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Белгород (4722)40-23-64
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Новосибирск (383)227-86-73
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Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
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Псков (8112)59-10-37

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Смоленск (4812)29-41-54
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Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
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Каталог продукции КОМПАНИИ JSR

DIGITAL

25 400 ° C
80 1,500 rpm

JSHS 18D

Hotplate Magnetic Stirrer



Digital Fuzzy Control

Temperature control from 25°C to 400°C
by 0.1°C resolution within $\pm 3.0^\circ\text{C}$ accuracy
Stirring Speed from 80 rpm to 1,500 rpm
Digital Timer from 1 min to 99 hour 59 min

Touch Button

Touch sensitive Capacitive Button compatible
to all kind of latex gloves as well as finger touch

Jog Dial

Easy to use Jog Dial for quick and convenient
setting of temperature, stirring speed and timer
Push to Run, Stop and Save Set Values

Hi-Fidelity LCD

High fidelity clear back light LCD displays
complete operating conditions at a glance
Easy to monitoring set values,
and operating status

External Sensor

Connected to External Temperature Probe
for precise temperature control of sample
within $\pm 3.0^\circ\text{C}$ accuracy

Ceramic Hot Plate

Chemical and scratch resistant ceramic coated
aluminum top plate

Brushless Motor

Brushless shade motor for powerful, steady
feedback speed control and long shelf life

#JSHS-18D Digital Hotplate Magnetic Stirrer

Technical Data

JSHS-18D

Plate Dimensions
Overall Dimensions

W180 x D180 mm
W180 x D330 x H110 mm

Temperature

Range +25.0 °C to +400 °C
Accuracy +/- 0.3 °C at +200 °C (/w External Temperature Probe)
Setting Resolution 0.1 °C

Speed

Range 80 to 1500 rpm
Setting Resolution 5 rpm

Timer

1 min to 99 hr 59 min

Control

Digital Fuzzy Control with Capacitive Touch Button and Jog Dial
Full Size Digital Back Light LCD Display
Independent ON/OFF Switch

Temp. Sensor

Built-in Hot Plate Embedded CA Type Sensor
External Temperature Probe CA Type Sensor [Option]

Motor

Brushless Shade Motor

Safety

Over Temp. / Over Current Cut-Off

Materials

Heating Plate Aluminum with ceramic coating
Body Aluminum casting with epoxy powder coating
Base Engineering Plastic

Heater Capacity

620 Watt

Power Rating

3.0 amps

Electrical Requirement

230VAC, 50/60Hz, 1-Phase

Ordering Information

Art. No.

Descriptions

JSHS-18D

Digital Hotplate Magnetic Stirrer 230 VAC 50/60 Hz

Optional Accessories

PHE-01T

External Temperature Probe, CA, Stainless Steel

PHE-02F

External Temperature Probe, CA, Teflon

PHE-03S

Stand Rod, Stainless Steel

PHE-04H

SET of Temperature Probe Holder, Clamp, Wire Clip



400 °C
1,500 rpm

ANALOG
JSHS-18A

Hotplate Magnetic Stirrer



Analog Control

Easy-to-use

PWM Heating Control Temperature up to 400 °C
Stepless Stirring Speed Control up to 1,500 rpm



Ceramic Hot Plate

Chemical and scratch resistant ceramic coated aluminum top plate



Brushless Motor

Brushless shade motor for steady speed control and long shelf life



Aluminum Casting Body

Rugged aluminum casting body with epoxy powder coating and durable and rust free engineering plastic base enclosure assembly guarantee long service life



Functional Design

Low profile and spill trough design of main body provide safe use and channels spills away from electronics and controls to protect unit.

#JSHS-18A Analog Hotplate Magnetic Stirrer

Technical Data



JSHS-18A

Plate Dimensions

W180 x D180 mm

Overall Dimensions

W180 x D330 x H110 mm

Temperature Max.

+400 °C

Speed Max.

1,500 rpm

Control

Fine PWM Heat Control

Stepless Speed Control

Independent ON/OFF Switch

Motor

Brushless Shade Motor

Temp. Sensor

Plate Embedded CA Type Sensor

Safety

Over Temp. / Over Current Cut-Off

Materials

Heating Plate

Aluminum with ceramic coating

Body

Aluminum casting with epoxy powder coating

Base

Engineering Plastic

Heater Capacity

620 Watt

Power Rating

3.0 amps

Electrical Requirement

230VAC 50Hz or 230VAC 60Hz, 1-Phase

PHE-03S Stand Rod

Ordering Information

Art. No.

Descriptions

JSHS-18A1

Analog Hotplate Magnetic Stirrer 230 VAC 50 Hz

JSHS-18A2

Analog Hotplate Magnetic Stirrer 230 VAC 60 Hz

Optional Accessories

PHE-03S

Stand Rod, Stainless Steel

PHE-04H

SET of Temperature Probe Holder, Clamp, Wire Clip



including

Pop-Off Cup Head
3" Rubber Platform
3,300 rpm

JSVX-7R Vortex Mixer

Pop-Off Cup Head



3" Rubber Platform



Functional Design

Suction-Cup type foot provides strong and stable attachment on the table surface and reduces vibration



Aluminum Casting Body

Rugged aluminum casting body with epoxy powder coating
Durable and rust free engineering plastic base



Interchangeable

Supplied with Interchangeable attachments

- 3 inch Rubber Platform Head
- Pop-Off Cup Head
- Easy Remove Applicator



Three Way Switch

Multi-Function Switch

- Continuous ON
- Touch ON
- OFF



Brushless Motor

Brushless shade motor for strong power and long shelf life

#JSVX-7R Vortex Mixer

# Technical Data	JSVX-7R
Overall Dimensions	W130 x D190 x H120 mm (main body only)
Speed Range	0 to 3,300 rpm
Movement	Orbital, 4 mm Stroke
Control	Stepless Variable Speed Control
Movement Selection	3-Way Switch [Continuous ON / Touch ON / OFF]
Motor	Brushless Shade Motor
Motor Capacity	30 Watt
Max. Load	0.5 kgs
Safety	Over Current Cut-Off
Materials	
Body	Aluminum casting with epoxy powder coating
Platform	Engineering Plastic, Rubber
Electrical Requirement	230VAC 50Hz or 230VAC 60Hz, 1-Phase

PHA-01V 3" Rubber Platform Head



PHA-02V Pop-Off Cup Head



PHA-03V Remove Applicator



Ordering Information

Art. No.

Descriptions

JSVX-7R1

Vortex Mixer 230 VAC 50 Hz

JSVX-7R2

Vortex Mixer 230 VAC 60 Hz

including 1 ea x 3 inch Rubber Platform Head

1 ea x Pop-Off Cut Head

1 ea x Remove Applicator

Optional Accessories

PHA-01V

3 inch Rubber Platform Head

PHA-02V

Pop-Off Cup Head

PHA-03V

Remove Applicator

DIGITAL

JSMS-D Series

Overhead Stirrer

Low Viscosity	JSMS-070D	70,000 mPas	200 Ncm	100 ~ 2000 rpm	High Speed
	JSMS-100D	100,000 mPas	300 Ncm	80 ~ 1200 rpm	
High Viscosity	JSMS-150D	150,000 mPas	450 Ncm	50 ~ 800 rpm	Low Speed



Digital Fuzzy Control

Digital Fuzzy Logic Controller precisely controls Stirring Speed by 1 rpm resolution
Digital Timer from 1 min to 99 hour 59 min



Touch Button

Touch-sensitive Multi-Functional Capacitive Button compatible to all kind of latex gloves as well as finger touch



Jog Dial

Easy-to-use Jog Dial for quick and convenient setting of stirring speed and timer
Push to Run, Stop and Save Set RPM and TIMER



Hi-Fidelity LCD

High-fidelity clear back light LCD displays complete operating conditions at a glance
Easy to monitoring set values, present stirring speed and timer.



