

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

EVIDENT | OLYMPUS



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It is essential to read the instruction manual when using this device.

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CA-EVGEN-EN-09



PRODUCT CATALOG



Stage Top Incubator[®]

WarmingBox[®]

ThermoPlate[®]

MiViVo[®]

OLYMPUS
IX85



< WarmingBox for EVIDENT IX85 >

WarmingBox[®]

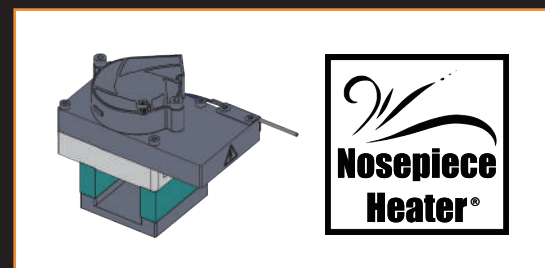
for EVIDENT IX85

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.

Panel Heater
(on both sides)



WarmingBox® for EVIDENT IX85

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

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 light with a switch, LED color can be changed between white and red.



Legless design

Achieves great compatibility with optional devices. EVIDENT SpinSR10, Yokogawa CSU-W1, Crest Optics V2/V3/Deep SIM, etc. can be installed without any interference by the box.

Eco-Friendly, Save Energy

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



NEW!

Temperature controller integrated!

— The previously separate temperature controller has been integrated into the box part.



Temperature monitor
The temperature of the area under the vessel heated by the Nosepiece Heater is measured and displayed.

Dial for LED light
Adjusts the brightness of the LED light.

WarmingBox Package Model Line-up

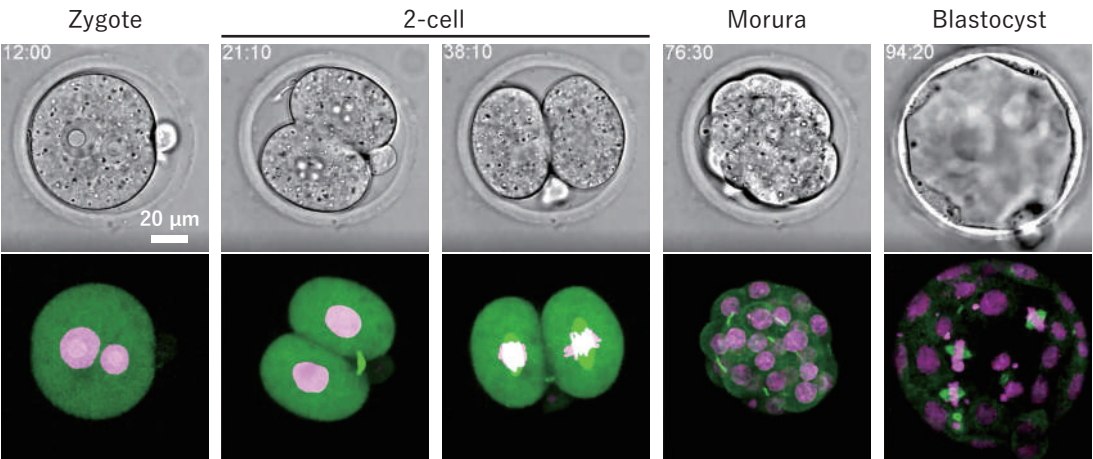
Microscope	Chamber	Color type	CO2 gas cylinder	Model
IX85	IX3WX (*) for EVIDENT	Black	100%CO2	IX85WB2-IX3WX-G
			Premixed	IX85WB2-IX3WX-F
		Clear front panel	100%CO2	IX85WB2-IX3WX-G-CL
			Premixed	IX85WB2-IX3WX-F-CL

* Depending on the accessories (camera, stage, etc.), the model may be customizable. Please contact us for details.
* Chamber type depends on the microscope stage. Stage Adapter may be required separately to install the chamber to the stage.

WarmingBox Sample Time-laps

<Live cell imaging and developmental outcomes of embryos>

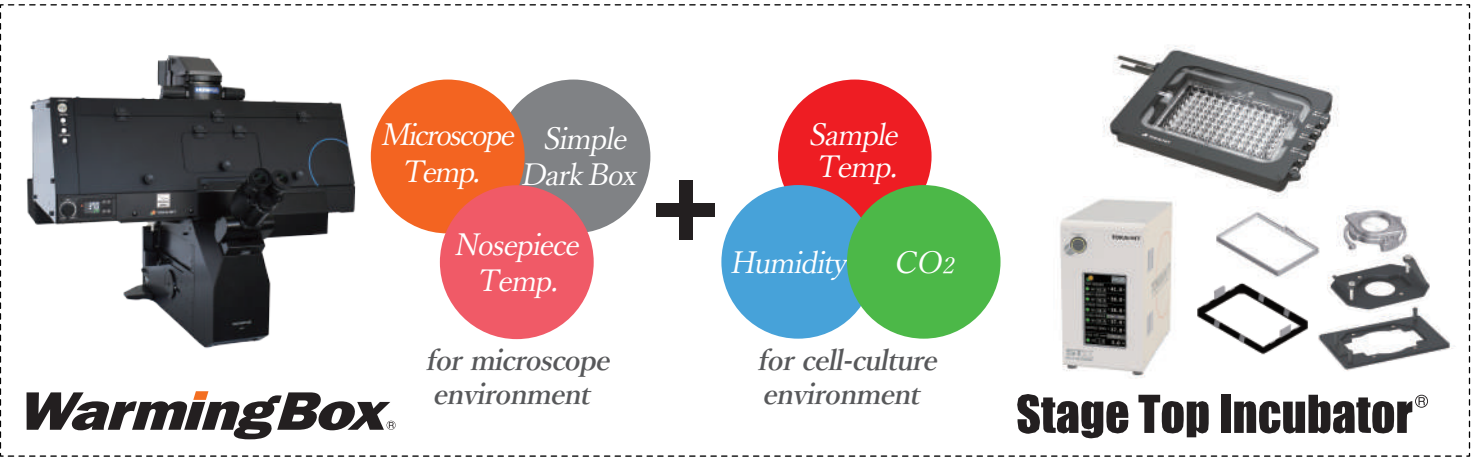
Courtesy of Dr. Yamagata and Mr. Yonezawa, Faculty of Biology, Department of Genetic Engineering, Kindai University



