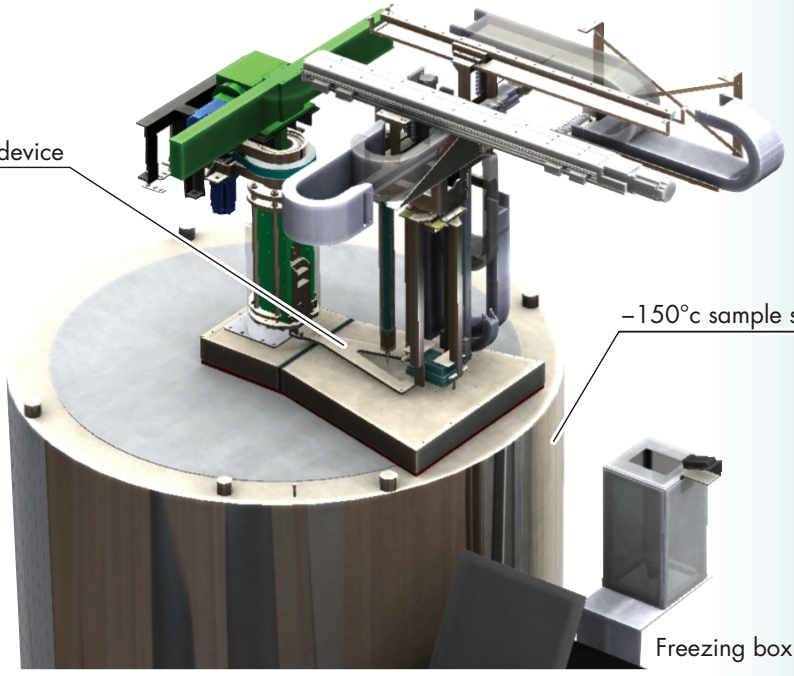
Features

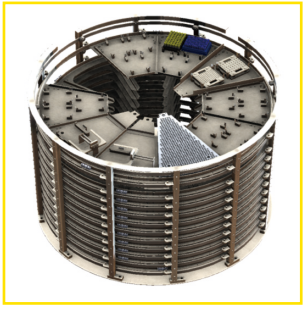
- The unit maintains sample quality because exposure is eliminated through storing and picking at –150°c.
- Exposure of samples when inserting or extracting them is reduced through the use of freezing boxes.
- Samples are picked and transferred accurately and quickly without fail thanks to the outstanding tube gripping and rack-transfer functions—both of which are the result of Labo Stocker's innovations.
- No condensation or frost is generated because the nitrogen environment controls the humidity.
- Tubes of various sizes can be used according to the items being stored.
  The unit can pick a range of tubes from 96-well mini tubes to Cryo tubes.
- Gas phase storage of the liquid nitrogen means the cooling function is maintained even during power cuts or interruptions in the liquid nitrogen supply.
- Operation and management procedures are similar to the Tsubaki Labo Stocker.
  The unit's software functions such as the timer and history management regarding insertion and extraction of samples has already been proved through use in laboratories.



Tube tray in the storage unit







Storage containers within the freezing unit

Specifications

- Machine size : 2,200 W x 2,000 D x 2,850 H
- Storage capacity : 40,000 tubes(96-well 1.3 mℓ screw cap tube) or
  20,000 tubes (48-well 2.3 mℓ screw cap tube)
- Storage temperature : Maintains –150°c in the storage area and the picking area
- Cooling system : liquid nitrogen (gas phase storage)
- Insertion and extraction door : large enough for one 96-well or 48-well rack (SBS-compatible)
- Data management : individual management of samples through 2DC reading
  Automatic indication and history recording for insertion and extraction of samples
  Timer function enables after-hours extraction of samples
  (Collects together the samples to be extracted and then temporarily stores them at –150°c)
  Temperature management monitor and temperature trend management
  Inventory management function
- Option : temperature control through connection with a programming freezer
  24-hour temperature management from the Maintenance center

Tsubaki Labo Picker Mini-Storage

This is an automated storage unit that stores Eppendorf tubes and vials in humidity-free conditions and enables extraction of required samples through picking.



Features

- Improved storage quality of samples through automated storage in humidity-free conditions.
- Highly-capacity storage in a small unit.
- Simplified device and a reduced construction period (approximately two weeks) through integration of the device with the dehumidification unit.

Specifications

- Device size : 3,000 W x 1,100 D x 2,800 H
- Storage capacity : approximately 15,000 samples (vials, Eppendorf tubes, etc.)
- Extraction capacity : 100 samples / 50 minutes
- Storage environment : 18°c +/- 2°c or below / 20% RH (at + 18°c) or below
  In a stable storage environment in which the insertion and extraction door is closed.
  If you wish to store samples in a refrigerated environment (+ 4°c),
  please contact us separately.

