

Accessories and Options

■ Heating Stage RH-3100


Controls chamber temperature by placing it on top

Model	RH-3100
Dimensions	W252 x D270 x H77 (mm)
Control System	Digital PID
Control Range	7°C above ambient to 40°C
Accuracy	±0.3°C
Uniformity	±0.5°C at stage surface
Gas Port	Inlet/Outlet 1 each (OD: 6m/mφ)
Weight	3.2kg / 7.1lbs
Electrical	AC100 - 240V 1A(Max) 50/60Hz

*Specifications are based on 25°C ambient temperature.

Hand-Held Chamber HC-3100

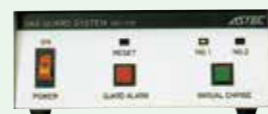

Supplemental for the use of portable incubator and/or a spare chamber.

 Dimensions W250 x D270 x H45 (mm)
 Weight 2.8kg / 6.2lbs

Gas Regulator IM-055


Dual pressure reduction system enables precise pressure adjustment. The pressure gauges are designed to suit with incubator use.

 Primary Gauge 0 - 25Mpa
 Secondary Gauge 0 - 0.3Mpa

Gas Guard System GS-701


It automatically switches the gas supply source to a backup cylinder when a cylinder in use runs out. Built-in audio and visual alarms notify when the switching function is activated.

 Dimensions W210 x D390 x H94 (mm)
 Weight 4.5kg / 10lbs
 Electrical AC100V 1A

■ Auto Gas Analyzer AGA-2008

 AGA-2008, the low dead-volume auto gas analyzer, is ideally designed for the measurement of small size instruments. Besides the accurate CO₂/O₂ measurement of those instruments, it can also be used with larger size incubators by connecting an aspiration adaptor.

Model	AGA-2008
Dimensions	W150 x D280 x H187 (mm)
CO ₂ Sensor	IR Sensor
CO ₂ Measurable Range	0 - 18.0%
CO ₂ Accuracy	±0.1%
CO ₂ Temp. Dependence	0.1%FS/°C
O ₂ Sensor	Galvanic Battery
O ₂ Measurable Range	0 - 22.0%
O ₂ Accuracy	±0.1%
O ₂ Temp. Dependence	0.1%FS/°C
Weight	4.5kg / 10lbs
Electrical	AC100 - 240, 0.2A, 50/60Hz
Battery Operating Time	Approx. 8 hours (*1)
Charging Time	More than 8 hours

*1 Battery operating time may vary depending on frequency of use and the level of battery charged.

*2 Maximum continued operation time is less than 1 hour.

 Note: Pump unit is recommended to be replaced at every 2000 measuring cycle.
 (Measuring Time per a Cycle = 1 minute)

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※Specification is subjected to change without notice

Tri Gas
 Drawer Type Incubator **AD-3100**

New Drawer Type Incubator!

A Whole New Culture Environment!

Seven Reasons to Think About AD-3100

1. Independently controlled chambers

Infrared CO₂ sensor, galvanic O₂ sensor, and temperature sensor are installed in each drawer, achieving complete independent monitoring and controlling.

2. Exclusive and patented design

Optimal chamber design has drastically improved temperature, CO₂ and O₂ recovery time compared to conventional incubators. When a drawer is opened, the gas supply to the drawer automatically stops. No environmental interference occurs between the drawers.

3. Accurate environmental control

Temperature, CO₂ and O₂ are controlled, monitored and displayed in each incubator drawer in real time. Gas control requires separate N₂ and CO₂ gas supply, no pre-mix gas is required.

4. Flexible usage

The drawer type incubator is ideally designed to manage samples individually in each drawer. The drawer design is thought for user-friendly handling. Opening the drawer and the lid can easily be done by one hand, and portable hand-held chamber secures transporting samples to the workstation with minimum environmental change.



Portable hand-held chamber!

5. Dry and wet culture

Independent infrared CO₂ sensor and surrounding heating system accommodate for both humidified and dry culturing (oil overlay is required for dry culture).

6. Advanced cleanability

Aluminum block chamber and dish-plates can easily be removed and disassembled by hand without any tool. All these aluminum components are autoclavable for complete disinfection.

Each chamber consists of two dish-plates (selectable from three types of carving to suit with variety of dishes) and a water slot for humidification.



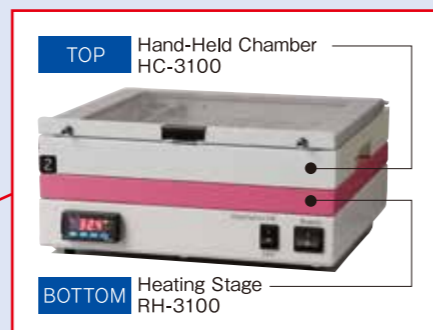
7. Enhanced safety functions

Different safety capabilities including alarms for CO₂, O₂ and temperature plus over-temp shut off and connection with BMS.