Brushless Motor

Brushless shade motor for powerful torque, steady speed control and long shelf life



Rust Free Chuck

Corrosion and rust free chrome plated chuck for long shelf life

#JSMS-070D / 100D / 150D Digital Overhead Stirrer

# Technical Data	JSMS-D Common Specification
Controller	Digital Fuzzy Control with Capacitive Touch Button with Jog Dial Full Size Digital Back Light LCD Display Independent ON/OFF Switch
Timer	1 min to 99 hr 59 min
Max. Shaft Diameter	10 mm
Motor	Brushless Shade Motor
Safety	Over Load Cut-Off / Heat Protector for Motor
Material	Aluminum casting with epoxy powder coating Engineering Plastic
Electrical Requirement	230 VAC 50/60 Hz, 1-Phase



# Technical Data	JSMS-070D	JSMS-100D	JSMS-150D
Speed	-	-	-
Range	100 to 2,000 rpm	80 to 1,200 rpm	50 to 800 rpm
Setting Resolution	5 rpm	1 rpm	1 rpm
Max. Viscosity	70,000 mPas	100,000 mPas	150,000 mPas
Max. Torque	200 Ncm	300 Ncm	450 Ncm
Stirring Capacity H₂O	25 liter	40 liter	60 liter

#JSMS-070D / 100D / 150D Digital Overhead Stirrer

Ordering Information

Art. No.	Descriptions
JSMS-070D	Digital Overhead Stirrer 100 - 2,000 rpm 200 Ncm 70,000 mPas 230 VAC
JSMS-100D	Digital Overhead Stirrer 80 - 1,200 rpm 300 Ncm 100,000 mPas 230 VAC
JSMS-150D	Digital Overhead Stirrer 50 - 800 rpm 450 Ncm 150,000 mPas 230 VAC

Optional Accessories

PHA-04S	Standard Plate Stand, 25 x 37 cm with Rod and Silicone Pad
PHA-05C	Clamp, Hold up to 23 mm



PHA-P30850	Impeller, Propeller, 3 x blade, Rod : 8 mm Blade Dia. : 50 mm
PHA-P30860	Impeller, Propeller, 3 x blade, Rod : 8 mm Blade Dia. : 60 mm
PHA-P30880	Impeller, Propeller, 3 x blade, Rod : 8 mm Blade Dia. : 80 mm
PHA-P30810	Impeller, Propeller, 3 x blade, Rod : 8 mm Blade Dia. : 100 mm

PHA-P31060	Impeller, Propeller, 3 x blade, Rod : 10 mm Blade Dia. : 60 mm
PHA-P31080	Impeller, Propeller, 3 x blade, Rod : 10 mm Blade Dia. : 80 mm
PHA-P31010	Impeller, Propeller, 3 x blade, Rod : 10 mm Blade Dia. : 100 mm

PHA-P40870	Impeller, Propeller, 4 x blade, Rod : 8 mm Blade Dia. : 70 mm
PHA-P40890	Impeller, Propeller, 4 x blade, Rod : 8 mm Blade Dia. : 90 mm
PHA-P40810	Impeller, Propeller, 4 x blade, Rod : 8 mm Blade Dia. : 100 mm

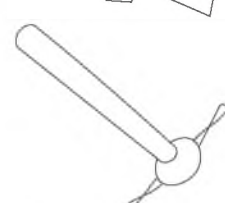
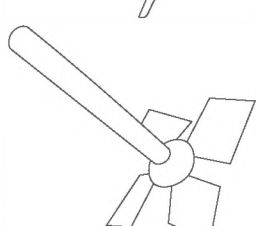
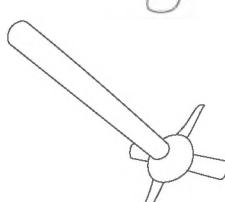
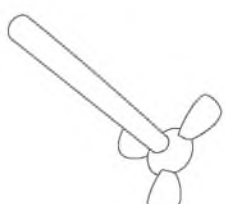
PHA-P41090	Impeller, Propeller, 4 x blade, Rod : 10 mm Blade Dia. 90 mm
PHA-P41010	Impeller, Propeller, 4 x blade, Rod : 10 mm Blade Dia. 100 mm

PHA-D40890	Impeller, Diamond, 4 x blade, Rod : 8 mm Blade Dia. : 90 mm
PHA-D40810	Impeller, Diamond, 4 x blade, Rod : 8 mm Blade Dia. : 100 mm
PHA-D41010	Impeller, Diamond, 4 x blade, Rod : 10 mm Blade Dia. : 100 mm

PHA-C20810	Impeller, Centrifugal, 2 x blade, Rod : 8 mm Blade Dia. : 100 mm
PHA-C2890F	Impeller, Centrifugal, 2 x blade, Rod : 8 mm Blade Dia. : 90 mm, Teflon Coated
PHA-C2812F	Impeller, Centrifugal, 2 x blade, Rod : 8 mm Blade Dia. : 120 mm, Teflon Coated

PHA-A20870	Impeller, Anchor, 2 x blade, Rod : 8 mm Blade Dia. : 70 mm
PHA-A20890	Impeller, Anchor, 2 x blade, Rod : 8 mm Blade Dia. : 90 mm

PHA-A21090	Impeller, Anchor, 2 x blade, Rod : 10 mm Blade Dia. : 90 mm
PHA-A21014	Impeller, Anchor, 2 x blade, Rod : 10 mm Blade Dia. : 140 mm



ANALOG

JSMS-A Series Overhead Stirrer

Low Viscosity

JSMS-070A 70,000 mPas 200 Ncm ~ 2,000 rpm

High Speed



JSMS-100A 100,000 mPas 300 Ncm ~ 1,200 rpm



High Viscosity

JSMS-150A 150,000 mPas 450 Ncm ~ 800 rpm

Low Speed



Analog Control

Easy-to-use
Stepless Stirring Speed Control up to 2,000 rpm



Brushless Motor

Brushless shade motor for powerful torque,
steady speed and long shelf life



Aluminum Casting Body


Rugged aluminum casting body with epoxy
powder coating
Durable and rust free engineering plastic base



Rust Free Chuck

Corrosion and rust free chrome plated chuck
for long shelf life

#JSMS-070A / 100A / 150A Analog Overhead Stirrer

# Technical Data 	JSMS-070A	JSMS-100A	JSMS-150A
Speed Range	0 to 2,000 rpm	0 to 1,200 rpm	0 to 800 rpm
Max. Viscosity	70,000 mPas	100,000 mPas	150,000 mPas
Max. Torque	200 Ncm	300 Ncm	450 Ncm
Stirring Capacity H ₂ O	25 liter	40 liter	60 liter
Controller	Analog Stepless Speed Control Independent ON/OFF Switch		
Max. Shaft Diameter	10 mm		
Motor	Brushless Shade Motor		
Safety	Over Load Cut-Off / Over Heat Protection for Motor		
Material	Aluminum casting with epoxy powder coating Engineering Plastic		
Electrical Requirement	230 VAC 50/60Hz, 1-Phase		

#JSMS-070A / 100A / 150A Analog Overhead Stirrer

Ordering Information

Art. No.	Descriptions
JSMS-070A	Analog Overhead Stirrer ~ 2,000 rpm 200 Ncm 70,000 mPas 230 VAC 50/60 Hz
JSMS-100A	Analog Overhead Stirrer ~ 1,200 rpm 300 Ncm 100,000 mPas 230 VAC 50/60 Hz
JSMS-150A	Analog Overhead Stirrer ~ 800 rpm 450 Ncm 150,000 mPas 230 VAC 50/60 Hz

Optional Accessories

PHA-04S	Standard Plate Stand, 25 x 37 cm with Rod and Silicone Pad
PHA-05C	Clamp, Hold up to 23 mm



PHA-P30850	Impeller, Propeller, 3 x blade, Rod : 8 mm Blade Dia. : 50 mm
PHA-P30860	Impeller, Propeller, 3 x blade, Rod : 8 mm Blade Dia. : 60 mm
PHA-P30880	Impeller, Propeller, 3 x blade, Rod : 8 mm Blade Dia. : 80 mm
PHA-P30810	Impeller, Propeller, 3 x blade, Rod : 8 mm Blade Dia. : 100 mm

PHA-P31060	Impeller, Propeller, 3 x blade, Rod : 10 mm Blade Dia. : 60 mm
PHA-P31080	Impeller, Propeller, 3 x blade, Rod : 10 mm Blade Dia. : 80 mm
PHA-P31010	Impeller, Propeller, 3 x blade, Rod : 10 mm Blade Dia. : 100 mm

PHA-P40870	Impeller, Propeller, 4 x blade, Rod : 8 mm Blade Dia. : 70 mm
PHA-P40890	Impeller, Propeller, 4 x blade, Rod : 8 mm Blade Dia. : 90 mm
PHA-P40810	Impeller, Propeller, 4 x blade, Rod : 8 mm Blade Dia. : 100 mm

