From the foot of Mt. Fuji to the WORLD

TOKAI HIT will...
Pursue the joy of inspiring our customers.
Manufacture products conscientiously.
Contribute to our community and society.

Tokai Hit Official character
Tokai Twins Mikan & Charly

TOKAI HIT Co., Ltd.

306-1, Gendoji-cho, Fujinomiya-shi,
Shizuoka-ken, Japan 418-0074
Phone: +81 544 24 6699 FAX: +81 544 24 6641
E-mail: solution@tokaihit.com

It is essential to read the instruction manual before using these devices.

■ Catalog printed May 2025.

■ Specifications and products in the catalog are subject to change without any obligation to the part of the distributor/manufacturer.

■ Copying and replication of the contents of these images and pictures are strictly prohibited. All Rights Reserved.

CA-LEGEN-EN-08

for Leica Microsystems

All for living cells,
All for your imaging.

Enclosure for microscopes

WarmingBox® for Leica DMi8

All for Living cells for your imaging®

First of its kind!
The first enclosure aimed to optimize the sample temperature from beneath the vessel.

Focusing on optimizing temperature from below!

◆ Nosepiece Heater

Heats the nosepiece (revolver) area for better sample temperature uniformity and keeps the sample temperature stable even when the front panel is opened.

Optimize temperature inside the box with double heaters!

◆ Panel Heater

Heats up inside of the enclosure and protects from temperature disturbances from the outside environment.

Benefits of under-vessel control

- The installation of the lens heater used in the Stage Top Incubator is no longer necessary!
- The sample temperature on well plates is completely stable by using it with Stage Top Incubator!
- Opening the door won't affect the sample temperature!

HeLa cells (96 well) →

Courtesy of Naoki Komatsu and Atsushi Miyawaki, Laboratory for Cell Function Dynamics, RIKEN Center for Brain Science

● Duct-free design

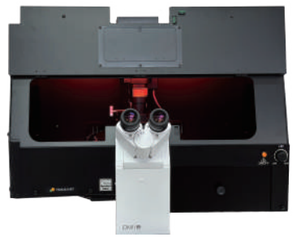
Compact design but keeps the temperature performance up by using both Nosepiece Heater and Panel Heaters.

● Easy pillar tilting

Can tilt the pillar without opening the top panel of the enclosure.

● Switchable LED light

Can turn ON/OFF the LED with IR motion sensor, LED color can be changed between white and red.



● Legless design

Achieves great compatibility with other devices.

● Eco-Friendly, Save Energy

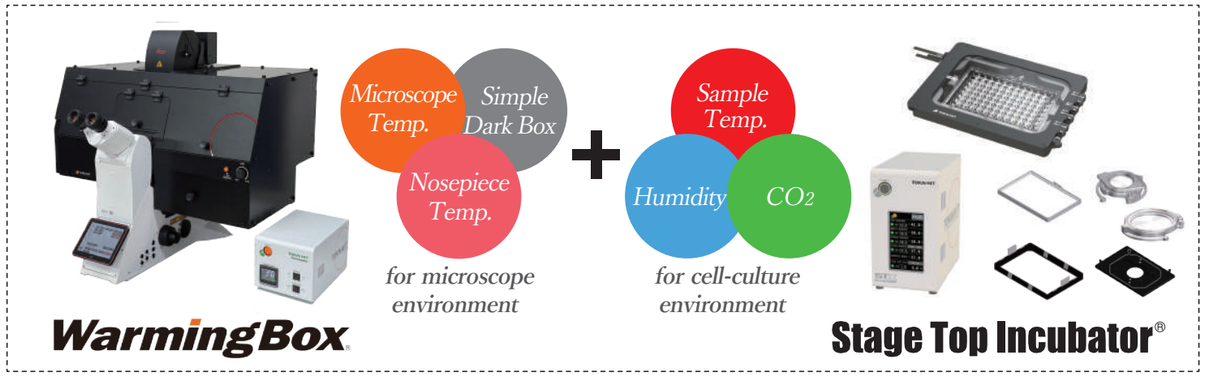
The maximum power consumption is only 108W. Compared to the conventional series, it is cut by more than half.

WarmingBox Line-up

Microscope	Color	Model
DMi8	Black type	**DMI8WB-BK**
	Front-clear type	**DMI8WB-CL**

＊Depending on the accessories (camera, stage etc.), the model can be customized model. Please contact us for details.

Package Contents



Incubation System for microscopes

STX Stage Top Incubator®

Offers precision temperature, humidity and CO_2 control for your cell culture on a microscope.
Enables Time-Lapse Imaging of short and long term (more than 2 weeks) experiments.

Happiness for Cells, Success for Researchers

RELIABILITY meets INNOVATION

With a stable cell culture environment, ease of use, support for a wide range of applications, and the ability to tailor to your work, we meet the needs of researchers.

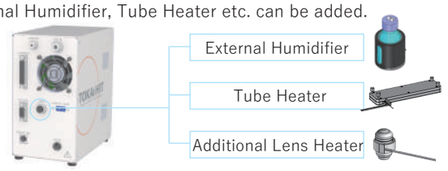
NEW

Controller dimensions
W110×D208×H206(mm)

40% more compact
compared to the previous version!

SUB HEATER port

Equipped with SUB Heater port as standard. Items such as External Humidifier, Tube Heater etc. can be added.



TOP HEATER Auto-Calibration

With a single click, the optimal temperature of the TOP HEATER is determined according to your environment.

Tap Calibration
↓
Turn on Sample feedback
↓
Automatically saves in Top Heater SV
↓
Calibration finish

Variety of options

A wide range of add-on options, such as culture under perfusion and pressure control, are available to meet your various needs.

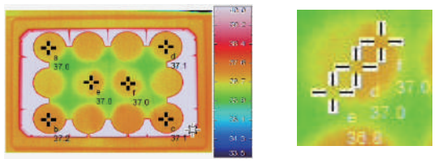
Pressure perfusion system

Dish Attachment for ibidi μ-slide

Accurate and uniform temperature

TOKAI HIT Heating Quality

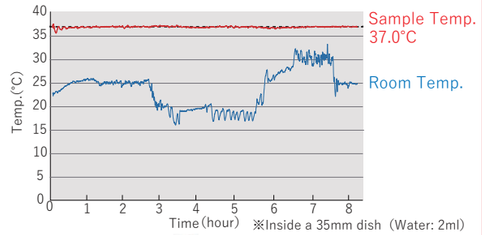
Tokai Hit's original Top Heater is proven to distribute heat uniformly within the Chamber regardless of the type of vessel.



Uniform temperature distribution between wells and within a well.

Real-time Sample Feedback Regulation

Sterilized temperature sensors and magnetic lids make it easy to measure the temperature of the culture media for your research needs. The controller regulates the heater based on the sensor signal to keep the sample at the target temperature accurately.