Video

86-hour Live Imaging of Preimplantation Mouse Embryos with Normal Development and Viable Offspring

Package Contents



Incubation System for microscopes

STX Stage Top Incubator®

Offers precision temperature, humidity and CO₂ 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

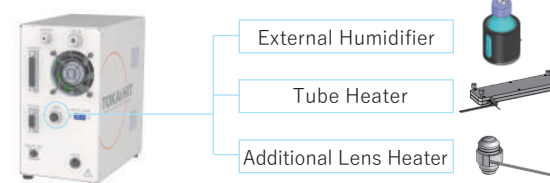


Controller dimensions
W110 × D208 × H206 (mm)

40% more compact
compared to the previous version!

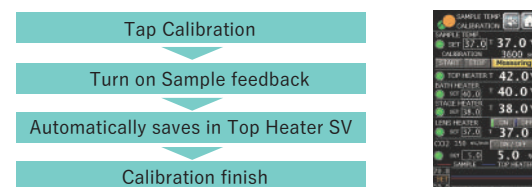
SUB HEATER port

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.



Variety of options

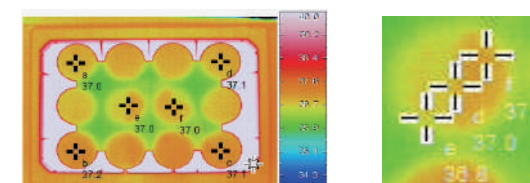
A wide range of add-on options, such as Drug Delivery Systems, is available to meet your various needs.



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.

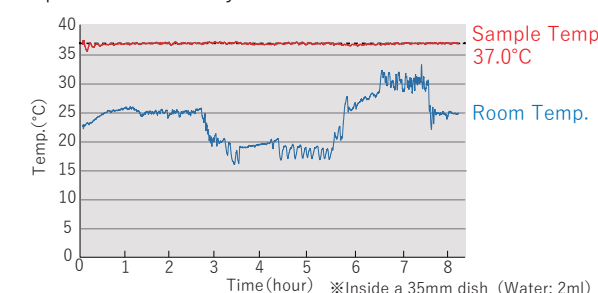
No risk of collision with objective lens

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.)



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.

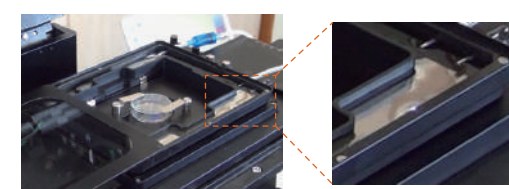


Measure the actual temperature of the culture media with the attached autoclavable sensor.



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.

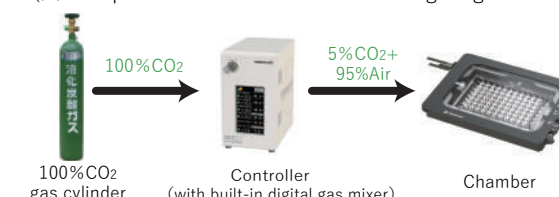


Internal humidifier by Bath Heater



Stable CO₂ environment

The controller mixes 100%CO₂ 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)



※CO₂ concentration can be adjusted from 5.0~20.0%.

For USA For other regions
WSKMX / IX3WX Series

- For EVIDENT manual/motorized stage
*Compatible with IX5-SSA/SVR *Stage Adapter is required separately
- Sample temperature : 25~45°C
- For well-plate and small vessels



For 100%CO₂ gas cylinder
Model **STXG-WSKMX-SET**
Model **STXG-IX3WX-SET**
For premixed gas cylinder
Model **STXF-WSKMX-SET**
Model **STXF-IX3WX-SET**

PLAMX Series

- For ASI PZ-2000/2150/2300
MCL Nano-Z500
- Sample temperature : 25~45°C
- For well-plate and small vessels



For 100%CO₂ gas cylinder Model **STXG-PLAMX-SET**
For premixed gas cylinder Model **STXF-PLAMX-SET**

IXZWX Series

- For MCL Nano-ZL100-OSSU/
Nano-ZL400-OSSU/Nano-ZL400-IX5
- Sample temperature : 25~45°C
- For well-plate and small vessels



For 100%CO₂ gas cylinder
Model **STXG-IXZWX-SET**
For premixed gas cylinder
Model **STXF-IXZWX-SET**

WELSX Series

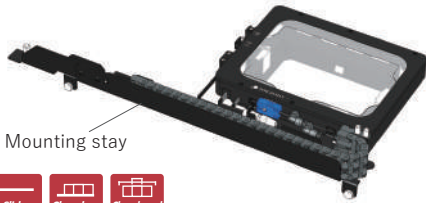
- For various types of piezo stages
- Chamber size is the same as well plate
- Sample temperature : 25~45°C
- For small vessels



For 100%CO₂ gas cylinder Model **STXG-WELSX-SET**
For premixed gas cylinder Model **STXF-WELSX-SET**

APX Series

- For Evident APX100
- Sample temperature : 25~45°C
- With mounting stay
- For well-plate and small vessels



For 100%CO₂ gas cylinder Model **STXG-APX-SET**
For Premixed gas cylinder Model **STXF-APX-SET**



IXLM Series

- For Evident IXplore Luminescence imaging system
- Sample temperature : 25~45°C
- Chamber cable length : 3m
- For well-plate and small vessels