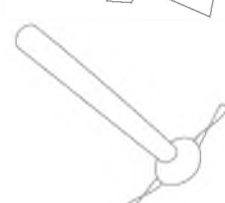
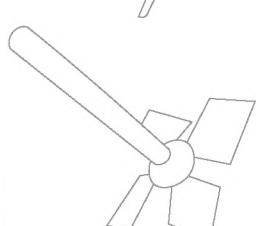
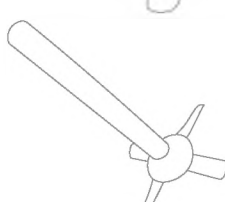
PHA-P41090	Impeller, Propeller, 4 x blade, Rod : 10 mm Blade Dia. 90 mm
PHA-P41010	Impeller, Propeller, 4 x blade, Rod : 10 mm Blade Dia. 100 mm

PHA-D40890	Impeller, Diamond, 4 x blade, Rod : 8 mm Blade Dia. : 90 mm
PHA-D40810	Impeller, Diamond, 4 x blade, Rod : 8 mm Blade Dia. : 100 mm
PHA-D41010	Impeller, Diamond, 4 x blade, Rod : 10 mm Blade Dia. : 100 mm

PHA-C20810	Impeller, Centrifugal, 2 x blade, Rod : 8 mm Blade Dia. : 100 mm
PHA-C2890F	Impeller, Centrifugal, 2 x blade, Rod : 8 mm Blade Dia. : 90 mm, Teflon Coated
PHA-C2812F	Impeller, Centrifugal, 2 x blade, Rod : 8 mm Blade Dia. : 120 mm, Teflon Coated

PHA-A20870	Impeller, Anchor, 2 x blade, Rod : 8 mm Blade Dia. : 70 mm
PHA-A20890	Impeller, Anchor, 2 x blade, Rod : 8 mm Blade Dia. : 90 mm

PHA-A21090	Impeller, Anchor, 2 x blade, Rod : 10 mm Blade Dia. : 90 mm
PHA-A21014	Impeller, Anchor, 2 x blade, Rod : 10 mm Blade Dia. : 140 mm



DIGITAL

JSHR-270D Homogenizer

Max. 27,000 rpm



Digital RPM Display

3-Digit Digital FND Display and Stepless Speed Control up to maximum 27,000 rpm



Brushless Motor

Brushless shade motor for high speed drive and long shelf life



Aluminum Casting Body

Rugged aluminum casting body with epoxy powder coating
Durable and rust free engineering plastic case



Dispersing Tools

High quality stainless steel dispersing tool with Teflon bearing
Choice of dispersing volume from 1 ml - 2500 ml



#JSHR-270D Digital Homogenizer

Technical Data

JSHR-270D

Speed Range	2,000 to 27,000 rpm (w/o load)
Max. Dispersing Volume	2,500 ml H ₂ O
Usable Dispersing Tool Extension Arm	Dia. 8mm / 10mm / 18mm / 25mm Stator Dia. 12.7mm x L 250mm
Control	Stepless Variable Speed Control Independent ON/OFF Switch
Display	3-Digit FND
Motor Capacity	Brushless Shade Motor 400 / 300 Watt (input/output)
Safety	Over Heat Protection for Motor
Materials	Aluminum casting with epoxy powder coating Engineering Plastic
Electrical Requirement	230VAC 50/60Hz, 1-Phase



PHA-T0680



PHA-T0710



PHA-T1218



PHA-T1725

Ordering Information

Art. No.	Descriptions
JSHR-270D	Digital Homogenizer 230 VAC 50/60 Hz, 1-Phase
Optional Accessories	<i>Order Dispersing Tool separately</i>
PHA-T0680	Dispersing Tool, Rotor Dia. 6.1 mm, Stator Dia. 8 mm for 1 ~ 50 ml liquid volume
PHA-T0710	Dispersing Tool, Rotor Dia. 7.5 mm, Stator Dia. 10 mm for 1 ~ 100 ml liquid volume
PHA-T1218	Dispersing Tool, Rotor Dia. 12.7 mm, Stator Dia. 18 mm for 10 ~ 1000 ml liquid volume
PHA-T1725	Dispersing Tool, Rotor Dia. 17.0 mm, Stator Dia. 25 mm for 50 ~ 2500 ml liquid volume
PHA-04S	Standard Plate Stand, 25 x 37 cm with Rod and Silicone Pad
PHA-05C	Clamp, Hold up to 23 mm

ANALOG

JSHR-270A Homogenizer

Max. 27,000 rpm



Analog Control

Easy-to-use
Stepless Stirring Speed Control up to 27,000 rpm



Brushless Motor

Brushless shade motor for high speed drive
and long shelf life



Aluminum Casting Body

Rugged aluminum casting body with epoxy
powder coating
Durable and rust free engineering plastic case



Dispersing Tools

High quality stainless steel dispersing tool
with Teflon bearing
Choice of dispersing volume from 1 ml ~ 2500 ml



#JSHR-270A Analog Homogenizer

Technical Data

JSHR-270A

Speed Range	0 to 27,000 rpm (w/o load)
Max. Dispersing Volume	2,500 ml H ₂ O
Usable Dispersing Tool Extension Arm	Dia. 8mm / 10mm / 18mm / 25mm Stator Dia. 12.7mm x L 250mm
Control	Stepless Variable Speed Control Independent ON/OFF Switch
Motor Capacity	Brushless Shade Motor 400 / 300 Watt (input/output)
Safety	Over Heat Protection for Motor
Materials	Aluminum casting with epoxy powder coating Engineering Plastic
Electrical Requirement	230VAC 50/60Hz, 1-Phase



PHA-T0680



PHA-T0710



PHA-T1218



PHA-T1725

Ordering Information

Art. No.

JSHR-270A

Descriptions

Analog Homogenizer 230 VAC 50/60 Hz, 1-Phase

Optional Accessories

PHA-T0680

Order Dispersing Tool separately

Dispersing Tool, Rotor Dia. 6.1 mm, Stator Dia. 8 mm for 1 ~ 50 ml liquid volume

PHA-T0710

Dispersing Tool, Rotor Dia. 7.5 mm, Stator Dia. 10 mm for 1 ~ 100 ml liquid volume

PHA-T1218

Dispersing Tool, Rotor Dia. 12.7 mm, Stator Dia. 18 mm for 10 ~ 1000 ml liquid volume

PHA-T1725

Dispersing Tool, Rotor Dia. 17.0 mm, Stator Dia. 25 mm for 50 ~ 2500 ml liquid volume

PHA-04S

Standard Plate Stand, 25 x 37 cm with Rod and Silicone Pad

PHA-05C

Clamp, Hold up to 23 mm

Scientific
Laboratory

INSTRUMENTS

[주] 제이에스리서치

JSR

[주] 제이에스리서치
JS Research Inc.

Table of Contents

Oven

8

Forced Convection Oven	12
Natural Convection Oven	14
Upright Convection Oven	16
Dry Heat Sterilizer	18
Vacuum Oven	20
Hi-Temp Oven	22
HEPA Filter Clean Air Oven	24
Dual Chamber Industrial Oven	26
Industrial Oven	28

Incubator

30

General Incubator	34
Compact Incubator	36
Table Top Cooled Incubator	38
Cooled BOD Incubator	40
Programmable Cooled BOD Incubator	42
Dual Chamber Cooled Incubator	44
Multi-Room Incubator	46
Cold Lab Storage Chamber	52

Shaking Incubator

54

Floor Standing Shaking Incubator	60
Stackable Shaking Incubator	62
Compact Shaking Incubator	64
Multi-Stack Shaking Incubator	66
Multi-Room Shaking Incubator	68
Orbital Shaker	70

Table of Contents

72

Sterilizer

Programmable Autoclave Sterilizer	74
Autoclave Sterilizer	76
Dry Heat Sterilizer	78

80

Water Bath

Digital Water Bath	84
Digital Oil Bath	88
Visco-Sight Bath	90
Extraction COD Bath	92
Immersion Bath Circulator	94
Refrigerated Circulation Bath	98
Cold Trap	102
Shaking Water Bath	104

106

Growth Chamber

3-D Illumination Growth Chamber	110
Top-Siillumination Growth Chamber	112
3-Side Illumination Growth Chamber	114
Culture Chamber	116
Culture Rack	118