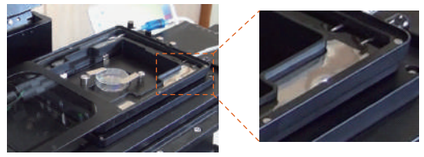
No risk of collision with objective lens

With unique Top Heater Heating regulation, the bottom of the Chamber is accessible for a variety of objective lenses.
(No metal plate on the bottom.)

Measure the actual temperature of the culture media with the attached autoclavable sensor.

Maintains high humidity

The built-in internal humidifier minimizes the change in concentration of the media by heating the distilled water of the water reservoir to maintain high humidity levels.



Internal humidifier by Bath Heater

Stable CO_2 environment

The controller mixes 100%CO_2 gas and the surrounding air automatically. Stable gas concentration inside the Chamber is kept by sending the mixed gas continuously.
(※example of controller with a built-in digital gas mixer)

※CO_2 concentration can be adjusted from 5.0～20.0%.

WSKMX Series

- Leica manual/motorized stage
- Sample temperature：25～45°C
- For well-plate and small vessels (Multi Well Plate, 35mm dish, 60mm dish, Slide Glass, Chamber Slide, Chambered Coverglass)

For 100%CO_2 gas cylinder Model **STXG-WSKMX-SET**

For premixed gas cylinder Model **STXF-WSKMX-SET**

MCX Series

- Leica Mica
- Sample temperature：25～45°C
- For well-plate and small vessels (Multi Well Plate, 35mm dish, 60mm dish, Slide Glass, Chamber Slide, Chambered Coverglass)

For 100%CO_2 gas cylinder Model **STXG-MCX-SET**

For premixed gas cylinder Model **STXF-MCX-SET**

DMIWX Series

- Leica manual/motorized stage (with Laser Safety Hood)
- Sample temperature：25～45°C
- For well-plate and small vessels (Multi Well Plate, 35mm dish, 60mm dish, Slide Glass, Chamber Slide, Chambered Coverglass)

For 100%CO_2 gas cylinder Model **STXG-DMIWX-SET**

For premixed gas cylinder Model **STXF-DMIWX-SET**

GSI2X Series

- Leica SP8/SP5 Super Z Galvo stage
- Sample temperature：25～45°C
- For small vessels (35mm dish, 60mm dish, Slide Glass, Chamber Slide, Chambered Coverglass)

For 100%CO_2 gas cylinder Model **STXG-IXZWX-SET**

For premixed gas cylinder Model **STXF-IXZWX-SET**

SCANPZX Series

- Z-Piezo 158204121
- External Humidifier is included as standard
- Sample temperature：25～45°C
- For well-plate and small vessels (Multi Well Plate, 35mm dish, 60mm dish, Slide Glass, Chamber Slide, Chambered Coverglass)

For 100%CO_2 gas cylinder Model **STXG-SCANPZX-SET**

For premixed gas cylinder Model **STXF-SCANPZX-SET**

WELSX Series

- Leica manual/motorized/mechanical stage
- Chamber size is the same as well plate
- Sample temperature：25～45°C
- For small vessels (35mm dish, 60mm dish, Slide Glass, Chamber Slide, Chambered Coverglass)

For 100%CO_2 gas cylinder Model **STXG-WELSX-SET**

For premixed gas cylinder Model **STXF-WELSX-SET**

Chamber Components

Top Heater
Main heater which heats the specimen uniformly from above by radiation heat. The transparent glass heater prevents condensation and supports clear visibility.

Dish Fixing Lid
Easy securing of vessels with magnetic lid.

Dish Attachment
Supports 35mm dishes, 60mm dishes, chamber slides, slide glasses, chambered coverglasses and wellplates by changing the magnetic holder.

Water Reservoir
Bath Heater is embedded under the water reservoir and generates high humidity inside the chamber.

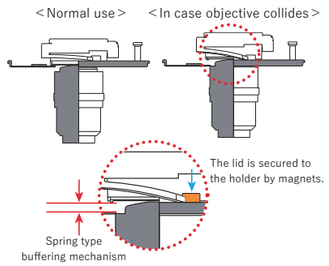
Access Ports
For temperature sensors and tubings for media exchange and drug delivery.

Lens Heater
Prevents the sample temperature from escaping to the objective lens. Especially effective under high magnification, oil/water immersion observation.
* Possible to accommodate objectives up to ϕ40mm. Thin type and wide type are available.

Stable and easy securing

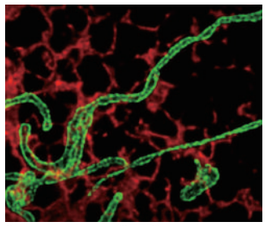
Magnetic Lid

In case the objective collides with the bottom of the dish, a spring type buffering mechanism prevents damage of the dish/objective.

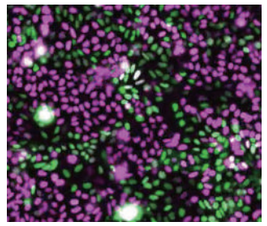


Stage Top Incubator Culture Results

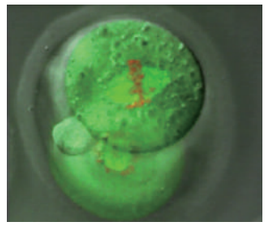
Type	Name	Details	Period
Cultured Cell	STO	Embryo; fibroblast, mouse	Over 5 days
Cultured Cell	PC12	Pheochromocytoma; adrenal gland, rat (male)	Over 5 days
Cultured Cell	Hela	Adenocarcinoma; cervix, human (female, 31 years)	Over 5 days
Primary	Human Embryo	Human embryo in vitro; form fertilization to hatching blastocys	Over 7 days
Primary	Neurons	Development of rat cerebral cortical neurons	Over 4 days
Primary	Neural Stem Cells	Proliferation of neural stem cells of 14-day-old rat embryo	Over 7 days
Primary	Neural Stem Cells	Differentiation of rat neural stem cells to neurons and glial ce	Over 7 days
Primary	Hippocampal Neuron	E18 rat hippocampal neurons, cultured in CO_2 incubator for the first day	Over 3 days
Primary	Cardiac Myocite	Neonatal rat heart, fetal mouse, heart beat synchronization	Over 3 days



Super-resolution (STED) imaging of mitochondria
Courtesy of Dr. Simon Watkins and Dr. Claudette St. Croix Center for Biologic Imaging, University of Pittsburgh



Cell cycle progression in HeLa cells
Courtesy of N. Komatsu, A. Sakaue-Sawano, and A. Miyawaki Center for Brain Science, RIKEN



Fertilized egg development
Courtesy of Dr. Kazuo Yamagata Department of Genetic Engineering, Kindai University

SET model

All Dish Attachments and Dish Fixing Lids are included as standard.