Shading Box
※Sold separately from microscope

For Premixed gas cylinder Model **STXF-IXLM-SET**
Gas mixer Model **GM-3000**
Shading box(For IX83 2 deck) Model **IX85LMB**

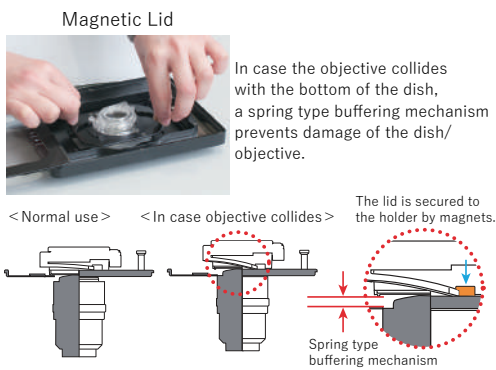


*Image is for illustrative purposes only.

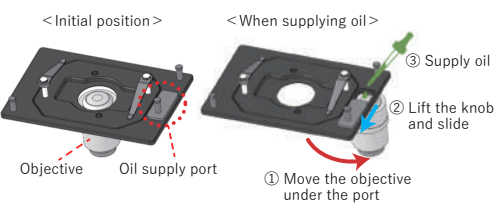
Chamber Components



Stable and easy securing

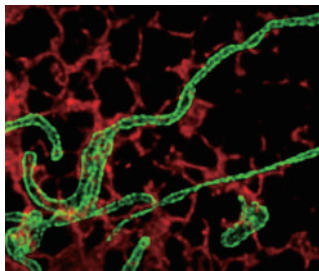


Attachment for oil supply

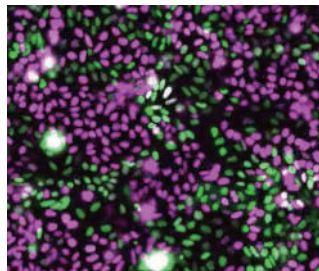


Stage Top Incubator Culture Results

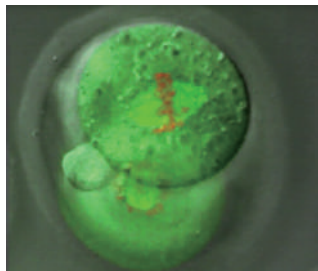
Type	Name	Details	Period
Cultured Cell	STO	Embryo; fibroblast, mouse	Over 5 days
Cultured Cell	PC12	Pheochromocytoma; adrenal gland, rat (male)	Over 5 days
Cultured Cell	Hela	Adenocarcinoma; cervix, human (female, 31 years)	Over 5 days
Primary	Human Embryo	Human embryo in vitro; form fertilization to 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 Myocyte	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

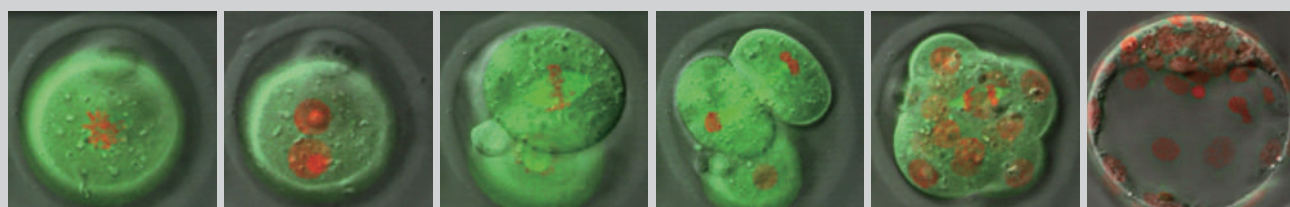
- Controller
 - Model **STXG** (For 100%CO₂ gas use)
 - or
 - Model **STXF** (For premixed gas use)
 - Size : W110 × D208 × H206 (mm)
- Chamber
 - Model (Example) **WSKMX IX3WX**
- Feedback Sensor
 - Model **TSU-200F**
- Dish Attachments
 - Model **ATX-W** For well-plate
 - Model **ATX-AC** For ATX-D35KL, ATX-CSG
* With oil supply port
 - Model **ATX-D35KL** For 35mm dish
* With flat springs
 - Model **ATX-CSG** For slide glass, chamber slide, and chambered coverglass
- Dish Fixing Lids
 - Model **LX-W** For well-plate
 - Model **LX-D35** For 35mm dish
 - Model **LX-CSG** For slide glass, chamber slide, and chambered coverglass
- Extension wire
- Software STX-APP
- USB cable
- Gas tube

* The above Dish Attachments and Dish Fixing Lids are included as standard.
* Dish Attachment and Dish Fixing Lid for 60mm dish are optional.

Options

- Stage Adapter
 - Model **MK-IX3** For IX3WX/WSKMX IX5-SSA, IX5-SVR, IX3-SRU
 - Model **MK-SIG** For IX3WX/WSKMX BX3-SSU, IX2-SFR/SVL2
 - Model **WELSX-IX3** For WELSX IX5-SSA, IX5-SVR, IX3-SRU
 - Model **WELSX-SIG** For WELSX BX3-SSU, IX2-SFR/SVL2
 - Model **WELSX-K** For WELSX Motorized stage with 160 × 110mm 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 8 well
* 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 Dr. Kazuo Yamagata : Department of Genetic Engineering, Kindai University

Cooling/Heating Chamber

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



KRiX Series

- For EVIDENT manual/motorized stage
* Stage Adapter is required separately
- With Chiller Unit
- Sample Feedback regulation
- For small vessels



For 100%CO₂ gas cylinder Model **STXGC-KRiX-SET**

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

For upright microscopes

Sample temperature : 37°C

UKX Series

- For most XY stages and fixed stage
- For small vessels

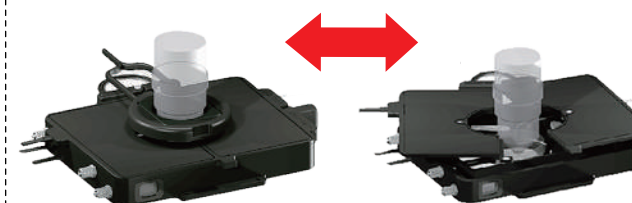


For 100%CO₂ gas cylinder Model **STXG-UKX-SET**

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

Openable Top Heater

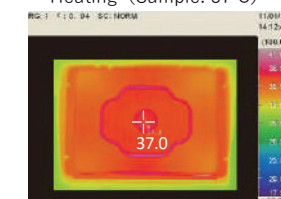
The metal Top Heater with this function makes it easy to position the objective lens before imaging.