Picking unit

We will produce a picking unit to suit the shape of your Eppendorf tubes or vials. So our picking unit can accurately pick each tube and vial without fail.
(The photo below shows the unit for Eppendorf tubes)



Storage unit

We have adopted a system of stacked shelves, from which users can simply pull out the shelf that they require. This system enables you to preserve the picking area. It also ensures the flow of dry refrigerated air in the maintenance area.

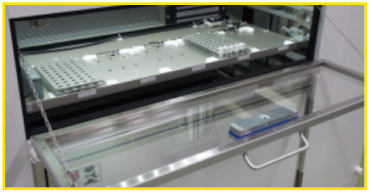


Dehumidification unit

Positioned at the top of the device, the units for dehumidification and cooling, or for refrigeration, are integrated into the device. This design facilitates a stable storage environment while helping reduce the construction period (approximately two weeks).

Insertion and extraction door

We have adopted a wide door that makes inserting and extracting the transfer tray easy.



Operation screen

All operations are carried out from a computer monitor. In addition to the functions for insertion and extraction, the device also has other functions for efficient operation such as taking inventory and rearranging the shelves. In addition, the status of the device is displayed in real-time.



Full automation dispensing system

T-Liquid Handling System

The equipment contains a Dispenser, Capper, Decapper, Auto Sealer, and transfer robots for automated operation up to plate preparation from micro tubes.



Features

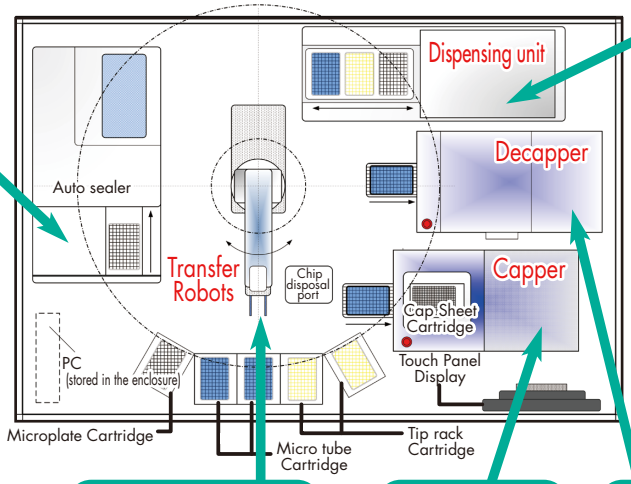
- Simply set the materials required for the workpieces for fully automated plate preparation.
  → Automatically caps and decaps tubes, dispenses, and plate seals.
- Creates data on the dispensing results to correspond to the tube rack ID.
- The system operates on a UPS in case of blackout.
- Each unit can be operated individually.

Specifications

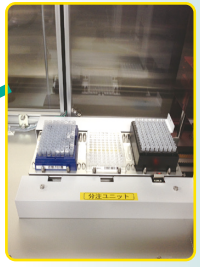
- Device size ：1,800 W x 1,200 D x 1,800 H
- Throughput ：Within 30 minutes/10racks
- Rack set ：Maximum 10racks

Auto sealer

- Non-heating, non-adhesive type
- Film : Made by 3M
  CNTT-150 Roll type
  150m(1250 sheets)
  Made by Kajixx
  CNTT-150K Roll type
  150m(1250 sheets)



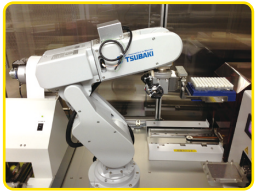
Dispensing unit



- Dispenser mechanism：96-well plunger dispensing head
- Dispensing volume ：10 µℓ ～200 µℓ
- Dispensing accuracy ：CV 3% at 10 µℓ of dispensing
  CV 1.5% at 200 µℓ of dispensing

Standard specifications are stated.
Customization is available on request

Transfer robot

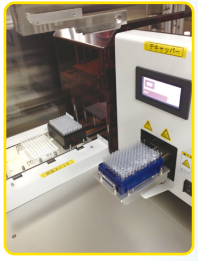


- Vertically articulated robot
- The existence of a lid and the direction of workpieces are checked when a cartridge is set
- The barcode reader checks workpiece IDs

Capper



Decapper



Capper／Decapper

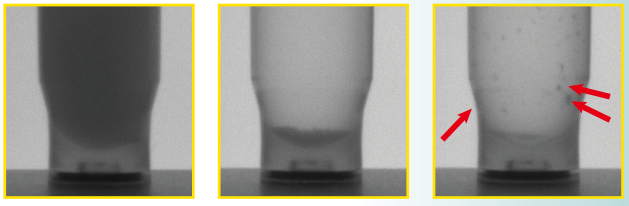
Compatible with more than one type of tube
Cap mats are used for capping