120

Safety Cabinet

Biological Safety Cabinet	124
Laminar Flow Clean Bench	126
Bio-Suction Pump	128

130

Climatic Chamber

Table Top Climatic Chamber	134
Premium Climatic Chamber	136
Economic Climatic Chamber	138
Battery Charge/Discharge Test Chamber	140
Drug Stability Chamber	

142

Heating Instrument

Electric Muffle Furnace	142
Dry Block Heater	144

Ovens

SELECTION GUIDE

LABORATORY
INDUSTRIAL

Wide range of Choice

JSOF-Series Forced Convection Oven



- Max. 250 °C
- Constant Temperature
- Timer On / Off
- RS-232C or 485 [OPTION]
- Program Controller
- 5 PTN 80 SEG [OPTION]



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSOF-050	48 L	amb. + 10 °C ~ 250 °C	± 0.2 °C
JSOF-100	100 L		± 0.3 °C
JSOF-150	151 L		± 0.3 °C
JSOF-250	252 L		± 0.3 °C

JSON-Series Gravity Convection Oven



- Max. 250 °C
- Constant Temperature
- Timer On / Off
- RS-232C or 485 [OPTION]
- Program Controller
- 5 PTN 80 SEG [OPTION]



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSON-050	48 L	amb. + 10 °C ~ 250 °C	± 0.3 °C
JSON-100	100 L		± 0.3 °C
JSON-150	151 L		± 0.5 °C
JSON-250	252 L		± 0.5 °C

JSOF-T Series Upright Convection Oven



- Max. 250 °C
- Constant Temperature
- Timer On / Off
- RS-232C or 485 [OPTION]
- Program Controller
- 5 PTN 80 SEG [OPTION]



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSOF-250T	250 L	amb. + 10 °C ~ 250 °C	± 0.3 °C
JSOF-400T	372 L		± 0.3 °C
JSOF-700T	655 L		± 0.3 °C

JSOF-S Series Dry Heat Sterilizer



- Max. 250 °C
- Constant Temperature
- Timer On / Off



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSOF-030S	33 L	amb. + 10 °C ~ 250 °C	± 0.2 °C
JSOF-050S	48 L		± 0.2 °C
JSON-030S	33 L		± 0.3 °C
JSON-050S	48 L		± 0.3 °C

JSVO-Series Vacuum Oven



- › Max. 250 °C
- › Constant Temperature
- › Timer On / Off
- › 760 mmHg Vacuum



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSVO-30T	27 L	amb. + 10 °C	± 2.0 °C
JSVO-60T	64 L	~ 250 °C	± 2.0 °C

JSOF-H Series 350 °C Hi-Temp Oven



- › Max. 350 °C
- › Constant Temperature
- › Timer On / Off
- › RS-232C or 485 [OPTION]
- › Program Controller
5 PTN 80 SEG [OPTION]



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSOF-030H	27 L	amb. + 10 °C	± 0.2 °C
JSOF-100H	96 L	~ 350 °C	± 0.3 °C
JSOF-150H	150 L	~ 350 °C	± 0.3 °C

JSCO-Series HEPA Filter Clean Air Oven



- › H14 (ISO Class5) 99.995% efficiency HEPA Filter
- › Max. 250 °C
- › Program Controller
5 PTN 80 SEG
- › RS-232C or 485 [OPTION]



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSCO-150T	168 L	amb. + 10 °C	± 0.3 °C
JSCO-300T	336 L	~ 250 °C	± 0.3 °C
JSCO-1200T	1200 L	~ 250 °C	± 0.5 °C

JSOF-W JSIO-Series Industrial Oven



- › Max. 250 °C
- › Constant Temperature
- › Timer On / Off
- › RS-232C or 485 [OPTION]
- › Program Controller
5 PTN 80 SEG [OPTION]



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSOF-400W	2 x 432 L	amb. + 10 °C	± 0.3 °C
JSOF-600W	2 x 612 L	~ 250 °C	± 0.3 °C
JSIO-400T	410 L	~ 250 °C	± 0.3 °C
JSIO-960T	960 L	~ 250 °C	± 0.5 °C
JSIO-1400T	1386 L	~ 250 °C	± 0.5 °C

Ovens

FEATURE

PRECISION CONTROL HIGH PERFORMANCE Standards & Options

Controller Guide

	JSC-0D Basic Controller	JSC-1D Digital PID Controller	JSC-3D Programmable Controller	JSC-5D Programmable Controller
Type	Digital PID		16-bit Microprocessor	
Display	LED		2-Line Back light LCD	
Operation	Constant Temperature		Constant Temp. Mode Program Mode	
Accuracy	± 0.1 °C		± 0.1 °C	
Timer	Auto START/STOP		Auto STOP	
Timer Scale	Max. 99min 59sec / 99hr 59min / 99 day 23hr selectable		Max. 99min 59sec / 99hr 59min selectable	
Programming	n/a	n/a	Yes	Yes
Pattern Memory			1 Pattern	5 Patterns
Max. Segment			11 Segments	80 Segments
Max. Repeats			999 or unlimited Segment Skip	999 or unlimited Segment Skip Pattern Link
RS-232C or RS-485	n/a	Yes [OPTION]	Yes [OPTION]	Yes [OPTION]
PC Software	n/a	Yes [OPTION]	Yes [OPTION]	n/a
Calibration	Yes	Yes	Yes	Yes
Auto-tuning	Yes	Yes	Yes	Yes

JSC-0D [BASIC]



JSC-1D [OPTION]



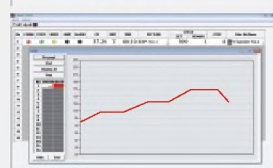
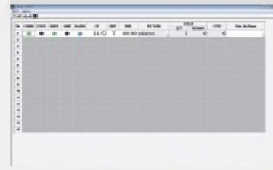
JSC-3D [OPTION]



JSC-5D [OPTION]



PC Software [OPTION]



- ▶ RS-232C Serial Port Communication
- ▶ Turn On and Off control
- ▶ Temperature and Timer Setting
- ▶ Pattern Programming and uploading
- ▶ Current temperature Graph Rendering
- ▶ Temperature Data Logging
- ▶ Alarm Signal
- ▶ RS-232C 시리얼 포트 통신
- ▶ 작동, 정지 제어
- ▶ 온도 설정, 타이머 설정 기능
- ▶ 패턴 프로그래밍 기능
- ▶ 작동 중 온도 그래프 표시 기능
- ▶ 온도 데이터 수집 및 저장 기능
- ▶ 알람 현황 표시

ASCII Data Collection

Date	Time	Temp	Step	Seg	Cycle
2014:01:07	09:00:00	120.00	00:05	03	001/999
2014:01:07	09:00:10	120.01	00:05	03	001/999
2014:01:07	09:00:20	120.01	00:05	03	001/999
2014:01:07	09:00:30	120.00	00:05	03	001/999

Performance & Convenience

Construction



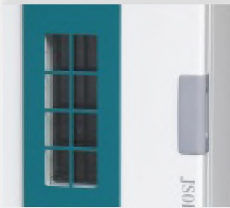
- ▶ Durable epoxy powdercoated metallic casing
- ▶ Ventilation damper
- ▶ 내구성이 뛰어난 에폭시 분체 도장
- ▶ 수분 및 증기 배출 배기구 장착

Chamber



- ▶ Corrosion resistant Stainless Steel 304 chamber with seamless round cornered edge allows easy cleaning and prevent leakage
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버 코너는 이음새없이 라운드 처리 되어 있어 세척이 간편

Door Window



- ▶ Double layered glass window for easy observation of samples
- ▶ Non-contact door switch cut-off heater and blower
- ▶ 이중 강화유리 도어 투시창
- ▶ 비접촉식 도어센서 장착, 도어 개방시 히터 및 팬 동작 정지

Removable Shelf



- ▶ Removable and height adjustable Stainless Steel Wire Shelf
- ▶ 25mm 간격으로 높이 조절 가능한 스테인레스 스틸 와이어 선반

Safety



- ▶ **DUAL OVER TEMP. CUT-OFF**
 - 1) Digital system cut-off heater and AUDIO VISUAL ALARM in case +2°C above set temperature
 - 2) Analog system cut-off heater 10% above set temp.
- ▶ **MAX TEMP CUT-OFF** heater and AUDIO VISUAL ALARM when +1°C above maximum limit
- ▶ **DOOR SENSOR** : Non-contact magnetic door switch cut-off heater and/or blower when door opened
- ▶ **SENSOR DISCONNECTION ALARM**
- ▶ **OVER CURRENT CUT-OFF** : Electrical Leakage Breaker