・Controller

Model
STXG (For 100%CO_2 gas use)
Size：W151×D263×H196
or
STXF (For premixed gas use)
Size：W151×D298×H196

・Chamber

Model (Example)
WSKMX

・Feedback Sensor

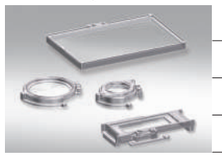
Model
TSU-200F

・Extension wire
・Software STX-APP
(Compatible with LAS-X)
・USB cable
・Gas tube

・Dish Attachments

Model	
ATX-W	For well-plate
ATX-A	For ATX-D, ATX-CSG
ATX-D	For 35mm/60mm dish
ATX-CSG	For slide glass, chamber slide, and chambered coverglass

・Dish Fixing Lids



Model	
LX-W	For well-plate
LX-D35	For 35mm dish
LX-D56	For 60mm dish
LX-CSG	For slide glass, chamber slide, and chambered coverglass

Options

・Stage Adapter

Model **GSI2X-K**
For GSI2X
For XY manual/motorized stage
with 160×110 (mm) opening

Model **WELSX-K**
For WELSX
For XY manual/motorized stage
with 160×110 (mm) opening

・Dish Attachments

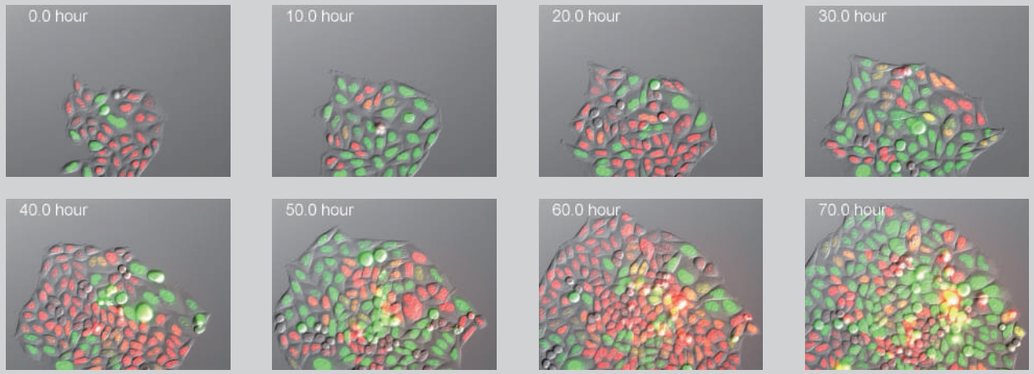
Model
UNIV2-D35-2
For two 35mm dishes

Model
UNIV2-D35-4
For four 35mm dishes

Model
UNIV2-D35-6
For six 35mm dishes

Model
UNIV2-IBMS
For ibidi μ-slide
＊The container can be held from the side to see the entire bottom surface.

＊We also have dish attachments for three and five 35mm dishes.



Courtesy of: Tetushi Hoshida, Asako Sakaue-Sawano, Atsushi Miyawaki, RIKEN

Cooling/Heating Chamber

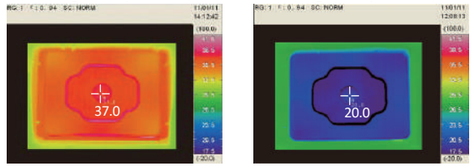
*Cooling/Heating Chamber is not CE compliant.

Sample temperature：15～40°C（with dry lens）／20～40°C（with oil/water immersion lens）

■ Uniform Temperature Distribution

Normally, it is difficult to control the sample around room temperature because the difference between room temperature and the sample temperature is small. Since the KRi series has both cooling and heating functions independently, it can control the temperature precisely.

Heating（Sample: 37°C）　Cooling（Sample: 20°C）



KRiX Series

- For Leica manual/motorized stage
- With Chiller Unit
- Sample Feedback regulation
- For small vessels　35 mm dish　Slide Glass　Chamber Slide　Chambered Coverglass

For 100%CO_2 gas cylinder　Model **STXGC-KRiX-SET**

For premixed gas cylinder　Model **STXFC-KRiX-SET**

・Dish Attachments

For 35mm dish
Cooling/Heating　Model **KRiX-D35**
Heating only (optional)　Model **ATX-D**

For slide glass, chamber slide, and chambered coverglass
Cooling/Heating　Model **KRiX-CSG**
Heating only (optional)　Model **ATX-CSG**

＊Each Dish Attachment (For Cooling/Heating) is included as standard.

・Dish Fixing Lids

For 35mm dish
(Included as standard)　Model **LX-D35**

For slide glass, chamber slide, and chambered coverglass
(Included as standard)　Model **LX-CSG**

For upright microscopes

Sample temperature：37°C

UKX Series

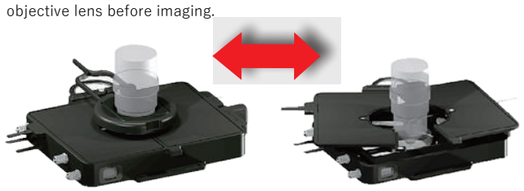
- For most XY stages and fixed stage
- For small vessels　35 mm dish　50 mm dish　60 mm dish　Slide Glass

For 100%CO_2 gas cylinder　Model **STXG-UKX-SET**

For premixed gas cylinder　Model **STXF-UKX-SET**

■Openable Top Heater

The metal Top Heater with this function makes it easy to position the objective lens before imaging.



・Dish Attachment

For 35mm dish	**UKX-D35**
For 50/60mm dish	**UKX-D56**
For slide glass	**UKX-SG**

＊One Dish Attachment is included as standard

・Bracket

For manual stage	**UKX-STD**
For Narishige fixed stage	**UKX-FNS**
For Prior Z-deck	**UKX-ZD**
For stages with 160×110mm opening	**UKX-SPC-3**

＊One-set is included as standard

・Lens Heater

Lens Heater	**UKX-LHD**

＊Lens Heater is included as standard

・Lens Heater Options

Lens Heater Adapter	**UKX-LHA-□□**
Seal Ring	**TMU-□□**

＊□□ contains the diameter of the objective
One-set is included as standard

Add-on options

We offer suitable solutions depending on your experiments.