Tsubaki Liquid Checker　Compound dissolution checker

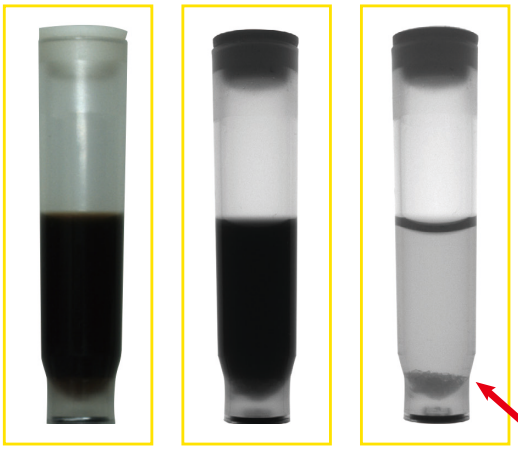
The remaining undissolved matter (degree of dissolution) and the solution volume in the 96 Tubes are detected.
Undissolved matter that affects the variation in concentration in the research processes is automatically assessed.

Features

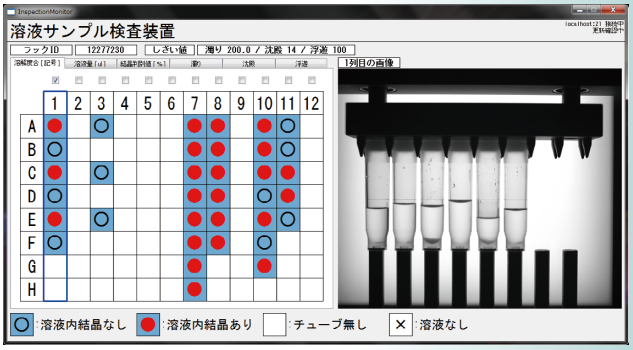
- Dense solution is transmissive.
- Undissolved matter is either cloud, sediment, or float.



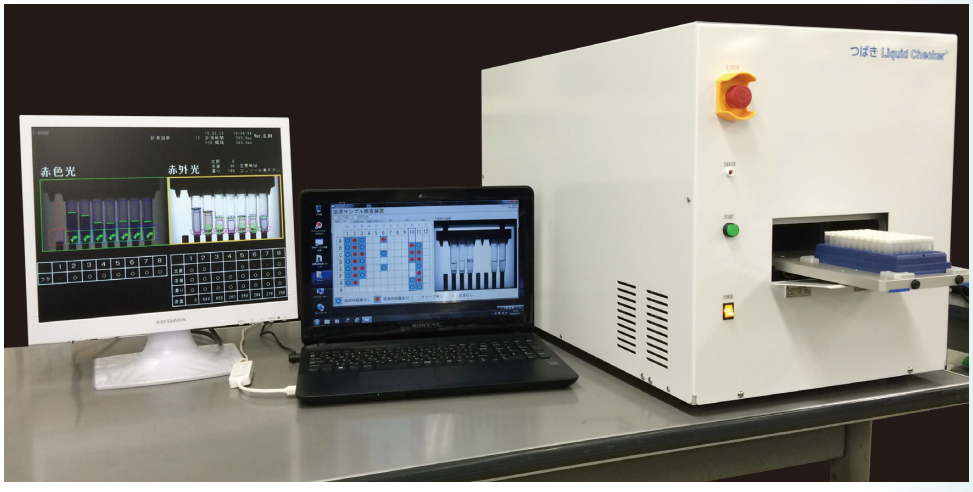
cloud　sediment　float



Soy sauce　Visible light　Special lighting　Undissolved matter



Judement result Screen image



Specifications

- Device size　：580 D x 360 W x 500 H
- Throughput　：90 seconds/rack
- Rack Set　：1 rack
- Judgment method　：Degree of dissolution (judged as cloud, sediment or float), detection of solution boundary height, Solution volume, accuracy

Tsubaki Labo Picker with balance

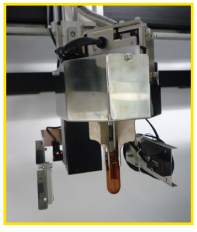
Vials, test tubes, and micro tubes (96-well) controlled per container by the bar code are weighed and the sample weight is managed based on the tare and gross weights.

