Wako Pure Chemical Industries, Ltd. was founded in 1922 and has been engaged in the development and manufacture of high-quality products as a comprehensive reagent manufacturer capable of meeting the needs of cutting-edge research. At present, we are focusing on three key operational areas, namely, Laboratory Chemicals, Specialty Chemicals, and Diagnostic Reagents. Our core competitiveness lies in the technological strength which creates innovative products of the highest quality. We utilize our unique technological capabilities to progress as a global corporation.

The DJK Group began as a machinery trading firm specializing in supplying production Machinery and systems to improve industrial productivity. Today, by building partnerships for the age of globalization and improving our own capabilities, we are transforming the DJK Group into a full-service engineering enterprise – a solution provider that integrates machinery, technologies, and services. This strategic move “makes the most of our advanced technology, and the wisdom of our predecessors, and the skills of our outstanding human resources – in essence, bringing all these strengths together to create new value and guarantee a prosperous future.”

DAIICHI JITSUGYO CO., LTD.

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Industrial Screening System

HORNET-KL

Reliable, Productive, and Flexible

Industrial Automation

Kalypsys Systems products include large and small automated robotic systems, a reagent transfer workstation, a protein production/industrial purification system, a 1836 well washer/dispenser workstation, an automated plate storage and cell incubator, and our world famous patented plate lid technology. This suite of products allows for an increase in productivity and reliability that is unmatched in the area of automated screening.

Advantages

- Scheduling software - allows for interleaving of assays
- Fastest, most reliable cell incubator
- Storage capacity - capacity from 50,000 to well over 2 million wells
- Flexible assay formats and detection technologies - 1036 well wide well imaging
- FLIPI, AssayTrack, FP-TRANET, FLU-ABS, SPA and more
- One vendor - dispensers, reagent transfer stations, incubators, storage and integration all from a single vendor: OH
- Custom solutions - integrate a wide range of 3rd party dispensers, readers, pipetters, reagent transfer devices (acoustic dispensers) and other equipment
- Robust design - devices can be repaired for millions of use
- Industrial design - reliability that allows for confident 24/7 operation
- 1036- and 96-well screening - designed from the outset to meet the challenges of 1036 well screening
- Proprietary lids - virtually eliminates edge effects in 1036 well assays

- Low PTFE input
- 96, 384, 1036 well capable
- Highly Efficient
- Highly Accurate
- Robust Technology
- Optimized for small, DNA, and proteins
- Environmental flexibility and control
- Novel Aspiration Technology
- Highly Modular (molecular) and Flexible Format

Applications

- HTS (High throughput screening)
- Compound profiling
- RNA screening
- Antibody screening

Plate Storage & Cell Incubator

- High capacity for cell storage with incredible speed
- Simple Design - High Reliability
HORNET-KL | Liquid Handler
1536/384 Dispenser/Washer

Robust, Configurable, and Accurate
Kalypsys’ industrially designed 1536 wet washer/dispenser is an extremely robust and highly configurable device. The dispenser is routinely used to accurately plate a variety of cell types, bulk reagents, and/or SPA beads. Tips are separate from the more expensive valves and can easily be changed in seconds.

**Advantages**
- Dispense any volume of up to 16 different reagents into each well of a plate
- Any tip can reach any well on a plate
- Accurately dispenses DHO, HRS100, primary cells, and more
- Industry-leading 1536 wet washer can be used for ELSDAs or cell washing
- Configurable as a 1634 wet SPA dispenser with virtually no bead waste
- Oranges tips and/or valves in less than 1 minute

**Specifications**
- Maximum Dispense Volume: 200 μL/well 95% CV
- Maximum Baseline Volume of Aspirate: 50 μL/well
- 12 x 384 plates at 50 μL/plate ≤ 10 seconds
- 12 x 384 plates at 250 μL/plate ≤ 90 seconds
- 12 x 384 plates at 250 μL/plate ≤ 90 seconds
- One straight 8-tip dispensing head
- One straight 24-tip dispensing head
- One 24-tip or six 6-tip aspiration head