이중과열방지장치

- 1) 설정 온도 +2 °C 초과 시 히터 차단 및 시청각 알람
- 2) 콘트롤러 오류로 지정 온도 10% 초과 시 히터 차단

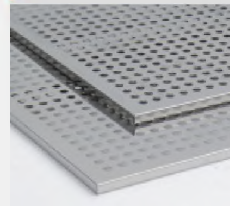
최고온도알람기능 : 작동한계 온도 +1°C 초과시 히터 차단

도어스위치 : 도어를 열면 히터와 팬이 정지하여 열기로 부터 사용자를 보호하고 과열 방지

센서단락알람

누전차단기 : 전기누설 시 주전원 차단

Option



- ▶ Stainless Steel 304 Perforated Shelf
- ▶ Stainless Steel 304 타공 선반

Laboratory

STANDARD OVENS

FORCED CONVECTION

Mechanical Circulation



JSOF-150 Forced Convection Oven with programmable controller and RS-232C Serial Port



Max 250 °C



Constant Temperature Controller



Timer On / Off



[OPTION] RS-232C Serial Computer Interface



[OPTION] Program Controller with PC Control Software

Forced Convection Oven

JSOF-Series Forced Convection Ovens utilize a motorized fan to force air circulates across heating element to supply hot air into the chamber. The fan allows more consistent temperature distribution of the chamber for applications in which good temperature uniformity or faster heat up and short drying time are needed.

Specifications

Heating	Forced Air Convection
Temp. Range	ambient + 10 °C - 250 °C
Accuracy	± 0.2 °C at 120°C (JSOF-100)
Uniformity	± 1.0 °C at 120°C (JSOF-100)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Insulation : 50mm Woven Mineral Wool Including Stainless Steel Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



CEE 7/7 Schuko

or



BS 1363

Control Accuracy

- ▶ ±0.1 °C Digital PID Controller with automatic START / STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Forced air convection for fast drying application
- ▶ Aero-dynamic chamber design with circulation blower to achieve superior thermal uniformity
- ▶ Separate heating compartment located on back wall prevents contamination and maintenance free
- ▶ 50mm thick high thermal efficiency mineral wool with woven aluminum barrier sheet save energy and less dust

- ▶ 강제 공기 순환 가열방식으로 신속한 건조성능
- ▶ 공기 역학적 설계와 강력한 블로어로 공기 흐름이 원활하여 오븐내부의 온도 균일성이 뛰어남
- ▶ 가열챔버가 후면에 별도로 위치하여 액체 흘림으로 인한 오염과 고장이 적음
- ▶ 50mm 두께의 고효율 단열재는 알미늄 피복층이 있어 에너지 소비가 적고 분진이 없음

Convenience

- ▶ Double layered tempered safety glass window for easy observation of samples under testing
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevent leakage
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Easy to open and air-tight one touch door latch
- ▶ Opening size adjustable ventilation damper
- ▶ Non-contact door switch cut-off heater and blower

- ▶ 이중 강화유리 도어 투시창으로 도어를 열지 않고 샘플 관찰
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 원터치 방식의 도어 잠금 장치
- ▶ 수분 및 증기를 배출할 수 있는 배기구 장착
- ▶ 비접촉식 도어센서 장착, 도어 개방 시 히터 및 팬 동작 정지

Ordering Information

	JSOF-050	JSOF-100	JSOF-150	JSOF-250
Chamber Volume (Capacity)	48 L	100 L	151 L	252 L
Dimensions Inner	400 x 300 x 400	500 x 400 x 500	560 x 450 x 600	600 x 600 x 700
W x D x H mm Outer	560 x 605 x 710	660 x 705 x 810	720 x 755 x 910	760 x 905 x 1010
Window	W150 x H290	W150 x H360	W150 x H410	W150 x H460
Temperature Range	ambient +10 °C to 250 °C			
Accuracy at 120°C	± 0.2 °C	± 0.3 °C	± 0.3 °C	± 0.3 °C
Uniformity at 120°C	± 1.0 °C	± 1.3 °C	± 1.5 °C	± 1.8 °C
Heat up time to 120°C	10 min.	10 min.	10 min.	10 min.
No. of Shelves / Maximum No.	2 / 12	2 / 16	2 / 20	3 / 24
No. of Ventilation damper	1	1	1	1
Heater Capacity	1.0 kW	1.5 kW	1.7 kW	2.5 kW
Power Rating	4.7 Amp	7.0 Amp	7.9 Amp	11.5 Amp
Power Plug	CEE 7/7 Schuko			

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ DOOR SENSOR
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Options

Art No.	Descriptions
OEC-001	JSC-1D Digital PID Controller /w RS-232C Interface, PC Software
OEC-003	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-232C Interface, PC Software
OEC-005	JSC-5D Programmable Controller 5 Patterns 80 Segments

Accessories

Art No.	Descriptions
Perforated Shelf, Stainless Steel 304	
PHS-A03	for JSOF-050 W370 x D280 mm
PHS-A05	for JSOF-100 W470 x D380 mm
PHS-A07	for JSOF-150 W530 x D430 mm
PHS-A09	for JSOF-250 W570 x D580 mm
Wire Shelf, Stainless Steel 304	
PHS-B03	for JSOF-050 W370 x D280 mm
PHS-B05	for JSOF-100 W470 x D380 mm
PHS-B07	for JSOF-150 W530 x D430 mm
PHS-B09	for JSOF-250 W570 x D580 mm
PHS-A99	Shelf Support, Set of 4

Laboratory

STANDARD OVENS

NATURAL CONVECTION

Gravity Circulation



Natural Convection Oven

JSON-Series Natural Convection Ovens heat up chamber with mild gravity air convection with heating element located under the chamber.

Ideal for general and conventional laboratory drying purpose.

Specifications

Heating	Gravity Air Convection
Temp. Range	ambient + 10 °C - 250 °C
Accuracy	± 0.3 °C at 120°C (JSON-050)
Uniformity	± 2.0 °C at 120°C (JSON-050)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Insulation : 50mm Woven Mineral Wool Including Stainless Steel Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



CEE 7/7 Schuko

or



BS 1363



Max 250 °C



Constant Temperature Controller



Timer On / Off



[OPTION] RS-232C Serial Computer Interface



[OPTION] Program Controller with PC Control Software

Control Accuracy

- ± 0.1 °C Digital PID Controller with automatic START / STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor
- 정밀한 PID 컨트롤러는 온도를 ± 0.1 °C 단위로 제어
- 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- 온도보정, 오토튜닝 기능 내장
- Class A Pt-100 Ω 온도 센서

Performance

- › Gravity air convection heated from the bottom creates mild vertical air circulation in the chamber
- › Separate heating compartment located on bottom with perforated heater cover
- › 50mm thick high thermal efficiency mineral wool with woven aluminum barrier sheet save energy and less dust

- › 챔버 바닥에서 가열하는 자연대류 순환 방식의 공기 흐름
- › 다공성 스테인리스 플레이트로 분리 되어 있는 가열챔버
- › 50mm 두께의 고효율 단열재는 알루미늄 피복층이 있어 에너지 소비가 적고 분진이 없음

Convenience

- › Double layered tempered safety glass window for easy observation of samples under testing
- › Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevent leakage
- › Removable and height adjustable shelf by 25mm spacing
- › Easy to open and air-tight one touch door latch
- › Opening size adjustable ventilation damper
- › Non-contact door switch cut-off heater

- › 이중 강화유리 도어 투시창으로 도어를 열지 않고 샘플 관찰
- › 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- › 25mm 간격으로 높이 조절 가능한 선반
- › 원터치 방식의 도어 잠금 장치
- › 수분 및 증기를 배출할 수 있는 배기구 장착
- › 비접촉식 도어센서 장착, 도어 개방 시 히터 가열 정지

Safety

- › DUAL OVER TEMP. CUT-OFF
- › MAX TEMP CUT-OFF
- › DOOR SENSOR
- › SENSOR DISCONNECTION ALARM
- › OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Options

Art No.	Descriptions
OEC-001	JSC-1D Digital PID Controller /w RS-232C Interface, PC Software
OEC-003	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-232C Interface, PC Software
OEC-005	JSC-5D Programmable Controller 5 Patterns 80 Segments