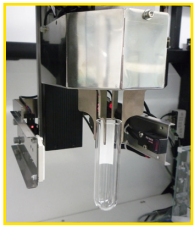


Features

- Weight measurement of vials, test tubes and micro tubes (96-well)
  * Workpieces that can be handled : OD ϕ8 to ϕ38, height 35 mm to 150 mm
    Mass up to 50 g (tare + compound)
  * Submit the container samples for preliminary examination.
- Multi-chuck handling mechanism adopted
- Picking method appropriate for glass containers (torque control)
- The bar code reading pans and the workpiece pans for an electronic balance meet the workpiece size.
- Weighing performance 60 to 80 containers/hour (including bar code reading) *Depends on weighing accuracy.
- Weighing accuracy (repeatability) is 0.12 mg when using the XP504 (according to the supplier brochure)
- Assured management by bar code or 2D code read function
  * Capable of acquisition of 2D Vision output data.
  *The position to attach a bar code or 2D code is examined first.
  *The measurement is not interrupted in the event of a bar code reading error but continues with the next weighing.
- 100V AC single phase 50 Hz with the ground terminal

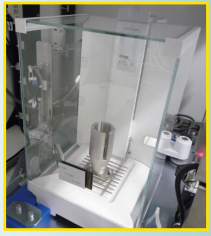
Picking robots

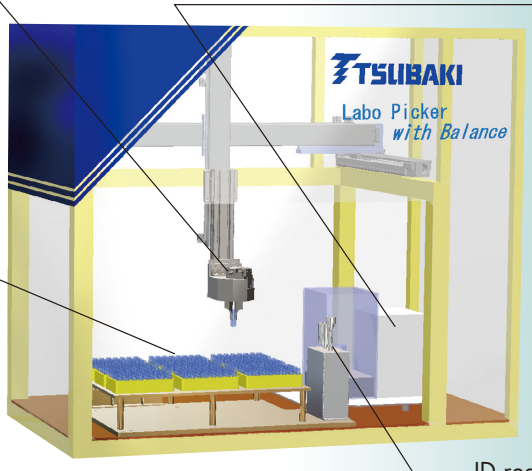




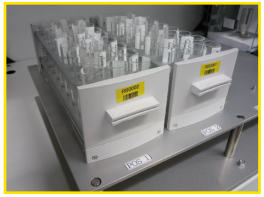
Weighing device

*Mettler Toledo XP504 is used (can be changed on request).

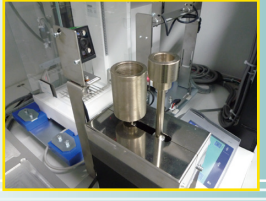




Work Stage



ID reading position



Specifications

- Device size : 1,410 D x 800 W x 1,100 H
  (Table size : 1,800 D x 900 W x 800 H)
- Operation environment : Air-conditioned environment in principle
  (Room temperature 15ºC (to 27ºC, humidity 60% RH or less)
- Weight : 200 kg (Control panel 60 kg)
- Bar code specifications : Code39, Code128, ITF (Interleaved 2 of 5)

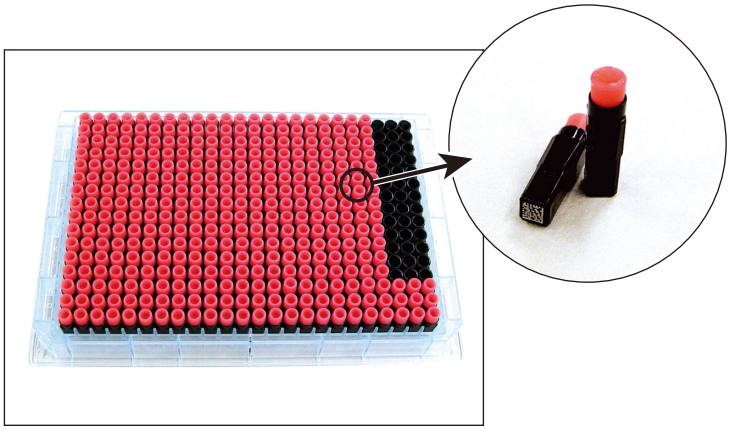
Tsubaki 384 Tube

The Tsubaki 384 tube is a new type of tube worked out to meet the need for storing a minute amount of a sample. Since it has been designed in roughly the same shape as the shallow plate, it can be used in the existing equipment as is. In addition, full advantage can be taken of the fact that, as it is a tube, it is possible to take out only the necessary amount of sample.

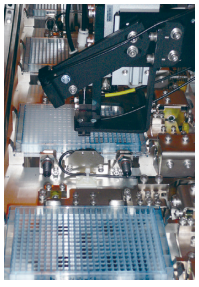
Cap type 384 tube

Features

- An amount of 70 $\mu\ell$ (actual volume: 115 $\mu\ell$) of stored sample has been secured for the tube.
- Tubes with 2D codes marked on the bottom and varicolored tubes are lined up.
- Square shape for easy insertion of dispensing device nozzle.