Program fluidic control system

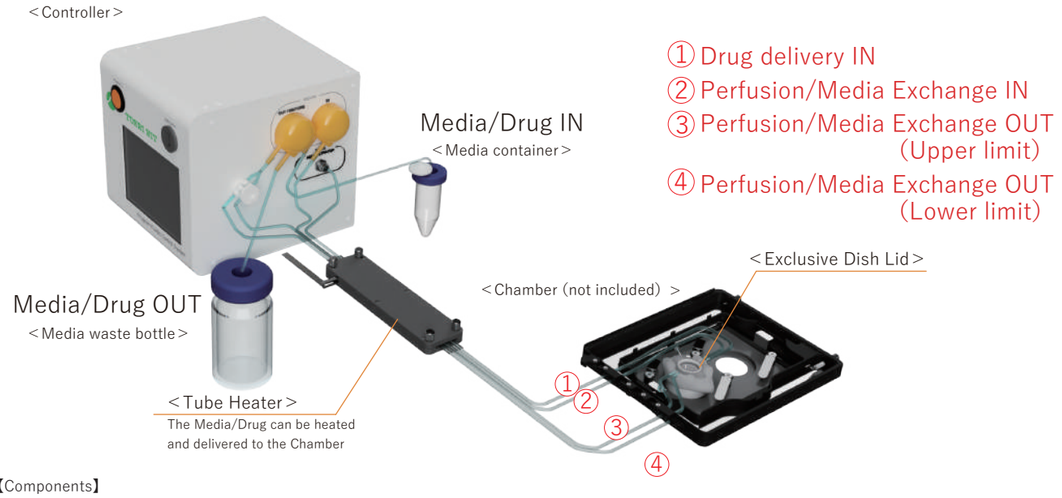
Perfusion, Media Exchange, Drug Delivery and Mixing

Perfusion, Media Exchange, Drug Delivery and Mixing can be easily programmed and performed without disturbing your sample.

Model **PMD-D35**

※For STX/STR/INU Chamber
※For 35mm dish

【Specifications】
Continuous Perfusion：40～100μL/min
Media Exchange volume：0.6ml～5.0ml
Media Exchange Number：Maximum 10 times
Drug Delivery：20μL～
Controller size：W175×D175×H195 (mm)



【Components】
・Controller
・Exclusive Dish Lid (**PMD-D35FME**)
・Tube Heater
・Tubes
・Media containers
・PC software
※Media waste bottle is not included

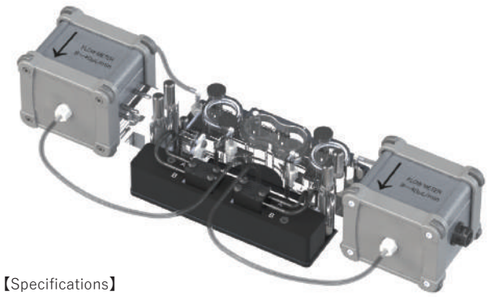
- Enables the media and drug to be uniformly mixed after the drug delivery.
- Setting of suction / supply liquid volume at a precise flow rate is possible.
- Regulates the system with TTL IN/OUT.
- High-repeatability experiments are possible by keeping the media level uniform.
- Tube heater is included.
- Supports most 35mm dishes.
- Manages each user's program individually by using USB memory.

Micro perfusion system

Perfusion

Allows μ-orders of perfusion incubation both on a microscope and inside the conventional CO_2 incubator.

Model **MKS8-SG**
Model **MKS40-SG**



【Key features】

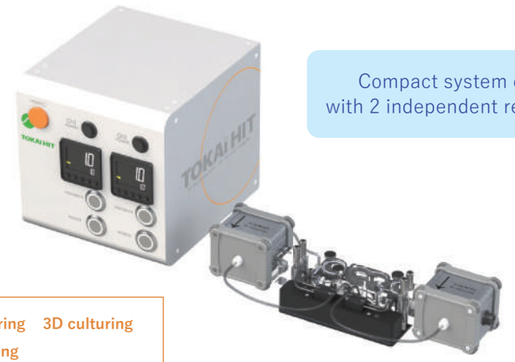
① Time-lapse imaging with Stage Top Incubator
Possible to accomplish time-lapse imaging, while cell-culturing with micro-flow application on the microscope.

② Constant flow control and monitoring
The "flow-rate feedback" function maintains the perfusion flow-rate even under differing channel conditions.

③ Compatible with conventional CO_2 Incubators
The system is designed to be moisture-proof and is possible to use inside a conventional CO_2 incubator.

【Specifications】

Feedback mode	Flow-rate range： **MKS8-SG** 0.5～8.0 μL/min **MKS40-SG**：8.0～40.0 μL/min
Manual mode	Flow-rate range 0.03～40.0 μL/min



Compact system design with 2 independent regulations

【Components】
・Pumping unit
・Controller
・Slide glass attachment
・Tubes

【Application】
Constant flow control　Perfusion culturing　Tissue-engineering　3D culturing
Organoid　Biomimesis　MPS　Micro-flow　Time-lapse imaging

Perfusion/Media exchange system

Perfusion　Media Exchange

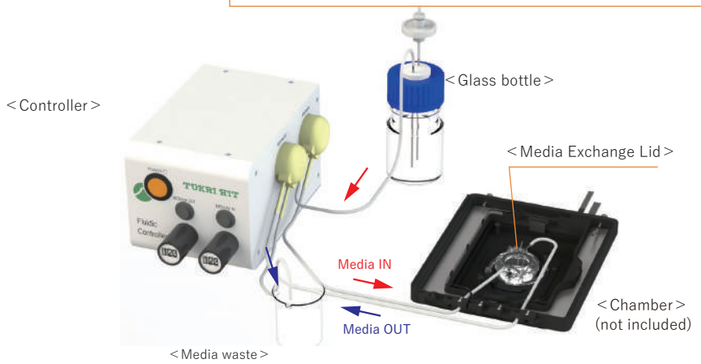
Perfusion/Media exchange without removing the dish lid can be performed.
Prevents media evaporation and contamination during long-term imaging.

【Application】
・Medium Exchange for long-term time-lapse imaging
・For perfusion during calcium measurement or washing

Model **KSX-Type1** ＊For STX/STR Chamber
KS-Type1 ＊For INU Chamber

【Components】
・Controller
・Media Exchange Lid (**LX-D35FME / D35-200FME**)
・Diamond Insert (**KS-DIA**)
・Glass bottle with air filter (**KS-BOTTLE**)
・Tubes
＊Media waste bottle is not included

【Specifications】
Pump flow rate：0～2.9 ml/min
(by using the attached tube)
Pump dimensions：W121×D175×H117 (mm)
Silicon tube：OD 3.0mm, ID 1.0mm (Consumable item)



One-push drug delivery system

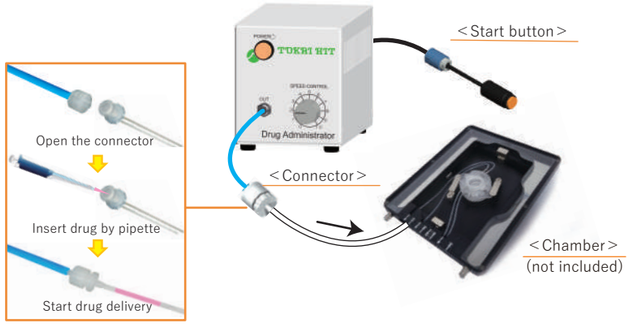
Drug Delivery

Rapid and vibration-free drug delivery is possible.
Prevents media evaporation and contamination during long-term imaging.