Accessories

Art No.	Descriptions
Perforated Shelf, Stainless Steel 304	
PHS-A03	for JSON-050 W370x D280 mm
PHS-A05	for JSON-100 W470x D380 mm
PHS-A07	for JSON-150 W530x D430 mm
PHS-A09	for JSON-250 W570x D580 mm
Wire Shelf, Stainless Steel 304	
PHS-B03	for JSON-050 W370x D280 mm
PHS-B05	for JSON-100 W470x D380 mm
PHS-B07	for JSON-150 W530x D430 mm
PHS-B09	for JSON-250 W570x D580 mm
PHS-A99	Shelf Support, Set of 4

Ordering Information

	JSON-050	JSON-100	JSON-150	JSON-250
Chamber Volume (Capacity)	48 L	100 L	151 L	252 L
Dimensions Inner	400 x 300 x 400	500 x 400 x 500	560 x 450 x 600	600 x 600 x 700
W x D x H mm Outer	560 x 525 x 710	660 x 625 x 810	720 x 675 x 910	760 x 825 x 1010
Window	W150 x H290	W150 x H360	W150 x H410	W150 x H460
Temperature Range	ambient +10 °C to 250 °C			
Accuracy at 120°C	± 0.3 °C	± 0.3 °C	± 0.5 °C	± 0.5 °C
Uniformity at 120°C	± 2.0 °C	± 3.0 °C	± 3.0 °C	± 4.0 °C
Heat up time to 120°C	10 min.	10 min.	15 min.	20 min.
No. of Shelves / Maximum No.	2 / 12	2 / 14	2 / 16	3 / 24
No. of Ventilation damper	1	2	2	2
Heater Capacity	1.2 kW	1.5 kW	1.7 kW	2.5 kW
Power Rating	5.5 Amp	6.8 Amp	7.7 Amp	11.3 Amp
Power Plug	CEE 7/7 Schuko			

Laboratory

STANDARD OVENS




UPRIGHT CONVECTION

Large Capacity




Upright Convection Oven

Upright Forced Convection Oven provides a big volume of chamber for large scale laboratory or industrial purpose. Nevertheless its large volume, dual heating system on upper and lower compartment with two separate heating elements and blowers provide better air circulation throughout the chamber to achieve excellent temperature uniformity and faster heat up time.



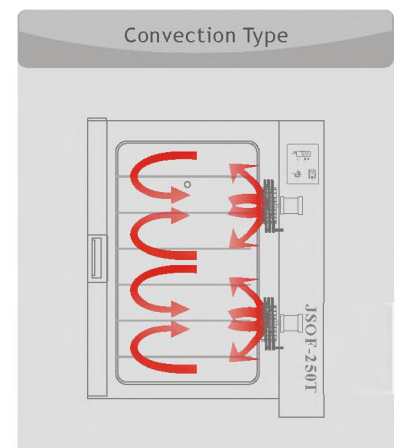
-  Max 250 °C
-  Constant Temperature Controller
-  Timer On / Off 
-  [OPTION] RS-232C Serial Computer Interface
-  [OPTION] Program Controller with PC Control Software

Specifications

Heating	Forced Air Convection Dual Heating Chamber System
Temp. Range	ambient + 10 °C - 250 °C
Accuracy	± 0.2 °C at 120°C (JSOF-250T)
Uniformity	± 2.0 °C at 120°C (JSOF-250T)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class APt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Insulation : 50mm Woven Mineral Wool Floor Standing with Caster Including Stainless Steel Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase
Plug config.	 or  or  <small>CEE 7/7 Schuko BS 1363 30 Amp</small>

Control Accuracy

- ▶ ± 0.1 °C Digital PID Controller with automatic START / STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class APt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서



Performance

- ▶ DUAL heating system located on upper and lower compartment with two separate heating elements and blowers provide better air circulation throughout the chamber to achieve excellent temperature uniformity and faster heat up time
- ▶ Separate heating compartment located on sidewall prevents contamination and maintenance free

- ▶ 대용량 챔버에 적합하도록 상하로 분리된 두 개의 개별적인 가열시스템으로 설계 되어 우수한 온도 균일성과 신속한 건조
- ▶ 가열 챔버가 측면에 위치 하여 액체 흘림으로 인한 오염과 고장이 적음

Convenience

- ▶ Floor standing large capacity oven provides more throughput and productivity of sample treatment
- ▶ Double layered tempered safety glass window for easy observation of samples under testing
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents leakage
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Easy to open and air-tight one touch door latch
- ▶ Opening size adjustable ventilation damper
- ▶ Non-contact door switch cut-off heater and blower
- ▶ Caster for easy transport

- ▶ 대량의 시료를 효율적으로 처리
- ▶ 이중 강화유리 도어 투시창으로 도어를 열지 않고 샘플 관찰
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 원터치 방식의 도어 잠금 장치
- ▶ 수분 및 증기를 배출할 수 있는 배기구 장착
- ▶ 비접촉식 도어센서 장착, 도어 개방 시 히트 및 팬 동작 정지

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ DOOR SENSOR
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Options

Art No.	Descriptions
OEC-001	JSC-1D Digital PID Controller /w RS-232C Interface, PC Software
OEC-003	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-232C Interface, PC Software
OEC-005	JSC-5D Programmable Controller 5 Patterns 80 Segments

Accessories

Art No.	Descriptions
Perforated Shelf, Stainless Steel 304	
PHS-A06	for JSOF-250T W470 x D480 mm
PHS-A11	for JSOF-400T W580 x D590 mm
PHS-A15	for JSOF-700T W680 x D690 mm
Wire Shelf, Stainless Steel 304	
PHS-B06	for JSOF-250T W470 x D480 mm
PHS-B11	for JSOF-400T W580 x D590 mm
PHS-B12	for JSOF-700T W680 x D690 mm
PHS-A99	Shelf Support, Set of 4

Ordering Information

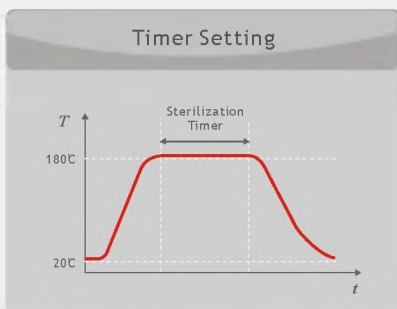
	JSOF-250T	JSOF-400T	JSOF-700T
Chamber Volume (Capacity)	250 L	372 L	655 L
Dimensions Inner	500 x 500 x 1000	610 x 610 x 1000	710 x 710 x 1300
W x D x H mm Outer	895 x 675 x 1360	1005 x 785 x 1360	1105 x 885 x 1660
Window	W150 x H460	W150 x H460	W150 x H615
Temperature Range	ambient +10 °C to 250 °C		
Accuracy at 120°C	± 0.3 °C	± 0.3 °C	± 0.3 °C
Uniformity at 120°C	± 1.5 °C	± 2.0 °C	± 3.0 °C
Heat up time to 120°C	10 min.	15 min.	15 min.
No. of Shelves / Maximum No.	3 / 36	4 / 36	6 / 48
No. of Ventilation damper	1	1	1
Heater Capacity	2 x 1.5 kW	2 x 1.7 kW	2 x 2.5 kW
Power Rating	13.8 Amp	15.6 Amp	22.9 Amp
Power Plug	CEE 7/7 Schuko	30 Amp	30 Amp

Laboratory

STANDARD OVENS

DRY HEAT STERILIZER

Compact & Efficient



Dry Heat Sterilizer

Dry Heat Sterilizer is a common instrument to be used to drying, heating and sterilizing objects by heating air up to 160°C or 180°C with gravity or forced convection system during specified sterilizing exposure time range from 30 to 60 minutes of sterilization exposure time

Specifications

Heating	Forced Air Convection or Gravity Air Convection
Temp. Range	ambient + 10 °C - 250 °C
Accuracy	± 0.2 °C at 180°C (JSOF-030S)
Uniformity	± 1.0 °C at 180°C (JSOF-030S)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Insulation : 50mm Woven Mineral Wool Including Stainless Steel Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



or



Control Accuracy

- ±0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor
- 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- 온도보정, 오토튜닝 기능 내장
- Class A Pt-100 Ω 온도 센서