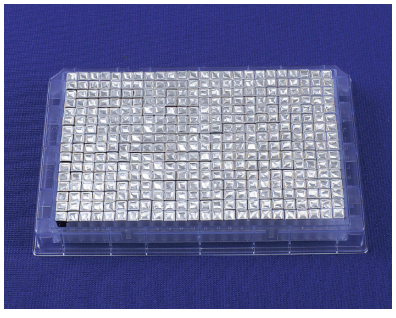
Tube picking Equipment

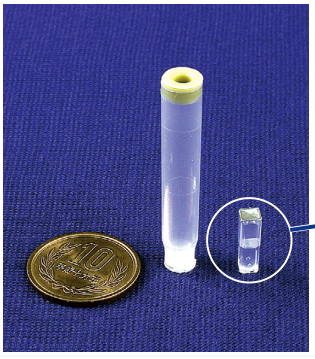


Seal type 384 tube

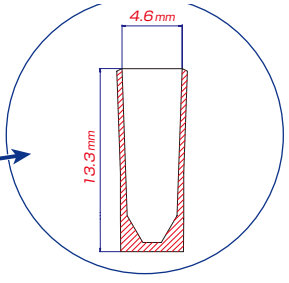
Features

- An amount of 80 $\mu\ell$ (actual volume: 130 $\mu\ell$) of stored sample has been secured for the tube.
- Square shape for easy insertion of the dispensing device nozzle.





Cross-sectional view of 384 tube



Cap type 384 tube peripheral Equipment

Tsubaki 384 Capper

- Caps are automatically attached to the 384 tubes. Compatible with different tube formats.
- Up to 35-cap sheet cartridges are employed for automatic setting of cap sheets.



Tsubaki 384 Decapper

- Caps are easily detached simply by setting the 384 tubes.



Peripheral Equipment

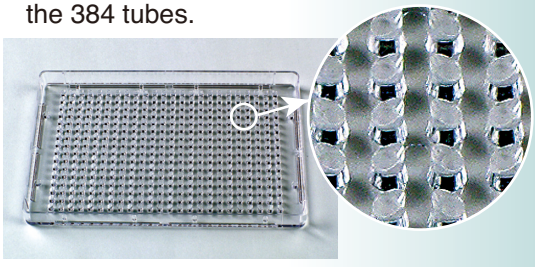
Tsubaki Labo Sealler 384

- Fusion-bonds aluminum seal to the 384 tubes and cuts it, tube by tube.



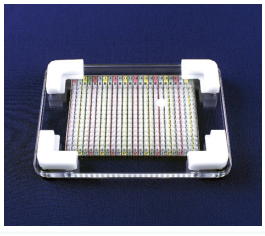
Tsubaki Labo Piercer 384

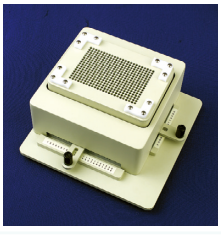
- Makes it easy to open a hole in the aluminum seal for the insertion of the dispensing device nozzle into the 384 tubes.



Tsubaki Manual Picker 384

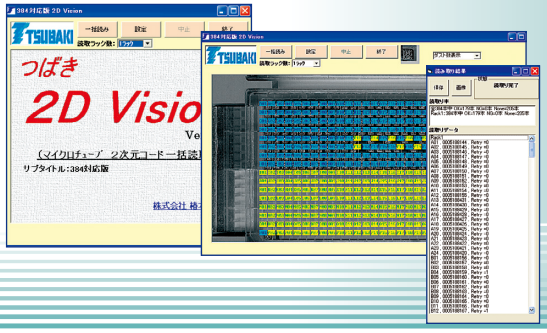
- This equipment is designed to assist the manual picking of 384 tubes and is available in two different types, i.e., the pin type and the ratchet type.