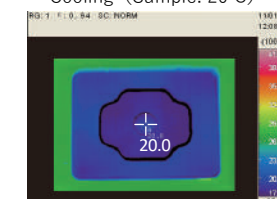
Uniform Temperature Distribution

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)



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



Dish Attachment

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

* All Dish Attachments are 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 bracket 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 can be easily programmed and performed without disturbing your sample.

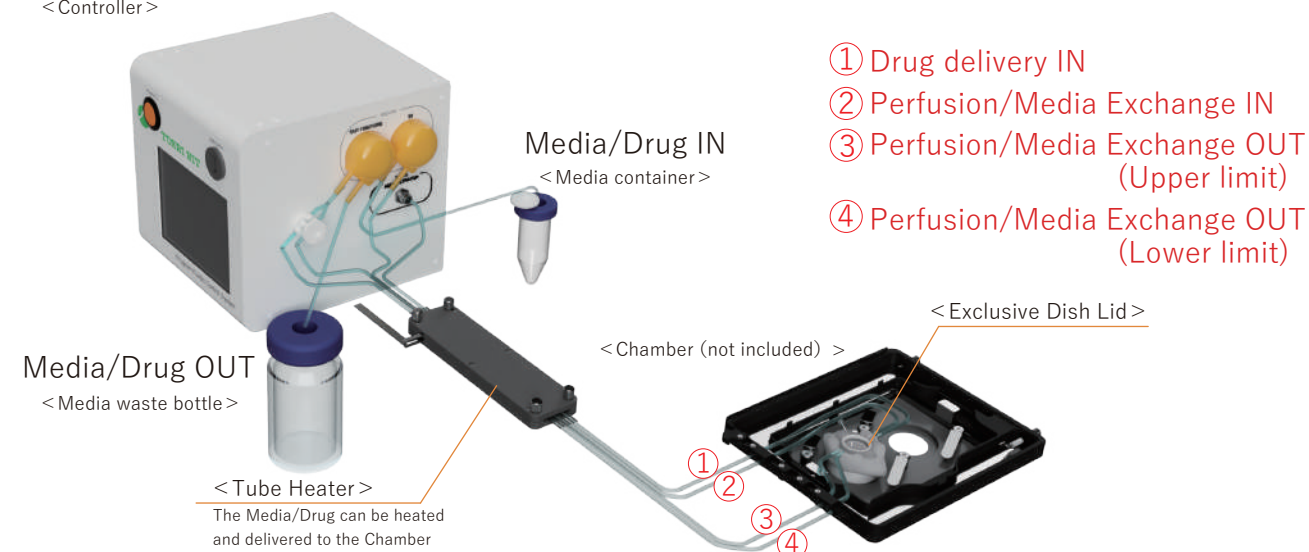
Model PMD-D35

- * For STX/STR/INU Chamber
- * For 35mm dish

【Specifications】

Continuous Perfusion : 40~100 $\mu\text{L}/\text{min}$
Media Exchange volume : 0.6 ml~5.0 ml
Media Exchange Number : Maximum 10 times
Drug Delivery : 20 μL ~
Controller size : W175 $\times$ D175 $\times$ H195 (mm)

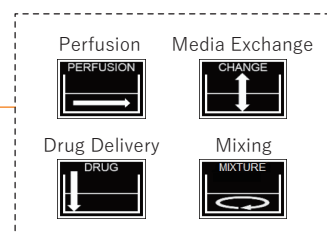
<Controller>



【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

It enables micro-scale perfusion culture on a microscope, continuously supplying fresh medium to maintain optimal oxygen and nutrient conditions.

Model MVV-MKSE-SR03 (0.03~40 $\mu\text{L}/\text{min}$)

MVV-MKSE-MR5 (5~1000 $\mu\text{L}/\text{min}$)



<Pump Unit>

Compact design that can be placed directly on the microscope stage.



<Controller>

The IN and OUT gas flow rates can be controlled independently.

【Components】

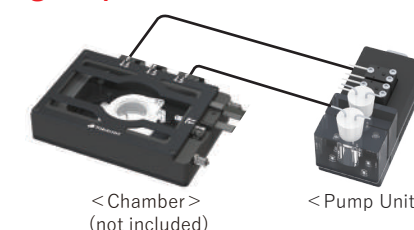
- Pump Unit (IN/OUT)
- Controller
- Tube set
- * All fluid-contact components are autoclavable.

【Specifications】

Flow rate : MVV-MKSE-SR03 0.03~40 $\mu\text{L}/\text{min}$
MVV-MKSE-MR5 5~1000 $\mu\text{L}/\text{min}$
Pump dimensions : W45 $\times$ D110 $\times$ H50 (mm)
Controller dimensions : W175 $\times$ D175 $\times$ H195 (mm)
Silicon tube : OD 3.0 (mm), ID 1.0 (mm)
* The flow direction can be changed.