MAX 250°C

Max 250 °C

Constant Temperature Controller

Constant Temperature Controller

Timer On / Off

Performance

- › Choice of Forced or Gravity air convection
- › Separate heating compartment prevents contamination and maintenance free
- › 50mm thick high thermal efficiency mineral wool with woven aluminum barrier sheet saves energy and less dust

- › 강제공기순환식 또는 자연대류방식 선택
- › 가열챔버가 분리 되어 있어 액체 흘림으로 인한 오염과 고장이 적음
- › 50mm 두께의 고효율 단열재는 알미늄 피복층이 있어 에너지 소비가 적고 분진이 없음

Convenience

- › Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents leakage
- › Removable and height adjustable shelf by 25mm spacing
- › Easy to open and air-tight one touch door latch
- › Opening size adjustable ventilation damper
- › Non-contact door switch cut-off heater and/or blower
- › 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- › 25mm 간격으로 높이 조절 가능한 선반
- › 원터치 방식의 도어 잠금 장치
- › 수분 및 증기를 배출할 수 있는 배기구 장착
- › 비접촉식 도어센서 장착, 도어 개방 시 히터, 팬 동작 정지

Safety

- › DUAL OVERTEMP. CUT-OFF
- › MAX TEMP CUT-OFF
- › DOOR SENSOR
- › SENSOR DISCONNECTION ALARM
- › OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Accessories

Art No.	Descriptions
Perforated Shelf, Stainless Steel 304	
PHS-A02	for JSOF-030S W320x D250 mm
PHS-A03	for JSOF-050S W370x D280 mm
PHS-A02	for JSON-030S W320x D250 mm
PHS-A03	for JSON-050S W370x D280 mm
Wire Shelf, Stainless Steel 304	
PHS-B02	for JSOF-030S W320x D250 mm
PHS-B03	for JSOF-050S W370x D280 mm
PHS-B02	for JSON-030S W320x D250 mm
PHS-B03	for JSON-050S W370x D280 mm
PHS-A99	Shelf Support, Set of 4

Ordering Information

	JSOF-030S	JSOF-050S	JSON-030S	JSON-050S
Air Circulation	Forced Convection		Gravity Convection	
Chamber Volume (Capacity)	33 L	48 L	33 L	48 L
Dimensions Inner	350 x 270 x 350	400 x 300 x 400	350 x 270 x 350	400 x 300 x 400
W x D x H mm Outer	510 x 555 x 660	560 x 585 x 710	510 x 475 x 660	560 x 505 x 710
Temperature Range	ambient +10 °C to 250 °C			
Accuracy at 180°C	± 0.2 °C	± 0.2 °C	± 0.3 °C	± 0.3 °C
Uniformity at 180°C	± 1.0 °C	± 1.0 °C	± 2.0 °C	± 2.0 °C
Heat up time to 180°C	15 min.	15 min.	15 min.	15 min.
No. of Shelves / Maximum No.	2 / 10	2 / 12	2 / 10	2 / 12
No. of Ventilation damper	1	1	1	1
Heater Capacity	800 W	1.0 kW	800 W	1.2 kW
Power Rating	3.8 Amp	4.7 Amp	3.7 Amp	5.5 Amp
Power Plug	CEE 7/7 Schuko			

Vacuum

SPECIAL OVENS

EVAPORATION DEGASSING under Vacuum

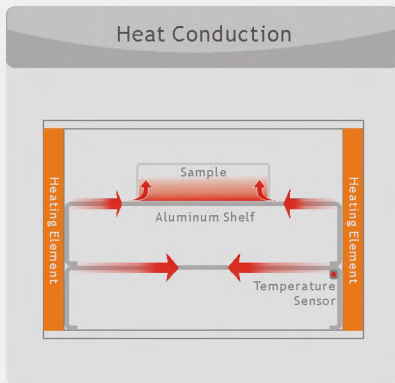
Vacuum Oven






Vacuum Drying Oven is suitable for drying out liquids or solvents contained in a samples or materials in vacuum environment to achieve low heat of vaporization or sublimation point.

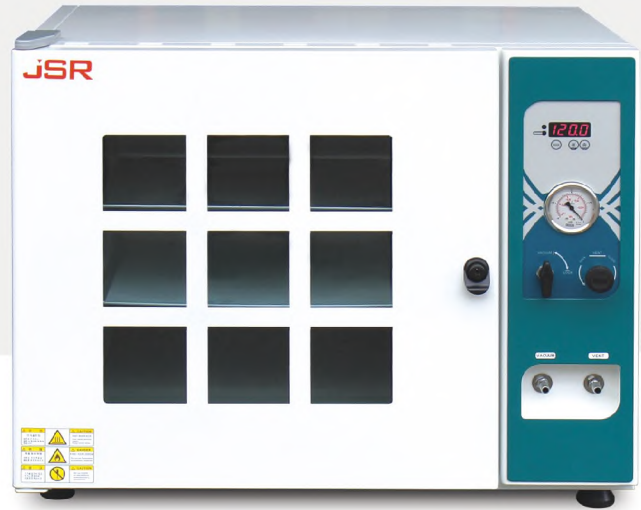
Ideal for Vacuum Distillation, Vacuum Sublimation or Vacuum Drying application of material science or electronic parts and assemblies.

Also suitable for drying out fine powders in vacuum environment without air convection to prevent diffusion of such samples.

Drying, curing, de-gassing, aging, removing moisture or solvent from fine powder or solid material, accelerating drying time, drying temperature sensitive material, drying in anaerobic condition, remove solvent from DNA, RNA or protein, drying unidentified material characteristic.



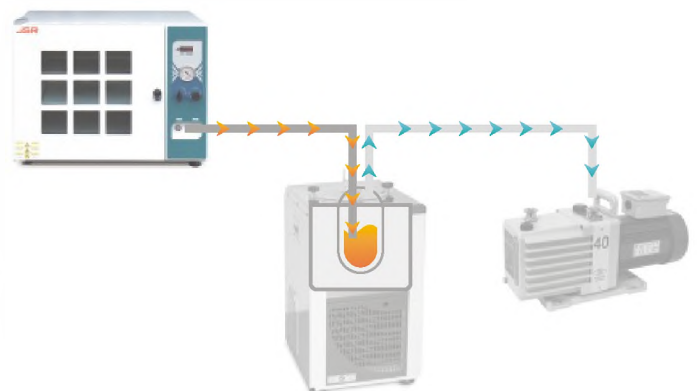
-  Vacuum 760 mmHg
-  Max 250 °C
-  Constant Temperature Controller
-  Timer On / Off 



Specifications

Heating	Heat transduction through aluminum shelf
Temp. Range	ambient + 10 °C - 250 °C
Accuracy	± 2.0 °C at 120°C (Shelf surface)
Uniformity	± 3.0 °C at 120°C (Shelf surface)
Vacuum	760 mmHg
Controller	Microprocessor PID Control Wait ON / OFF Timer
Sensor	Class A Pt 100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Steel with Epoxy Powder Coating Chamber : Electro-Polished Stainless Steel 304 Shelf : Anodized Aluminum Insulation : 50mm Woven Mineral Wool
Electric	220 ± 10% VAC 50/60Hz

Plug Config.  or 
CEE 7/7 Schuko BS 1363



Control Accuracy

- ▶ $\pm 0.1^\circ\text{C}$ Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 $\pm 0.1^\circ\text{C}$ 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분 59초 / 99시간 59분 / 99일 23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Heater from sidewall transduce heat through aluminum shelf to maintain uniform temperature over the surface of shelf
- ▶ Class A Pt-100 Ω sensor embedded into the aluminum shelf to measure accurate temperature of the shelf
- ▶ 50mm thick high thermal efficiency mineral wool with woven aluminum barrier sheet saves energy and less dust
- ▶ 챔버 외부 양측면에서 알미늄 선반을 가열 효율적으로 열을 전도하여 선반 표면 전체의 온도가 균일
- ▶ Class A Pt-100 Ω 온도 센서가 선반의 온도를 직접 측정, 제어하여 온도 편차가 적음
- ▶ 50mm 두께의 고효율 단열재는 알미늄 피복층이 있어 에너지 소비가 적고 분진이 없음

Convenience

- ▶ Corrosion resistant Stainless Steel 304 (ASTM 304) solid chamber interior
- ▶ Door with 15mm thick tempered safety glass window with safety grill
- ▶ Vacuum tight high density one-piece silicone door gasket
- ▶ Air tight one touch door latch
- ▶ Two tier aluminum shelf
- ▶ Equipped with Vacuum Gauge -760mmHg (-0.1Mpa)