Tsubaki 2D Vision 384

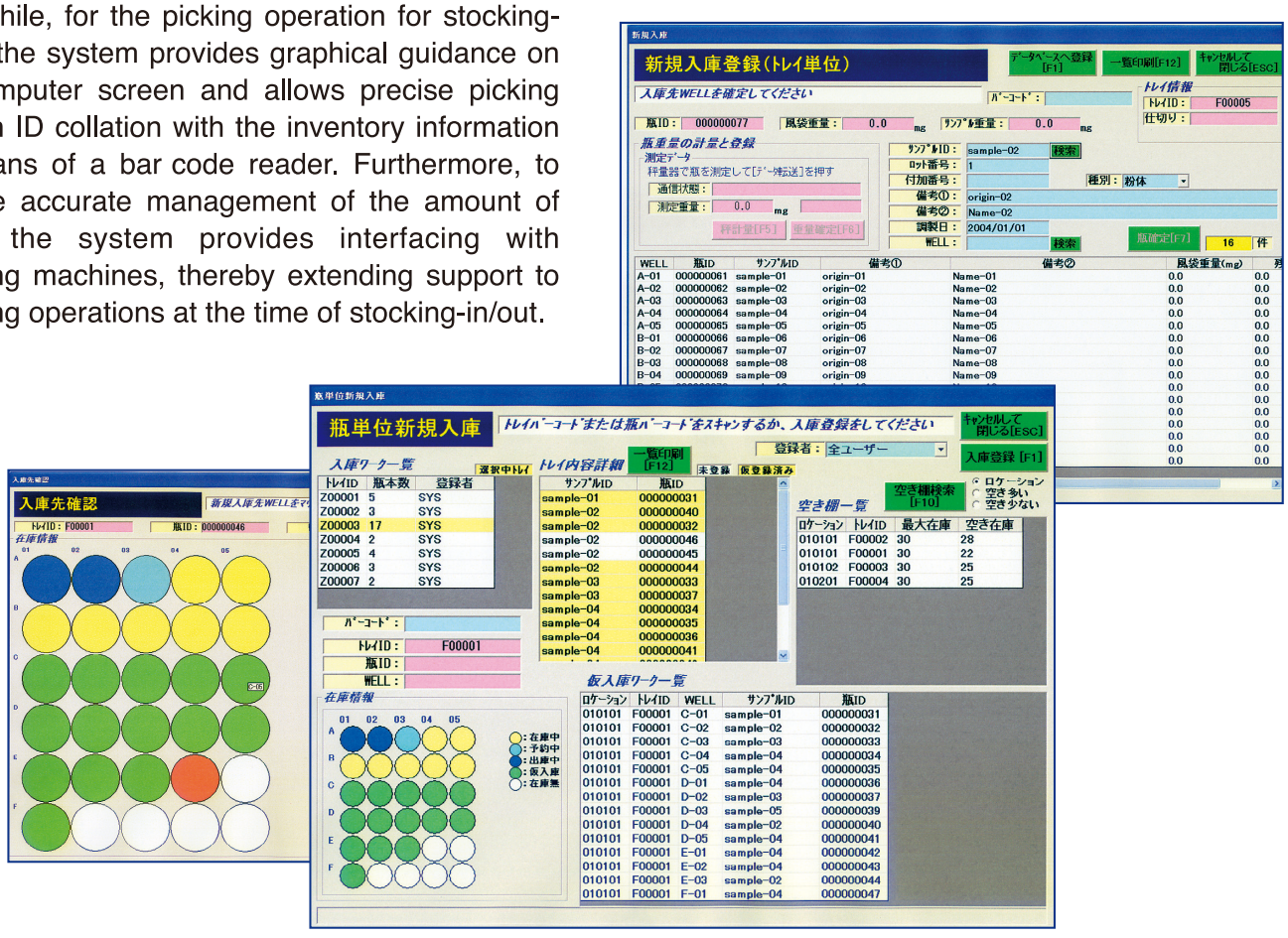
- Used to read the 2D codes marked on the bottoms of microtubes stored on a rack using a scanner and to create 2D code data.

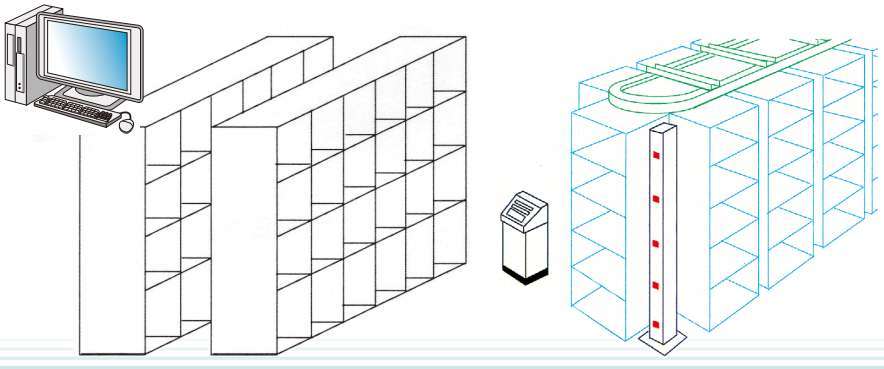


Tsubaki Fixed-Rack Management System

The Tsubaki Fixed-Rack Management System is a support system for exerting inventory control on powdered compound vials, solution compound plates, and vials for DNA/RNA and serums that are stored in freezers and on fixed racks in refrigerating rooms. Numerous control items, such as lot numbers, auxiliary control codes, stock expiration dates and others can be combined for retrieving stock at the time of stocking-out. Meanwhile, for the picking operation for stocking-in/out, the system provides graphical guidance on the computer screen and allows precise picking through ID collation with the inventory information by means of a bar code reader. Furthermore, to achieve accurate management of the amount of stock, the system provides interfacing with weighing machines, thereby extending support to weighing operations at the time of stocking-in/out.