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HORNET-KL | Clog Detection & Recovery
Dispense Inspection System

Allows for Unattended 24/7 Dispensing
Kalypsys’ dispense inspection system provides closed-loop control of dispensing for Kalypsys’ proprietary dispenser and other 3rd party dispense systems. The dispense inspection system provides fast and immediate feedback on dispenser performance and can alert an operator to full and partial clogs, and recover by turning off a clogged tip and utilizing a different tip to compensate. The optically based system is capable of inspecting a wide range of plates and reagents: 384, 1536 and 3456-well, black & white, solid and clear bottom plates. The system is ideally suited for monitoring clogging prone dispense steps such as cell and SPA bead dispensing.

**Advantages**
- 100% inspection of dispense steps
- Fast, non-contact inspection
- Acceptance threshold can be set by operator
- Images & inspection data are linked to plates by barcode
- Remote viewing of inspection & images
- Automated clog recovery
Compact Screening System
HORNET-NX

HTS is not just about High-throughput Any more

Wako has redefined automation for high-throughput screening systems in a new collaborative effort with Kalypsys known globally for reliability, innovative solutions and more. Wako is leveraging its manufacturing expertise with the drug discovery expertise of Kalypsys to deliver higher levels of automation to the life science industry.

Advantages

• Reliability
  Designed to give customers the genuine value of fully integrated factory automation: trust 24/7 untended, reliable operation.
  • High-Speed
  Delivering < 1 ml/1536-well Microwell throughput with high data integrity, resulting in high productivity and faster return on investment.
  • Small Footprint
  The modular HTS system is scalable to provide high-throughput capacity - from small to large labs effectively.
  • Support
  Offering a global support network from The DJK Group and Wako, for equipment, application support and development.
  • Flexible Module Configuration
  Scalable, efficient and accurate 1 ml HTS modules can be configured to meet the needs of most applications and protocols. Ready to be integrated with current and other products and as flexible as your projects - from research to Discovery.

• Dynamic Intelligent Software
  Real-time assay QC prevents failures and increases productivity by identifying errors and allowing mid-screen corrections. Dynamic parameter modification increases assay integrity and data quality, and rescheduling provides robust support for easily scalable recovery, in the event of an error.
  • New Compound Transfer
  Pre-manipulation and wash times are increased, reducing carryover without reducing throughput.
  • New Dispenser / Washer
  Unique dead-volume and wash increases productivity and minimizes re-processing your investment while maintaining effectiveness.
  • Parallel Functionality
  With the ability to schedule two assays up to two weeks in advance, continuous parallel processing mode allows two assays to run simultaneously.
  In stand-alone mode, modules may be used to dispense/wash plates, transfer reagents, or read plates individually while the rest of the system is running or during "satisfies".

Applications

• Drug discovery and biochemical screens.
• High-throughput Screening
• Cell-Based Assay
• Reporter Binding Assay
• ELISA
• Enzyme Assay
• ADME / Tox
• DNA Transfection
• Assay Preparation
• Plate Relabeling / Replication
• Genotoxic
• Cell Imaging: Vitality and Washing
• ADME / Tox
• AVP - Body Screening
• Animal Study

Software

"This software is designed for flexibility, integrated by any way."
Module Line-up, Specifications

The modular design increases flexibility. You can increase/decrease/exchange modules easily.

- **Master Controller**: The compact, fully designed unit is designed for streamline operation and GxP management, and allows for dynamic scheduling changes.

- **Lab ware Feeder**: The feeder is incredibly fast, robust, and easy to operate. It can store up to 200 plates with ease. High-speed unloading is supported as well.

- **Plate Handler**: The dual-parallel robotic arm coupler with a gripper arm and manipulator is highly flexible. Multiple interchangeable gripper, station, barcode reader, and micro titration are available.