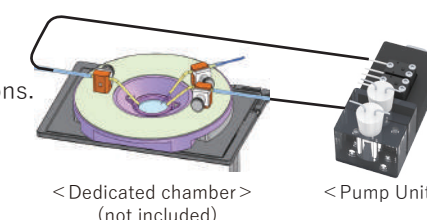
<Ex 1 : Combined use with the Stage Top Incubator>

It allows time-lapse imaging during micro-perfusion culture performed directly on the microscope stage.



<Ex 2 : Perfusion experiments on an upright microscope>

The optional dedicated chamber allows flexible tubing placement, ideal for electrophysiology applications.



【Application】

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

Perfusion/Media exchange system

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

Model KSX-Type1 KS-Type1

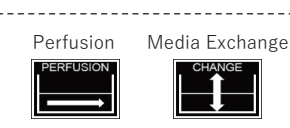
- * For STX/STR Chamber
- * For INU Chamber

【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 $\times$ D175 $\times$ H117 (mm)
Silicon tube : OD 3.0 (mm), ID 1.0 (mm) (Consumable item)



One-push drug delivery system

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

Model KSX-Type2 KS-Type2

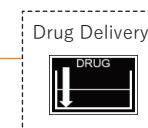
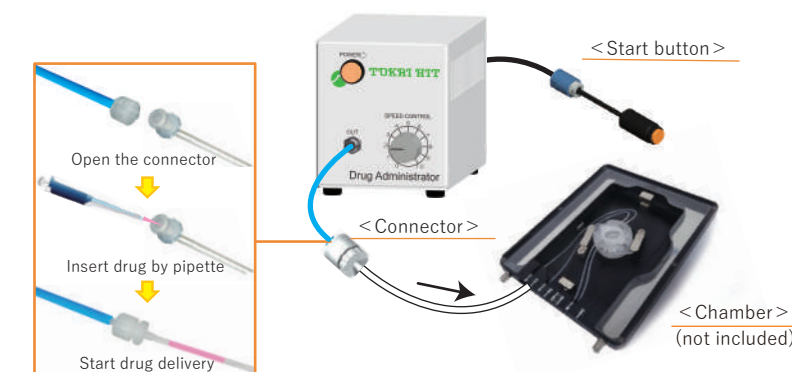
- * For STX/STR Chamber
- * For INU Chamber

【Components】

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

【Specifications】

Dosage : 20~100 μL
(Contact us if different dosage is needed)
Controller dimensions : W100 $\times$ D165 $\times$ H116 (mm)
Silicon tube : OD 3.0 (mm), ID 1.0 (mm)
(Tube for the dish is a consumable item)



Add-on options

We offer the suitable solutions depending on your experiments.

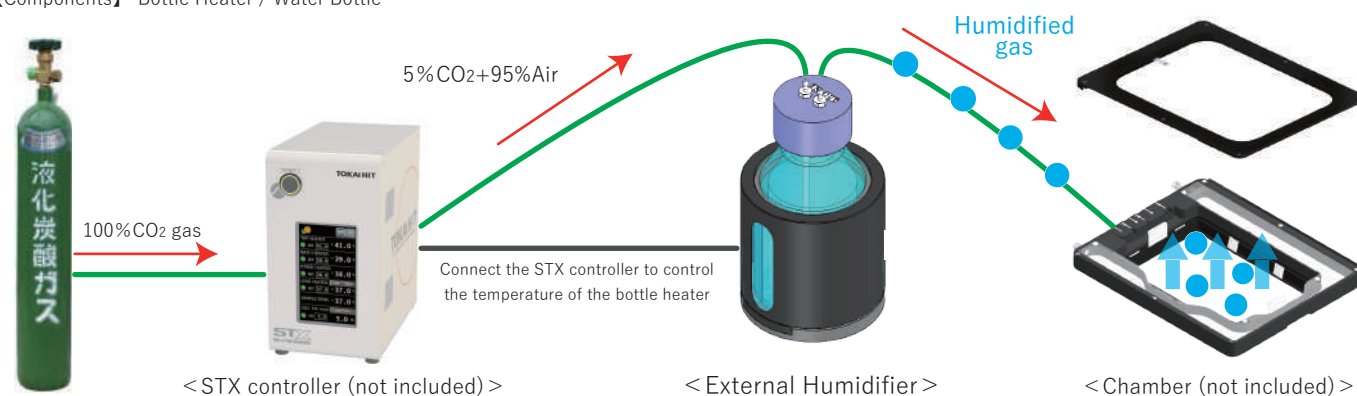
External Humidifier

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)

O₂ concentration : 0.1~18.0%
CO₂ concentration : 5.0~20.0%
Gas cylinder : 100%CO₂ & 100%N₂
Dimensions : W160 × D260 × H187 (mm)



Model **GM-3000**
CO₂ concentration & flow rate

CO₂ concentration : 1.0~20.0%
Flow rate : 50~200 ml/min
Gas cylinder : 100%CO₂
Dimensions : W121 × D174 × H157 (mm)

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

Mini CO₂ regulator

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

Model **MG1**

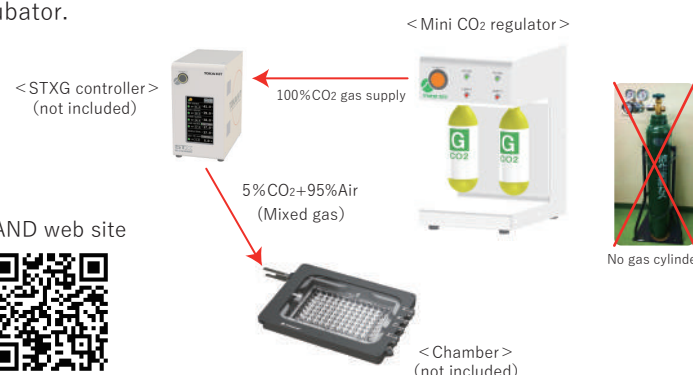
【Specification】

Output gas pressure: 0.1 MPa
Usable time: about 3 days / 1 cartridge
Dimensions: W135 × D182 × 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 : φ 12.0 mm
Observation area : φ 9.6 mm

For wide range observation



Model **SCC25-D35-SET**
Cover glass size : φ 25.0 mm
Observation area : φ 21.0 mm

【Features】

1. Whole bottom observation is possible.

No collision with an objective even under high magnification.