This Fixed-Rack Management System is so engineered that it can serve as a backup storage for the automatic solution storage when used as a part of the Drug Discovery Integrated Management System. Through enhanced coaction with the automatic solution storage, this system constitutes an integrated system that raises work efficiency and attains accurate information transfer based on the linking of information.



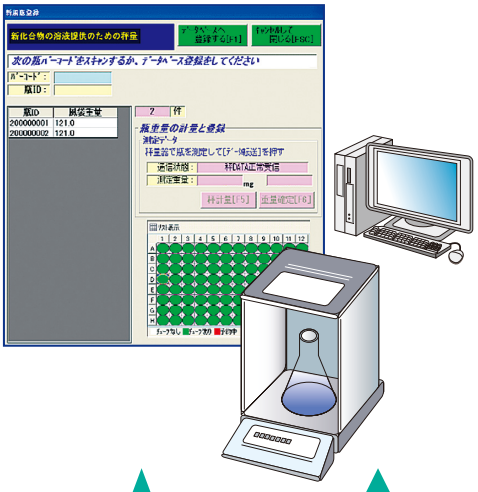


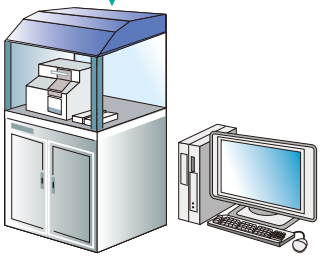
Tsubaki Drug Discovery Integrated Management System

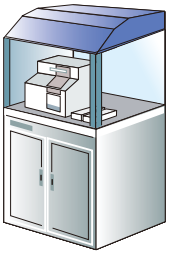
The Drug Discovery Integrated Management System implements the total management of solution compounds and powdered compounds by linking up with the customer's information system and by managing the inventory information of automatic solution storages and automatic powder storages in a centralized manner.

Furthermore, the following functions of the system alleviate the burden of information creation in each process and, at the same time, support precise information transfer:

- Issuance of work instructions to the powder weighing process, solution preparation process, screening plate preparation process and other processes.
- Provision of the function for interfacing with various equipment.
- Information sharing based on the work records of each process.



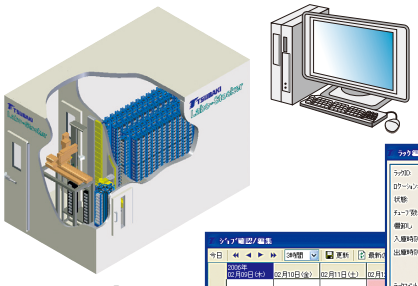




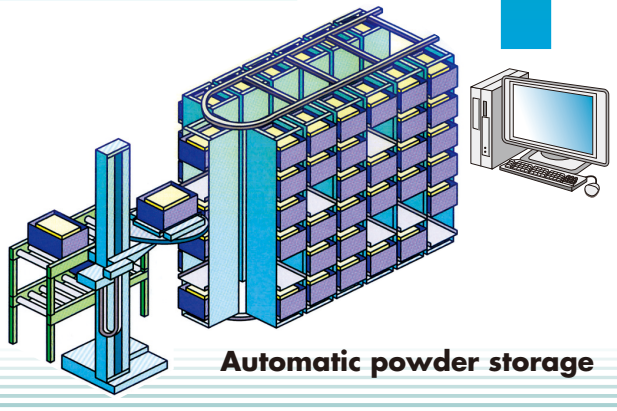
The system secures improved work efficiency in the issuance of solution preparation instructions to the dispensing device and new stocking-in instructions to the automatic solution storage, based on weighing work instructions and work completion information.

When information interfacing is arranged with various dispensing device makers, the system issues dispensing instructions to the dispensing devices based on the report of stocking-out completion from the solution storage. It also instructs stocking-in for restoring according to the dispensing completion report.