Model **KSX-Type2** ＊For STX/STR Chamber
KS-Type2 ＊For INU Chamber

【Components】
・Controller
・Media Exchange Lid (**LX-D35FME／D35-200FME**)
・Cord with a drug administration start button
・Tubes

【Specifications】
Dosage：20～100μℓ
(Contact us if different dosage is needed)
Controller dimensions：W100×D165×H116 (mm)
Silicon tube：OD 3.0mm, ID 1.0mm
(Tube for the dish is a consumable item)



Add-on options

We offer the suitable solutions depending on your experiments.

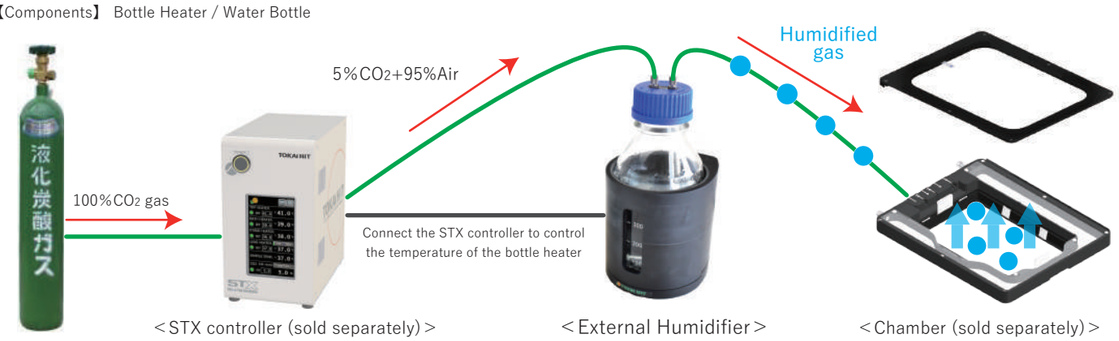
External Humidifier

This device decreases the frequency of refilling the internal water for more than 3 - 4 days.
By using this system with the internal humidifier, it ensures stable and high humidity throughout the experiment.

＜When connecting to a STX controller＞

Model **HUMID2ST**

【Components】 Bottle Heater / Water Bottle



＜When adding to a previous model＞

Model **TPiE-HUMID2**

【Components】 Temperature controller / Bottle Heater / Water Bottle

＊The bottle heater is controlled by a TPi controller.

Digital Gas Mixer

Digital Gas Mixer for the Stage Top Incubator. The model depends on which gas cylinder you use.

Model **GM-8000**

For low oxygen (Hypoxia)

O_2 concentration：0.1～18.0%
CO_2 concentration：5.0～20.0%
Gas cylinder：100%CO_2 & 100%N_2
Dimensions：W160×D260×H187 (mm)

Model **GM-3000**

CO_2 concentration & flow rate

CO_2 concentration：1.0～20.0%
Flow rate：50～200 ml/min
Gas cylinder：100%CO_2
Dimensions：W121×D174×H157 (mm)

*The gas (CO2/O2) concentrations listed are the gas concentrations at the controller outlet.

Mini CO_2 regulator

* MG1 is currently only available in the US and Japan.

There is no need to prepare a large gas cylinder, and no regulator operation is required.
The gas is supplied at the optimal flow rate for the Tokai Hit incubator.

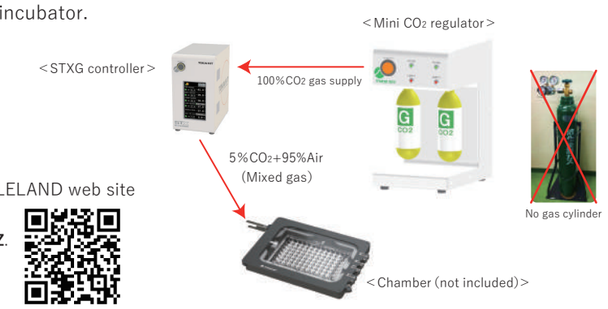
Model **MG1**

【Specifications】
Output gas pressure: 0.1 MPa
Usable time: about 3 days / 1 cartridge
Dimensions: W135 x D182 x H237 (mm)
Weight: 2.5 kg

■ Consumable gas cartridge

Consumable gas cartridge is available.
Please contact LELAND with the part number: **88100Z**.
- Cartridge size: 74 g
- Thread design: 5/8 - 18UNF

LELAND web site



Reusable 35mm dish

＊Cyto-cell Chamber (Autoclavable)

＜Collaborative development with Prof. Takafumi Inoue, Waseda University＞

For a small amount of medium

Model **SCC12-D35-SET**
Cover glass size：ϕ12.0 mm
Observation area：ϕ9.6 mm

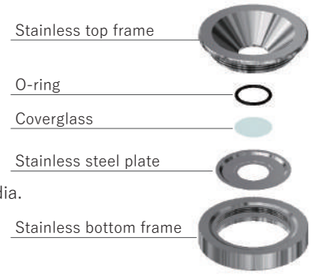
For wide range observation

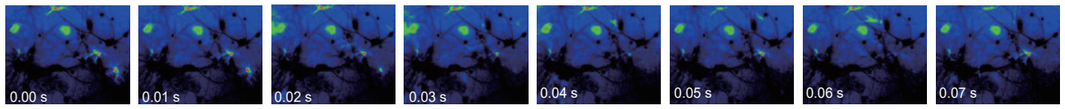
Model **SCC25-D35-SET**
Cover glass size：ϕ25.0 mm
Observation area：ϕ21.0 mm

【Features】

1. Whole bottom observation is possible.
   No collision with an objective even under high magnification.
2. Running costs can be reduced.
   By changing the coverglass, the dish can be reused repeatedly.
3. Observe with only small amounts of media.
   ※Consumable parts (Stainless steel plate, cover glass etc.) are also available.

【Assembly】





Calcium imaging captured with Cyto-cell chamber. (Fura-2 Fluorescent image)

Courtesy of：Prof. Takafumi Inoue,
Department of Life Science and Medical Bioscience,
Faculty of Science and Engineering, Waseda University

Digital Thermometer for research

Precise temperature measurement is possible by using a thin sensor with Teflon coating and excellent chemical resistance.

Model **MC1000**
Indicate temp. by 1°C or 0.1°C
K-type thermocouple

＜Components＞
・Digital Thermometer
・Thermo Probe

■Extension Wire ＊1.5 m (Sold separately) Model **HD1500**

■ Thermo Probe
・Sensor type／without pipe
Model **TSU-200F**
・Sensor type／with pipe
Model **TSU-200FP**
・Teflon type／without pipe
Model **TSU-200FT**

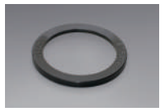
IN/OUT Pipe for Media Exchange/Drug Delivery

For media exchange and drug delivery with incubation system for upright microscopes etc.

Model	
PSBD1	Pipe OD 1.1mm
PSBD1H	Pipe OD 1.1mm (with side holes)
PSBD2	Pipe OD 2.1mm
PSBD2H	Pipe OD 2.1mm (with side holes)

35mm Dish Spacer

When using the 35mm dish from Greiner and Nunc,
we recommend using the Dish Spacer at the bottom of the dish.