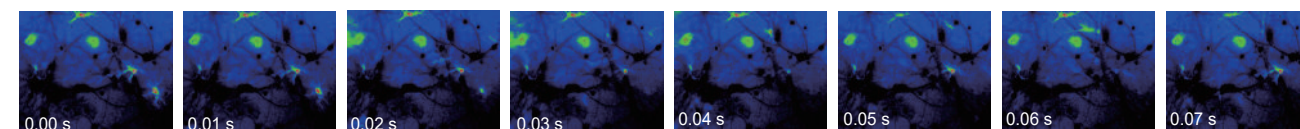
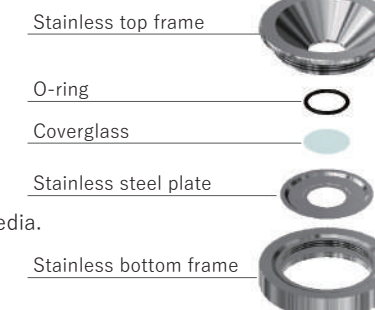
2. Running costs can be reduced.

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

PSBD1H

PSBD2

PSBD2H

Pipe OD 1.1mm

Pipe OD 1.1mm (with side holes)

Pipe OD 2.1mm

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.



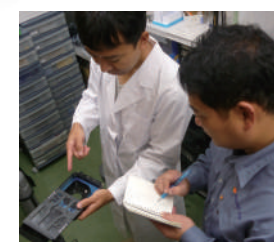
Model **35DGN-BS**

For 35mm dish from Greiner and Nunc

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.



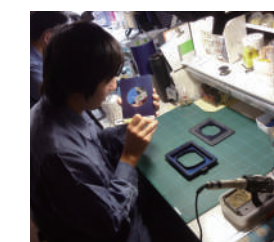
Hearing



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.

Glass/Metal Heater for microscope

ThermoPlate®

Persues high-end *User-Friendliness*

Ensure more accurate and more reliable thermal control of the specimens during observation under a microscope.
Our wide product range supports Biotechnology Science and Industry.



Smaller and lighter controller with a multi-function system that supports temperature management in various fields such as biological science.

● 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)



● 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.



Reference movie : ICSI



● Simple temperature measurement

The attached sterilized sensor can measure the actual temperature and correct the plate surface temperature. Enables the user to monitor and log the data of the temperatures.



● 10-year free repair service for glass breakage

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.

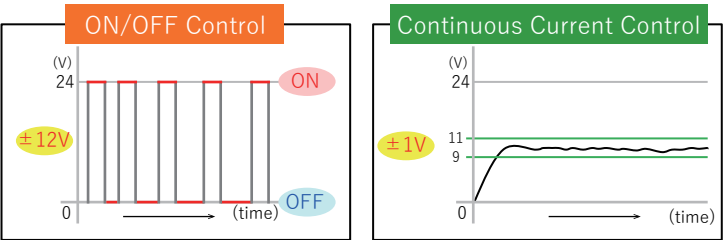
* Depending on the model
* Damage caused by improper use or intentional acts may be excluded from the free repair warranty.



10 **10year warranty**
Stress-Free from glass breakage

● 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.



● 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.

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.

Microscope : **IX85/83/73/81/71/51/70/50, IMT2**
Applicable stage : Cross stage with 110 mm round opening



Model **TPI-110RX**
Glass thickness : 0.5 (mm)
Plate size : ϕ 110 (mm)
Heating area : W70×D70 (mm)

Model **TPI-110R13**
Glass thickness : 1.3 (mm)
Plate size : ϕ 110 (mm)
Heating area : W70×D70 (mm)
* Ideal for relief contrast observation with a glass bottom dish

Microscope : **IX series**
Applicable stage : Cross stage with 110 mm round opening
* For Saturn 5



Model **TPI-URI2X**
Glass thickness : 0.5 (mm)
Plate size : ϕ 110 (mm)
Heating area : W70×D70 (mm)

Microscope : **IX85/83/73**
Applicable stage : IX5-SSA, IX5-SVR, IX3-SSU, IX3-SVR



Model **TPI-IX3X**
Glass thickness : 0.5 (mm)
Plate size : W189.5×D155.5 (mm)
Heating area : W174×D127 (mm)

Microscope : **IX85/83/73**
Applicable stage : IX5-SSA, IX5-SVR, IX3-SSU, IX3-SVR



Model **TPI-IX3-13**
Glass thickness : 1.3 (mm)
Plate size : W189.5×D155.5 (mm)
Heating area : W155×D130 (mm)
* Ideal for relief contrast observation with a glass bottom dish

Microscope : **IX series**
Applicable stage : XY motorized stage with 160×110 mm opening



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

Microscope : **IX series**
Applicable stage : Prior XY motorized stage H117 series



Model **TPI-SQPX**
Glass thickness : 0.5 (mm)
Plate size : W160×D110 (mm)
Heating area : W128×D84 (mm)

Microscope : **CKX41/31, CK40/30/2**
Applicable stage : XY mechanical stage



Model **TPI-CKX**
Glass thickness : 0.5 (mm)
Plate size : W127×D85 (mm)
Heating area : W103×D63 (mm)



Model **TPI-CKTS**
Glass thickness : 0.5 (mm)
Plate size : W150×D117 (mm)
Heating area : W131×D95 (mm)

Microscope : **BX, BH2, CX43/41/40/33/23**
Applicable stage : XY mechanical stage