- **Dispenser / Washer**: The robust, high-speed dispenser and washer can handle multiple wash and dispensing operations. Maximum Dispenser Volume: 100 ml Repeat CV 95% Max Dispenser Volume: 1000 ml Repeat CV 95% Maximum Residual Volume: 600 ml Maximum in and Efficiency of Ice Slurry is under development. Studies are expected to reduce ice slurry.

- **Pin Tool and Pipetter**: It operates both 384/608 Pin Tool Heads and 384/1536 Pipette heads. The high-speed Pin Tool Heads can automatically exchange in the lab, while other heads can be interchanged. Each exchange can be performed within 1 minute with a 95% CV. It can perform custom deck layouts and provide other options, such as tip washers and extractors.

- **Roll-up Unit**: A flexible, modular system allows you to run a wide range of assays. Designed for optimal integration of your centrifuge plate washer, plate reader or whatever equipment your research requires.

- **Lab ware Depot**: The compact, fully designed unit is designed for streamline operation and GxP management, and allows for dynamic scheduling changes. It can store up to 200 plates with ease. High-speed unloading is supported as well. The Lab ware Depot is automatically inventory all plates stored in the system.

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**System Configuration Possibilities**

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High-Speed Microplate Reader

**MPR-W01**

**High Performance CCD Based Multi-Mode Microplate Reader**

**Advantages**
- **High-Speed**
  - Less than 1 minute / 1536-well microplates in all detection modes.
- **High-Sensitivity / Wide Dynamic Range**
  - Utilizes High Sensitive CCD Camera without cumbersome external chillers.
- **Utilizes LED**
  - Allows Extended Emission
- **Multi-Mode Reading**
  - Fluorescence, Fluorescence Polarization, TR-FRET
  - Luminescence, Absorbance (optional)
- **Programmable Top and Bottom reading available in one configuration**
- **Capable of reading 96 to 1536-well Microplates**
  - (3456-well Microplates, capability under development)
- **Auto Calibation** (under development)

**Applications**
- Luciferase reporter assay
- FRET, FRET-based assay
- ELISA
- GPCR Research
- GPCR Luminescence assay
- Membrane interactions Research

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Microplate Centrifuge and Plate Washer

**Gyro Washer Series**

**Microplate Centrifuge and Plate Washing System has changed Washing!**

**Advantages**
- **Single step plate washing utilizing centrifugation to remove reagents.**
- **Degasging of reagents in the plate is also possible.**
- **Uses spin speed to adjust amount of residual reagent left in wells or adjust to remove 100% of reagents.**

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Microplate Auto Sealer

**MS-702Ex**

**Never Worry Again about Heat Damage to Important Samples.**

**Advantages**
- **Low Sealing temperature: 100-200 degrees C.**
- **One configuration seals a wide variety of microplates.**
- **Airless Operation.**
- **Automated sealing of mixed microplate types.**
- **Integration into fully automated robotic systems is possible.**
- **Solvents resistant seal (DMSO/DMF).**

**Specifications**
- Sealing temperature: 120 degrees C
- Processing speed: Approx. 450mm per plate
- Tube type: Glass, Polypropylene, Polyethylene, PPC, Westermann, , Funnel, 50mL
- Method Activation: Hard switch or Foot switch (100W)
- Dimension (LxWxH): 3100 x 450 x 1150
- Power supply: AC100V 50/60Hz 500W

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Compound Library Warehouse

**Auto Bank Compact**

**From Small to Large, Expandable.**

This is the optimal compact library store for a university and a research institute, etc. It’s development is based on a high reliability product that is proven in major pharmaceutical company and has an impeccable track record.

**Advantages**
- **Flexible accepts a wide variety of compound library formats in wide variety of containers.**
- **Highly Secure System.**
- **Start with a compact design expandable for future needs.**

**Specifications (Example)**
- **Sample**
  - Capacity: 1,000
- **Temperature**
  - Control: ±5 degrees C
  - Maximum temperature: 30°C
  - Minimum temperature: -20°C
- **Humidity**
  - Relative humidity: 20-90%
- **Security**
  - Alarm monitor, Security monitor, Security lock, Security alarm system

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