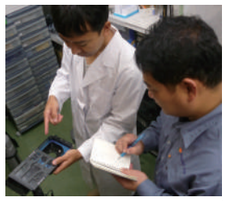


Model **35DGN-BS**
For 35mm dish from Greiner and Nunc(右)

Customization

We are accepting customization according to the application and conditions. Please feel free to contact us.

● We have experience in more than 100 customized products per year.



Hearing ▶▶

Design ▶▶

Manufacturing ▶▶

Assembly

We support and design the instruments for customer's requirement with over 30 years of experience.
Please let us know your needs and requirements. We can design a customized system for you.
We are flexible to design for different sizes, temperature regulations, setting ranges, etc.
Ex：Looking for a system for Patch clamp, system integration, unique design/size to installing to your system, etc.
We value your needs and requirements. If you have any questions or concerns, please feel free to contact us.

Stage Top Incubator®

Glass/Metal Heater for microscope

ThermoPlate®

Persues high-end *User-Friendliness*

TPi SERIES

10-year free repair service for glass breakage*1

Glass heaters are made with strengthened hard glass and come with a 10-year free repair service for glass breakage.
No more glass breakage and no more stopping your experiment.
*1. Depending on the model

10 10year warranty
Stress-Free from glass breakage

Compact Controller

Minimized the controller to be as small as a smartphone.
It is very useful for space saving in the clean bench.

Controller dimensions：W85×D135×H30 (mm)
Size：232 (cm³)　　Weight：170 (g)

Plate LED Indicator

Plate LED Indicator visualizes the plate condition without looking at the controller.
The green LED lights up when the glass heater is ready.

State of LED	Condition of the plate
ON	The plate surface temp. is stable at the setting temperature.
Blinks slowly (per 1.0 sec.)	Running Calibration.
Blinks fast (per 0.2 sec.)	An error occurred.

＊Plate LED is attached to some major models.

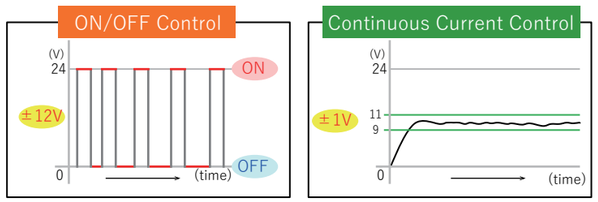
One-touch calibration

Easy calibration to set the suitable PID value in your usage environment is available with just one-touch.

＊Tokai Hit's ThermoPlate® is calibrated with the controller and the plate as a set, prior to shipping, to make the center of the plate temperature be at 37.0°C when the room temperature is 25°C.

Continuous Current Control

In addition to PID control, Continuous Current Control minimizes the focus drift generated by thermal expansion and also prevents light intensity change compared to the conventional ON/OFF control.



Glass Heater Line-up

Tokai Hit's Glass Heaters

Temperature setting range：Ambient～60°C (* Depending on the model)
Original clear glass heater maintains stable temperature.
Supports the needs in different various fields such as Time-Lapse in low magnification and/or IVF field.

Inverted
Microscope：**DMi8**
Applicable stage：XY manual/motorized stage (160×110 mm opening)

Model **TPi-SQFTLX** 10 LED
Glass thickness：0.5 (mm)
Plate size：W160×D110 (mm)
Heating area：W135×D95 (mm)

Inverted
Microscope：**DMI6000B/4000B/3000B**
Applicable stage：XY manual/motorized stage (160×110 mm opening)

Model **TPi-SQX** 10 LED
Glass thickness：0.5 (mm)
Plate size：W160×D110 (mm)
Heating area：W128×D84 (mm)

Inverted
Microscope：**DMi8, DMI6000B/4000B/3000B**
Applicable stage：Slim stage with 88 mm round opening

Model **TPi-RSRX** 10
Glass thickness：0.5 (mm)
Plate size：φ88 (mm)
Heating area：W60×D54 (mm)

Inverted
Microscope：**DMi8, DMI6000B/4000B/3000B**
Applicable stage：Mechanical stage

Model **TPi-SQMX** 10
Glass thickness：0.5 (mm)
Plate size：W165×D105 (mm)
Heating area：W129×D86 (mm)

Inverted
Microscope：**Leica SP8/SP5**
Applicable stage：Super Z Galvo stage

Model **TPi-GSIGX** 10
Glass thickness：0.5 (mm)
Plate size：W129×D87 (mm)
Heating area：W111×D62 (mm)

Inverted
Microscope：**DMIRB**
Applicable stage：XY manual stage (150×150 mm opening)

Model **TPi-RSLTX** 10
Glass thickness：0.5 (mm)
Plate size：W150×D150 (mm)
Heating area：W130×D130 (mm)

Upright
Microscope：**For upright microscopes**
Applicable stage：XY mechanical stage

Model **TPi-SX** 10 LED
Glass thickness：0.5 (mm)
Plate size：W142×D115 (mm)
Heating area：W128×D95 (mm)

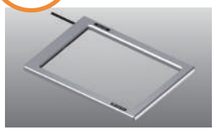
Stereo
Microscope：**For stereo microscopes**
Applicable illumination base：TL3000/5000 Ergo Transmitted Light Base

Model **TPi-TLBaseX** 10
Glass thickness：1.0 (mm)
Plate size：W219.5×D169.5 (mm)
Heating area：W190×D134 (mm)

Stereo
UNIVERSAL
For various types of illumination bases

Model **TPi-UNIX** 10 LED
Glass thickness：1.5 (mm)　Plate size：W435×D220 (mm)
Leg adjustment：75～100 (mm)
Heating area：W400×D175 (mm)
＊Temp. setting：Ambient - 50°C

Stereo
Large Glass Type
For various types of illumination bases



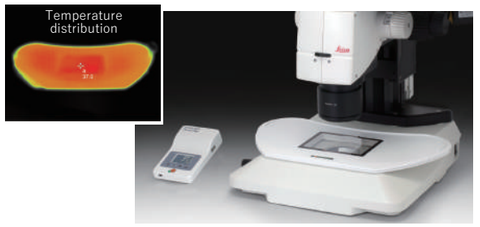
Model **TPi-W**
Glass thickness：1.5 (mm)
Plate size：W230×D180 (mm)
Heating area：W180×D140 (mm)

Model **TPi-WL**
Glass thickness：1.5 (mm)
Plate size：W310×D220 (mm)
Heating area：W250×D170 (mm)

10 With 10 year free-repair service for glass breakage.
LED With Plate LED Indicator.

Stereo
Entire Surface Heating Plate
Applicable illumination base：TL3000/5000 Ergo Transmitted Light Base

Model **TPiD-TLDX** 10 LED
Glass thickness：0.5 (mm)
Plate size：W380×D206 (mm)
Heating area：<Glass part> W128×D95 (mm)
＊Temp. setting：Ambient - 50°C



Since the entire surface of the plate is heated, it can manage the temperature of the sample under observation as well as the sample before/after observation.