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

Microscope : **CKX53X**
Applicable stage : XY mechanical stage



Model **TPI-CKX53X**
Glass thickness : 0.5 (mm)
Plate size : W190×D138 (mm)
Heating area : W174×D127 (mm)

Microscope : **UNIVERSAL**
For various types of illumination bases



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

Microscope : **SZX16/10**
Applicable illumination base : SZX2-ILLB/ILLD/ILLK/ILLT/ILLTQ/ILLTS



Model **TPI-SZX2X**
Glass thickness : 1.0 (mm)
Plate size : W238×D227 (mm)
Heating area : W162×D152 (mm)

With 10-year free repair service for glass breakage

With Plate LED Indicator

Microscope : **MVX10, SZX12/9/7**
Applicable illumination base : SZX-ILLK/ILLB2/ILLD2



Model **TPI-SZX1**
Glass thickness : 1.0 (mm)
Plate size : W205×D205 (mm)
Heating area : W170×D170 (mm)

Microscope : **SZX7, SZ61**
Applicable illumination base : SZ2-ST + SZ2-ILA



Model **TPI-SZ2**
Glass thickness : 1.0 (mm)
Plate size : W278×D175 (mm)
Heating area : W230×D146 (mm)

Microscope : **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)

Microscope : **SZ60/40/11**
For illumination bases of SZ60/40/11



Model **TPI-OZX**
Glass thickness : 1.0 (mm)
Plate size : W180×D230 (mm)
Heating area : W162×D152 (mm)

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.

Microscope : **IX85/83/73/81/71/51/70/50, IMT2**
Applicable stage : Cross stage with 110 mm round opening



Model **TPI-110RH26**
Plate size : ϕ 110 (mm)
Hole size : ϕ 26 (mm)

Microscope : **IX85/83/73**
Applicable stage : IX5-SSA, IX5-SVR, IX3-SSU, IX3-SVR



Model **TPI-IX3H26**
Plate size : W189.5×D155.5 (mm)
Hole size : ϕ 26 (mm)

Microscope : **IX series**
Applicable stage : XY motorized stage with 160×110 mm opening



Model **TPI-SQH26**
Plate size : W160×D110 (mm)
Hole size : ϕ 26 (mm)

Microscope : **IX series**
Applicable stage : Prior XY motorized stage H117 series

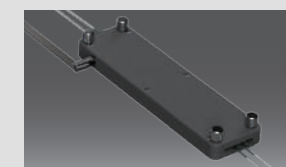


Model **TPI-SQH26P**
Plate size : W160×D110 (mm)
Hole size : ϕ 26 (mm)

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
Inline metal tubing heats the perfusion fluid as it passes through the heater unit.
Supports two channels.



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)

2-channel controller (Option)

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)



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



Ex 3 : Metal (for inverted) + Lens Heater



Ex 4 : Glass (for inverted) + Hot Plate



TPiD
SERIES

Entire Surface Heating Plate

Temperature control before/after observation

Temperature setting range : Ambient~50°C

Since the entire surface of the plate is heated, it can maintain the temperature of the sample under observation as well as the sample before/after observation. It is very useful when handling many samples.

Microscope : **SZX16/10**

Illumination base : SZX2-ILLB/ILLD/ILLK/ILLTQ/ILLTS

Model **TPiD-SZX2DX**



Glass thickness : 0.5 (mm)

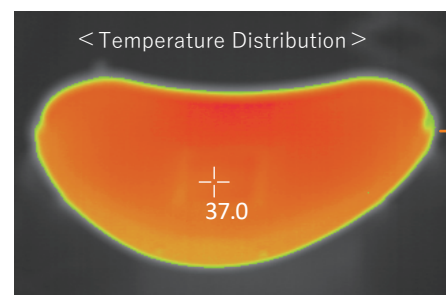
Plate dimensions : W370 × D248 (mm)

Heating area : <Glass part> W128 × D95 (mm)



Keeps the vessels warm
before and after observation.

TPiD
SERIES



By using a glass heater and a metal heater together, the temperature can be controlled uniformly over a wide surface.



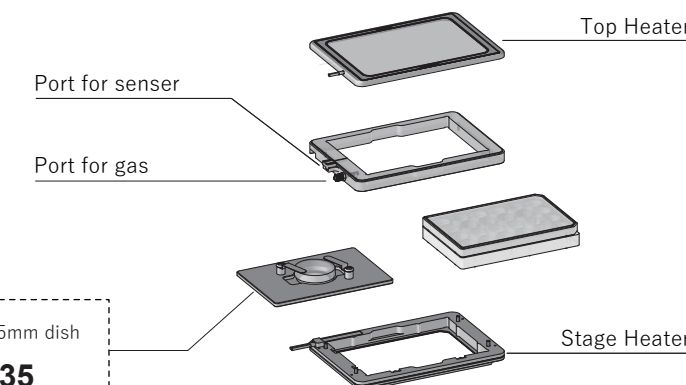
KW series

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 CO₂ 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.

TPiD
SERIES

Cooling/Heating Plate

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

Temperature setting range (Plate surface) : 4~60°C

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

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.

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

* 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



Microscope : **IX85/83/73/81/71/51/70/50, IMT2**

Applicable stage : Rectangular stage with φ 110 mm round opening

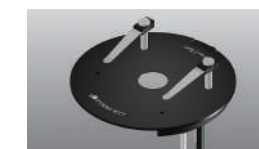


Model **TP-CH110RBF-C**

Plate dimension : φ 110 (mm)

Hole size : φ 20 (mm)

* Bottom flat type



Model **TP-CH110R-C**

Plate dimension : φ 110 (mm)

Hole size : φ 20 (mm)

* Surface flat type



Microscope : **IX series**

Applicable stage : XYmotorized stage with 160 × 110 mm opening



Model **TP-CHSQ-C**

Plate dimension : W160 × D110 (mm)

Hole size : φ 20 (mm)



Microscope : **BX series / Stereo microscopes**

Applicable stage : XY mechanical stage



Model **TP-CHS-C**

Plate dimension : W110 × D110 (mm)

Hole size : φ 20 (mm)

Plate
Built-in cooling element (Peltier module) and the circulation of water will remove the heat.