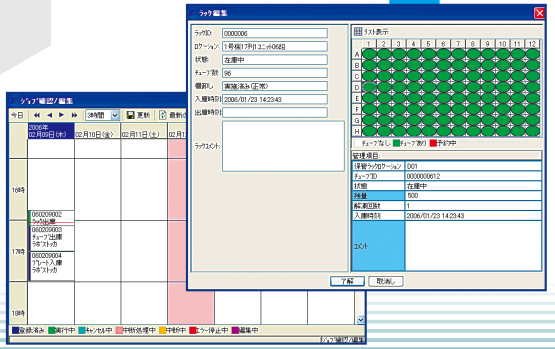
When powder is delivered from the powder storage, the system issues instructions about weighing of powder according to the required volume of solution, and automatically calculates the necessary volume of solvent by its weighing PC, based on the molecular weight, etc.



Automatic solution storage



Automatic powder storage



Tsubaki 2D Vision

The Tsubaki 2D Vision reads, en bloc, the 2D codes that are marked on the bottoms of microtubes stored on racks by means of a scanner, and creates 2D code data.



PC is optional.

Features

- High-precision reading based on unique imaging technology.
- Collective high-speed reading of 96 tubes x 3 racks.
- Linking of rack IDs, tube locations and 2D codes.
- Easy to output and edit data files in CSV format, etc.
- Simple setup (No more than the installation of software on commercial PC and hookup of scanner)

Tsubaki T-Marker Tube printer

The visible information with the tube sample ID is printed on the tube to improve work efficiency.

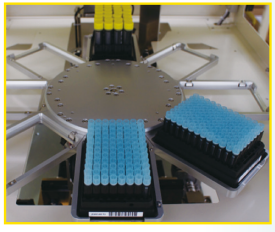


Features

- Inkjet printing method with strong adhesive ink
  → Data can be reliably printed on curved surfaces. Steady printing on PP/PE-based films and glass.
- Print on different mini tubes and jacket tubes
  → Print on diverse tubes has been engineered.
- According to the print file, data are printed on the side surface and an association is created with the bottom 2D
  → Specified letters, such as the sample ID, can be printed.
  → Sample information of the tube can be checked both visually and by the reader.
- After printing, the OCR image reading allows the check of the print output. code and rack ID.
  → Correct letters of the print are checked.

Tsubaki T-Weight Troublesome weighing is automated. —Compound weighing system —

Each tube stored on a rack is rapidly weighed, and the measurements are associated with the bottom 2D code data.





Features

- Rapid weighing using the knock-up method
  → Measurement time is 10 seconds per tube.
- Compatible with more than one type of tube.
  → In addition to the common 96-well type mini tubes, 96-well jacket tubes and 24-well jacket tubes can be weighed.
- The association data between the weight measurement and the bottom 2D code
  → The measurement results are registered in the host system and used as integrated sample management data.

Tsubaki Capper (for 96 micro tubes)

Tsubaki Capper (for 96 micro tubes) is an automation machine to attach a cap sheet on 96 micro tubes in a 96-well rack.



Features

- Compatible with multiple (up to 10) micro tube rack heights (22 mm to 47 mm).
- Cap sheets (TPE push-in cap) can be automatically set by the cartridge (manual handling is also allowed).

Tsubaki Decapper (for 96 micro tubes)

Tsubaki Decapper (for 96 micro tubes) is an automation machine to remove caps on 96 micro tubes in a 96-well rack.



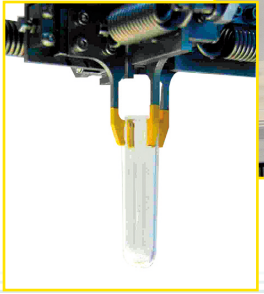
Features

- Compatible with multiple (up to 10) micro tube rack heights (22 mm to 47 mm).

Tsubaki Labo Picker

The Tsubaki Labo Picker picks up and moves vials and microtubes securely from one tray (rack) to another in the required arrangement.





Features

- Automated motions eliminate all human errors.
- Fast processing and reliable picking.
- Automatic weighing and affixing of bar codes to samples is optionally possible.

MEMO

For Safe Operation

WARNING

To prevent risks, follow the precautions noted below.

1. When using the products contained in this catalog, abide by the applicable safety-related laws and regulations (Rules on occupational safety and health, etc.).
2. To install or remove the product or to perform check and maintenance on it, follow the relevant instruction manual.

CAUTION

To prevent accidents, be sure to observe the precautions noted below.

1. Before using this product, read the catalog and instruction manual carefully for proper use.
2. Do not attempt to reassemble any parts of the product or to additionally process the product for modification.
3. Replacement of parts and repairs should be conducted by skilled technical personnel using genuine parts from Tsubakimoto Chain Co.

TSUBAKI

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http://www.tsubakimoto.com

The Tsubaki Eco Link logo is used only on products that satisfy the standards for environmental friendliness set by the Tsubaki Group

■ Note

1.The specifications, dimensions and other particulars specified in this catalog are subject to change for improvement. Before designing your system, please consult with Tsubakimoto Chain Co.

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