Metal Heater Line-up

For oil/water immersion and high-magnification objective imaging

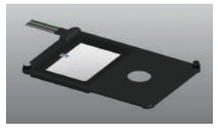
Temperature setting range：Ambient～60°C

Focus drift is caused by thermal expansion from the ordinary ON/OFF regulation.
Tokai Hit is applying Continuous Current Control regulation as a standard to minimize focus drift.

Inverted

Microscope：**DMi8**
Applicable stage：XY manual/motorized stage (160×110 mm opening)

Model **TPi-SQH26FT**
Plate size：W160×D110 (mm)
Hole size：ϕ26 (mm)
※Surface flat type



Model **TPiD-I2X**
Plate size：W160×D110 (mm)
※2 in 1 type
Glass：W68×D95 (mm)
Hole size：ϕ26 (mm)

Inverted

Microscope：**DMI6000B/4000B/3000B**
Applicable stage：XY manual/motorized stage (160×110 mm opening)

Model **TPi-SQH26**
Plate size：W160×D110 (mm)
Hole size：ϕ26 (mm)

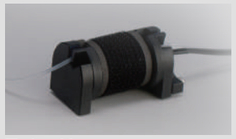
Inverted

Microscope：**Leica SP8/SP5**
Applicable stage：Super Z Galvo stage

Model **TPi-GSIH26**
Plate size：W129×D87 (mm)
Hole size：ϕ26 (mm)

Options

Lens Heater
Model **TPiE-LH**
Temperature setting range：Ambient～45°C
Prevents heat loss of the sample especially when using oil/water immersion and high-magnification objective.



Tube Heater
Model **TPiE-TH**
Temperature setting range：Ambient～50°C
A compact barrel-type heater. Simply wrap the media tubing for heating the media before inserting it.

Hot Plate
Model **TPiE-SP/SPE**
Temperature setting range：Ambient～45°C
Light-weight and thin aluminum thermal plate.
TPiE-SP ：W482×D282 (mm)
TPiE-SPE：W282×D232 (mm)

KW series

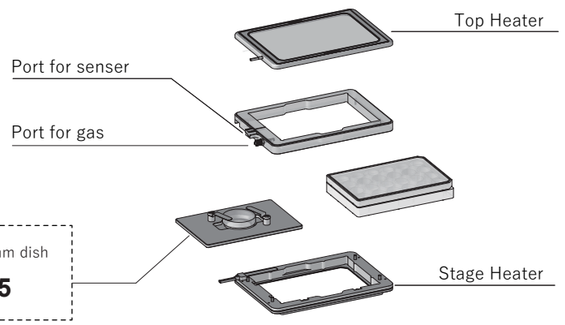
TPiD SERIES

BOX-type ThermoPlate® with a gas port.

Model **TPiD-KW** * Depending on the microscope stage, a Stage Adapter may be required.

A box-type ThermoPlate® with a gas port that can hold CO_2 gas.

- For inverted microscope
- Setting temperature：Ambient～50°C (Plate temperature)
- Top Glass Heater prevents condensation on the dish.
- Double Heater system (Top Heater/Stage Heater) maintains the suitable sample temperature.
- Multi-well plate can be used.



■ Option
Dish Attachment for 35mm dish
Model **UNIV2-D35**

*Dish attachments for two to six 35mm dishes are also available.

2-channel controller (Option)

TPiD SERIES

2 plates can be controlled by TPiD controller. Any combination is possible.

Model **TPiD-○○○○-△△△△**
ThermoPlate 1 ThermoPlate 2

Ex 1：Glass (for inverted)＋Glass (for stereo)

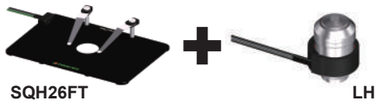
SQFTLX TLBaseX
Model **TPiD-SQFTLX-TLBaseX**

Ex 2：Glass (for stereo)＋Glass (for stereo)

UNIX UNIX
Model **TPiD-UNIX-UNIX**

TPiD

Ex 3：Metal (for inverted)＋Lens Heater



SQH26FT LH
Model **TPiD-SQH26FT-LH**

Ex 4：Glass (for inverted)＋Hot Plate

SQFTLX SP
Model **TPiD-SQFTLX-SP**

Cooling/Heating Plate

TP SERIES

Best for observing yeast, plants, marine samples, cultured cell, C. elegans and/or Planarian, etc.

Temp. setting range (Plate surface)：4 - 60°C

With electronic cooling element (Peltier module) and original control system, it allows responsive cooling and heating regulation

* The plate may build condensation at the bottom when the setting value (SV) of the controller is set below 15.0°C (depending on the lab temperature). The system may not be suitable for
  - Long-term imaging
  - Rooms with high humidity

37°C	Cultured Cell
28°C	Zebrafish
25°C	Drosophila
20°C	C. elegans

Usually, it is difficult to control the temperature around room temperature because of the small temperature difference between the room temperature and the sample temperature. However, Tokai Hit Cooling/Heating Plate has both cooling and heating functions and can control the temperature around the room temperature accurately without any change-over switch.

It can be used for controlling activation of the common samples which are normally cultured at 37.0°C by lowering the temperature or observe expressions of samples at each temperature.

Inverted

Microscope：**DMi8, DMI6000B/4000B/3000B**
Applicable stage：XY manual/motorized stage (160×110 mm opening)

Model **TP-CHSQ-C**
Plate size：W160×D110 (mm)
Hole size：ϕ20 (mm)

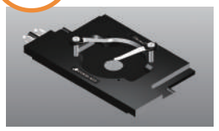
Inverted

Microscope：**DMi8, DMI6000B/4000B/3000B**
Applicable stage：Slim stage with 88 mm round opening

Model **TP-CHSL-C**
Plate size：ϕ88 (mm)
Hole size：ϕ20 (mm)

Inverted

Microscope：**DMi8, DMI6000B/4000B/3000B**
Applicable stage：Mechanical stage



Model **TP-CHSQM-C**
Plate size：W165×D105 (mm)
Hole size：ϕ20 (mm)

Upright

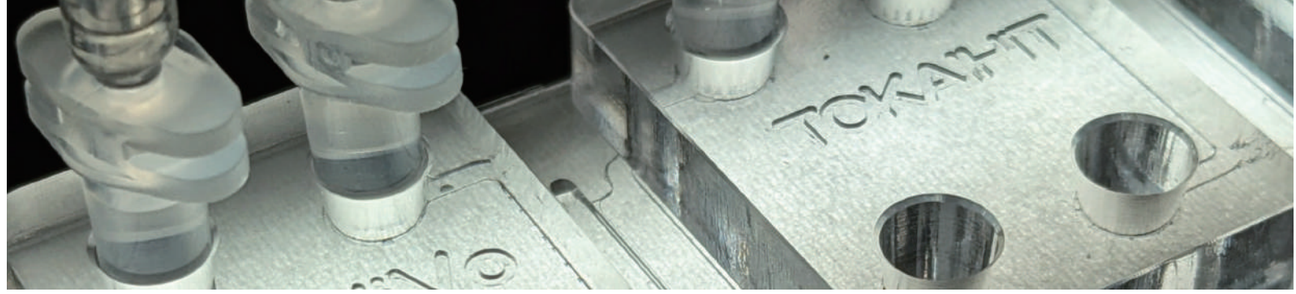
Microscope：**For upright / stereo microscopes**
Applicable stage：XY mechanical stage

Model **TP-CHS-C**
Plate size：W110×D110 (mm)
Hole size：ϕ20 (mm)

Built-in dedicated chiller unit
Cool the circulating water with sealed water.
It can also be used for long-term observation.