As a basic stand-alone incubator for your workstation

Temperature control feature can be added to the hand-held chamber by combining with the optional chamber heating stage RH-3100.

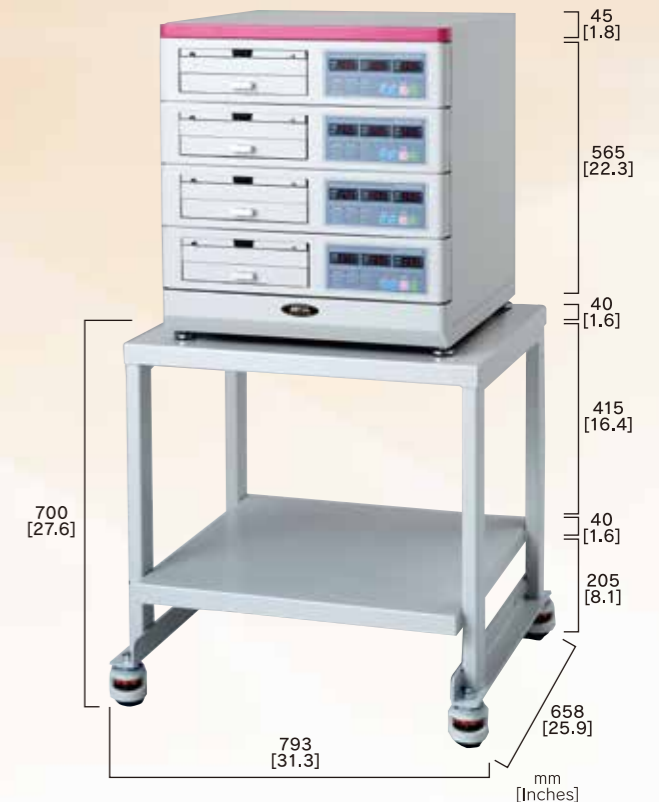
The solenoid valve built-in the heating stage can also add gas supply function to the system by connecting pre-mix gas to the gas port located at the back of heating stage.



Space saving design optimizes small capacity in the chamber and provides accurate and stable culture environment.

Gas and Temperature Control

Built-in CO₂ and O₂ sensors monitor CO₂ and O₂ concentration while precisely controlling CO₂ and N₂ flow rates. The AD-3100 only requires independent supply of laboratory grade CO₂ and N₂ gases (no pre-mix gas required). The small volume of each incubator drawer allows for incubator fast recovery, reducing overall gas consumption.



*Sizes of AD-3100 placed on the top shelf of standard base stool AD-3100STD

Product Specifications

MODEL	AD-3100
Overall Dimensions	W562 x D560 x H592 (mm) *1
Drawer Specifications	
External Dimensions	W250 x D270 x H45 (mm)
Usable Dimensions	W180 x D217 x H20 (mm)
Volume	775ml
Capacity	Equivalent to four 4-well MultiDishes
Drawer Weight	2.8kg / 6.2lbs
Number of Drawers	4 drawers
Temperature Control	
Control System	Digital PID
Range	7°C above ambient to 40°C
Accuracy	±0.1°C (*2)
Uniformity	±0.2°C (*2)
CO ₂ Control	
Sensor Type	IR Sensor
Range	0% - 10.0%
Accuracy	±0.3%
O ₂ Control	
Sensor Type	Galvanic Battery
Range	4.0% - 10.0%
Accuracy	±0.5%
Others	
Humidity	90%±5%RH
Humidity System	Natural Evaporation / Dry
Required Gas	CO ₂ and N ₂
Flow Rate	40ml / min CO ₂ , 120ml / min N ₂
Alarm Functions	Temperature, CO ₂ , O ₂
Alarm Output	DC12V 0.3A
Safety Function	Temperature Cut-off (Software Control)
Analog Output	Temp/CO ₂ /O ₂ (Option P/N AO-0002)
Analog Output Range	0 - 2V
Weight	95kg / 210lbs
Electrical	AC100 - 120V 5A (Max) 50/60Hz AC200 - 240V 2.5A (Max) 50/60Hz

*1 Overall height does not include the height of foot adjustors

*2 Measured on the bottom surface of chamber

*3 All specifications are based on 28°C ambient temperature.

Control Panel



Hand-Held Chamber



Three types of standard dish-plates accommodate wide range of usage.



Standard Bottom-Plate A P/N: BP-A
Falcon 35mm dish x 6 / 60mm dish x 3
Nunc 4 well dish x 2

Standard Bottom-Plate B P/N: BP-B
Falcon 35mm dish x 6
Falcon center-well 60mm dish x 3
Nunc 4 well dish x 2

Standard Bottom-Plate C P/N: BP-C
Nunc 35mm dish x 6 / 60mm dish x 3
4 well dish x 2