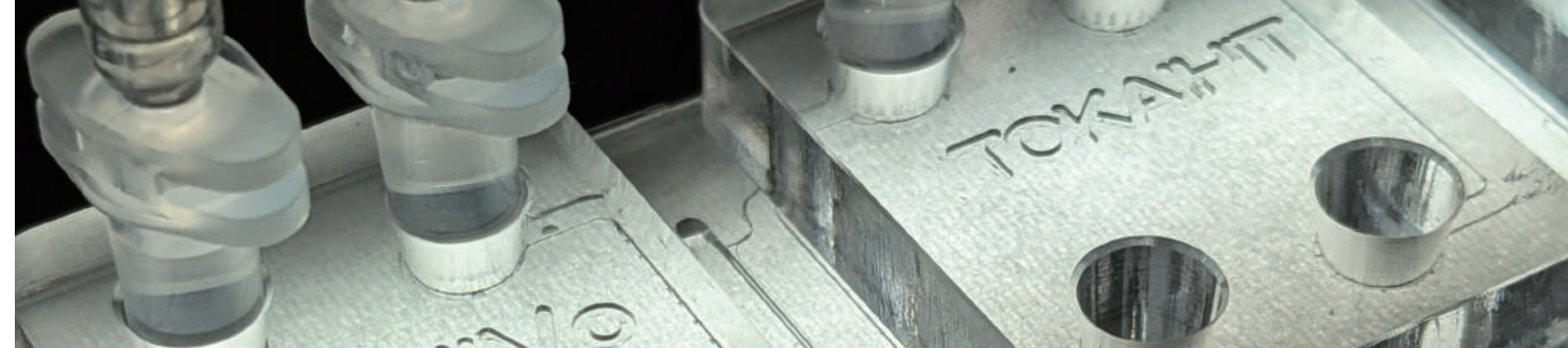
Built-in dedicated chiller unit
Cools the circulating water with sealed water. It can also be used for long-term observation.



TP
SERIES

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.

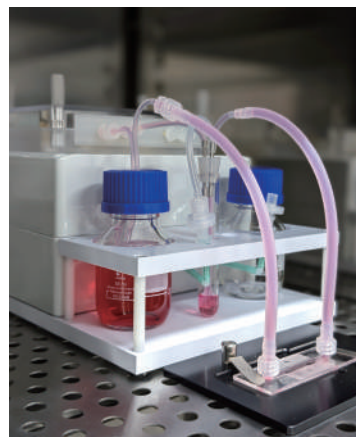


~ Plug and Play ~

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 CO₂ incubator

Thanks to the moisture-proof design and shielding technology, the experimental set-up can be installed inside a CO₂ 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.

Cell Culture Inserts & Perfusion Culture

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

Model: **MVV-MKSE-INSERT1**

Flow rate setting range : 5~1000 μ L/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

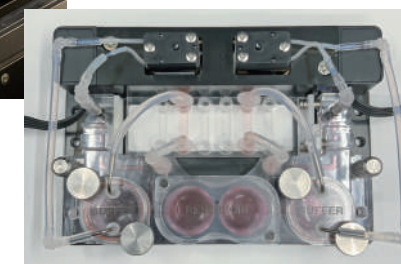
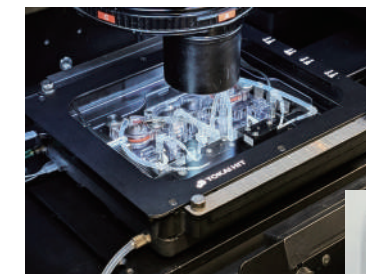
Microfusion culture can be performed on a microscope while enabling time-lapse imaging.

Microchip & Live-cell Imaging

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

Model: **MVV-MKSE-SG**

Flow rate setting range : 0.03~40.0 μ L/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 CO₂ incubator

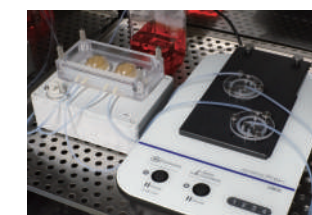
The moisture-proof design and shielding technology allows the system to be installed inside a CO₂ incubator.

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 μ L/min
Drug Administration : 20 μ L~, 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.

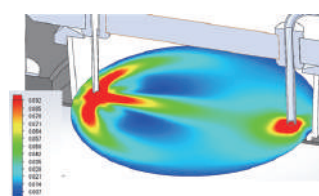
● Integration with external devices

Can be integrated with external devices such as microscopes via TTL signals.

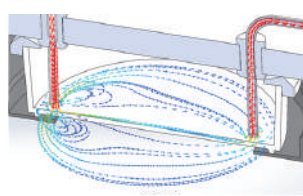


Data for Academic Papers

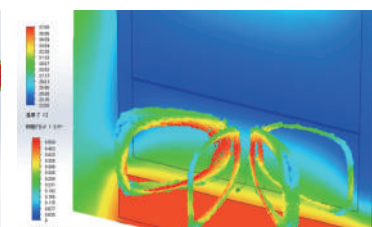
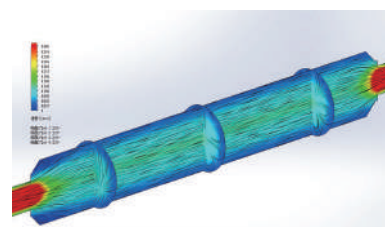
We can provide various data such as shear stress analysis and flow visualization.



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.