MiViVo® series ～ Plug and Play ～

Free demonstrations available. We will suggest an optimal experimental set-up for your needs. Please feel free to contact us.

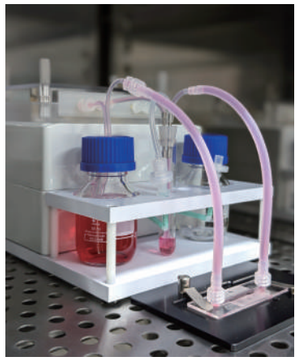


～ Plug and Play ～

Easy to regulate and set up the perfusion pressure and flowrate.

Model: **MVV-BPU**

Pressure setting range：0～200mmHg
Flow rate setting range ：0.2～6.0 mL/min



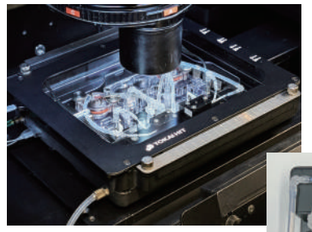
- **Plug and Play**
  All you need to prepare is the specimen, vessel, and culture medium.
  All-in-one package, ready for your perfusion culture experiment to be started quickly and easily.
- **Enables perfusion culturing inside a CO_2 incubator**
  Thanks to the moisture-proof design and shielding technology, the experimental set-up can be installed inside a CO_2 incubator.
- **Biomimetic Perfusion Control**
  Equipped with pressure control, constant flow, and pulsatile flow modes.
  Data logging is possible for output pressure and flow velocity data.

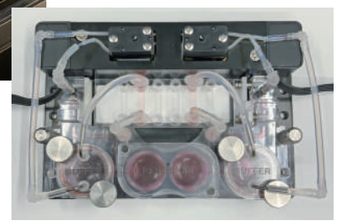
Microchip & Live-cell Imaging

Achieves micro-scale perfusion inside an incubator and on microscopes.

Model: **MVV-MKS**

Flow rate setting range ：0.03～40.0 μL/min





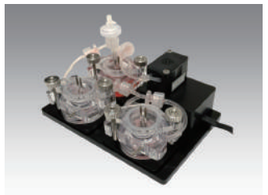
- **Compatible with Stage Top Incubator**
  Microperfusion culture can be performed on a microscope while enabling time-lapse imaging.
- **Quantitative control and monitoring**
  With the optional “Flow Rate Feedback” function, perfusion at a constant flow rate is possible regardless of the condition of the flow path.
- **Enables perfusion culturing inside a CO_2 incubator**
  The moisture-proof design and shielding technology allows the system to be installed inside a CO_2 incubator.

Cell Culture Inserts & Perfusion Culture

Achieves micro-scale perfusion inside an incubator and on microscopes.

Model: **MKSE-D24X**

Flow rate setting range ：5～1000 μL/min



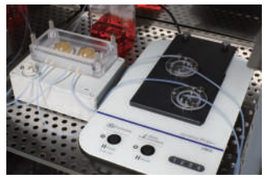
- **Biomimetic Perfusion Culture**
  The porous membrane of the culture insert serves as a scaffold for cells to adhere and proliferate in three dimensions, mimicking an environment similar to biological tissues.
- **Inter-Organ Network**
  By culturing and perfusing 3D models of different organs in two separate containers, you can construct an in vitro experimental set-up for inter-organ networks.
- **Compatible with Stage Top Incubator**
  Microfusion culture can be performed on a microscope while enabling time-lapse imaging.

35mm Dish Perfusion & Live-cell Imaging

Comprehensive management of Perfusion, Medium Exchange, Drug Administration, and Mixing

Model: **PMD-D35**

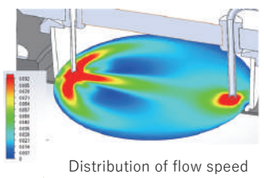
Flow rate setting range：40～100 μL/min
Drug Administration：20 μL～, Maximum 10 mixes
Medium Exchange：Maximum 10 times possible



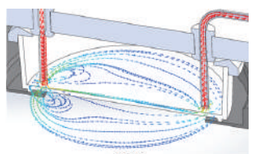
- **Minimum sample temperature changes**
  By applying a Tube Heater, temperature changes in samples during medium exchange and perfusion are minimized.
- **Hands-free sample operation**
  Can be operated without touching the sample, ensuring a stable observation environment.
- **Integration with external devices**
  Can be integrated with external devices such as microscopes via TTL signals.

Data for Academic Papers

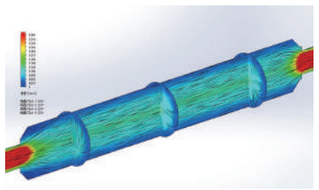
We can provide various data such as shear stress analysis and flow visualization.

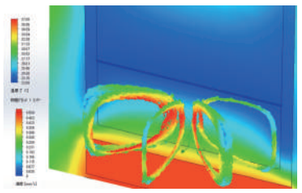


Distribution of flow speed

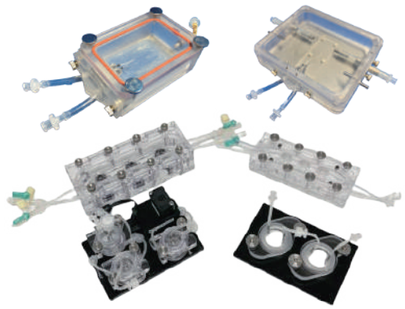


Flow record





Special Vessels Available

Custom-made vessels are possible. We can accommodate a wide range of needs, from vessels for cells and tissues to organs. Autoclave sterilization specifications are also possible upon request.

Our extensive experience:
various 35mm dishes, ibidi μ-Dish, μ-Slide, Transwell, PDMS devices, ALI (air-liquid interface) culture, oxygen gradient vessels, pressure gradient vessels, well plate sealed vessels, artificial blood vessels, rat liver, kidney, lung, small intestine, and many more. Please feel free to consult with us.