Ordering Information

	JSVO-30T	JSVO-60T
Chamber Volume (Capacity)	27 L	64 L
Dimensions Inner	300 x 300 x 300	400 x 400 x 400
W x D x H mm Outer	665 x 470 x 535	765 x 575 x 635
Temperature Range	ambient +10 °C to 250 °C	
Accuracy at 120°C	± 2.0 °C	
Uniformity at 120°C	± 3.0 °C	
Glass Window	W265 x H285	W350 x H350
Maximum Vacuum	15 mm Thick Tempered Safety Glass 760 mmHg	
Fitting	Vacuum / Vent Φ 11 mm Hose Barb	
Valves	Vacuum / Lock : 2-Way Valve Vent : Needle Valve	
No. of Aluminum Shelf included	2	
Heater Capacity	2 x 1.0 kW	4 x 700 W
Power Rating	9.2 Amp	12.9 Amp
Power Plug	CEE 7/7 Schuko	

- ▶ Two way valve to control vacuum and lock
- ▶ Adjustable needle valve for fine control of vent speed

- ▶ 내부식성이 강한 Stainless Steel (SUS304) 챔버
- ▶ 챔버 내부에 구조물이 없어 오염이 적고 세척이 간편
- ▶ 도어 전면에 15mm 두께의 강화유리 투시창과 안전그릴
- ▶ 내열성이 강한 일체형 고밀도 실리콘 도어 가스켓 장착
- ▶ 밀착력이 뛰어난 원터치방식의 도어 잠금 장치
- ▶ 2단 알루미늄 선반
- ▶ 진공계이지장착 -760 mmHg (-0.1 MPa)
- ▶ 진공 / 잠금 2-Way 밸브
- ▶ 배기 속도 조절이 가능한 진공해제밸브

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Accessories

Art No.	Descriptions
Aluminum Shelf	
PHS-A91	for JSVO-30T W295 x D250mm
PHS-A92	for JSVO-60T W395 x D350mm
Vacuum Pump	
W2V10	Rotary Vane Vacuum Pump 100L/min 5x10 ⁻⁴ Torr Woosung 220VAC
MZ2C	Chemical Resistant Diaphragm Vacuum Pump VACUUBRAND, Germany 220VAC
Page 102	
J SCT-20C	Cold Trap Bath -20°C, 4 L
J SCT-40C	Cold Trap Bath -40°C, 4 L
O HG-001	Glass Trap
O HV-001	High Vacuum Hose, ID 9mm x OD 24mm, 1 meter

Hi-Temp

SPECIAL OVENS

BEYOND
THE LIMIT

350 °C High Temperature



Specifications

Heating	Forced Air Convection
Temp. Range	ambient + 10 °C - 350 °C
Accuracy	± 0.2 °C at 200°C (JSOF-030H)
Uniformity	± 1.0 °C at 200°C (JSOF-030H)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	CA-Type Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Insulation : 50mm Woven Mineral Wool 25mm Ceramic Wool Including Stainless Steel Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



350 °C Hi-Temp Oven

High-Temp. Forced Convection Ovens provides higher temperature up to 350 °C than conventional ovens for special application for material research or testing laboratory.

Motorized fan to force air circulation across heating elements and circulates into the chamber.

The fan allows more consistent distribution of air and optional inert gas (Nitrogen Gas) purge system allows control oxidation of samples at high temperature treatment

Control Accuracy

- ± 0.1 °C Digital PID Controller with automatic START / STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- Temperature calibration, auto-tuning function
- CA-Type temperature sensor

- 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- 온도보정, 오토튜닝 기능 내장
- CA-Type 온도 센서

- Max 350 °C
- Constant Temperature Controller
- Timer On / Off
- [OPTION] RS-232C Serial Computer Interface
- [OPTION] Program Controller with PC Control Software

Performance

- High capacity heating element with forced air convection for fast heat up time to high temperature
- Aero-dynamic chamber with circulation blower to achieve superior thermal uniformity
- Separate heating compartment located on side wall prevents contamination and maintenance free
- Double insulation with 50mm mineral wool and 25mm ceramic wool for better thermal insulation

- 대용량 히터와 강제 공기 순환식 가열방식으로 신속한 가열
- 공기 역학적 설계와 강력한 블로어로 공기 흐름이 원활하여 오븐내부의 온도 균일성이 뛰어나
- 가열챔버가 측면에 별도로 위치하여 액체 흘림으로 인한 오염과 고장이 적음
- 50mm 미네랄울과 25mm 세라믹울을 이중 이종 단열처리하여 온도상승이 빠르고 에너지 소비가 적음

Convenience

- Corrosion resistant Stainless Steel 304 Chamber
- Removable and height adjustable shelf by 25mm spacing
- Outer door with ceramic gasket and compression door lock
- Opening size adjustable ventilation damper
- Non-contact door switch cut-off heater and blower
- High temperature resistant ceramic fiber door gasket
- 부식에 강한 Stainless Steel 304 챔버
- 25mm 간격으로 높이 조절 가능한 선반
- 밀착력이 뛰어난 압착식 도어 잠금 장치
- 수분 및 증기를 배출할 수 있는 배기구 장착
- 비접촉식 도어센서 장착, 도어 개방 시 히터 및 팬 동작 정지
- 내열성이 강한 고무도어 세라믹섬유 도어 가스켓 장착

Safety

- DUAL OVER TEMP. CUT-OFF
- MAX TEMP CUT-OFF
- DOOR SENSOR
- SENSOR DISCONNECTION ALARM
- OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Options

Art No.	Descriptions
OEC-001	JSC-1D Digital PID Controller /w RS-232C Interface, PC Software
OEC-003	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-232C Interface, PC Software
OHC-001	Nitrogen Gas Purge System gas inlet/outlet fitting with valve, flowmeter

Accessories

Art No.	Descriptions
Perforated Shelf, Stainless Steel 304	
PHS-A01	for JSOF-030H W270x D270 mm
PHS-A04	for JSOF-100H W370x D370 mm
PHS-A20	for JSOF-150H W470x D470 mm
Wire Shelf, Stainless Steel 304	
PHS-B01	for JSOF-030H W270x D270 mm
PHS-B04	for JSOF-100H W370x D370 mm
PHS-B14	for JSOF-150H W470x D470 mm
PHS-A99	Shelf Support, Set of 4

Ordering Information

	JSOF-030H	JSOF-100H	JSOF-150H
Chamber Volume (Capacity)	27 L	96 L	150 L
Dimensions Inner	300 x 300 x 300	400 x 400 x 600	500 x 500 x 600
W x D x H mm Outer	745 x 460 x 580	845 x 560 x 880	945 x 660 x 880
Temperature Range	ambient +10 °C to 350 °C		
Accuracy at 200°C	± 0.2 °C	± 0.3 °C	± 0.3 °C
Uniformity at 200°C	± 1.0 °C	± 1.5 °C	± 1.5 °C
Heat up time to 200°C	8 min.	10 min.	10 min.
No. of Shelves / Maximum No.	2 / 14	2 / 20	2 / 20
No. of Ventilation damper	1	1	1
Heater Capacity	2.0 kW	2.5 kW	3.0 kW
Power Rating	9.3 Amp	11.5 Amp	13.8 Amp
Power Plug	CEE 7/7 Schuko	CEE 7/7 Schuko	30 AMP

HEPA

CLEAN AIR OVEN

H14 (ISO CLASS 5) HEPA FILTER OVEN

> 99.995 % Efficiency



Clean Air Oven

Clean Air Oven is mechanical convection oven equipped with HEPA Filter Class H14 in laminar air path to remove particles up to 99.995% to keep oven chamber as clean room condition. Designed for applications drying or curing dust sensitive materials such as electronic components or medical parts, semi-conductor chip cleaning, display panel and wafer baking which needs particle free environment during heat treatment.



Max 250 °C



[OPTION] Program Controller with PC Control Software



[OPTION] RS-232C Serial Computer Interface



HEPA Filtered Laminar Air Flow

Specifications

Heating	Forced Air Convection Horizontal Laminar Flow
Temp. Range	ambient + 10 °C - 250 °C
Accuracy	± 0.3 °C at 120°C (JSCO-150T)
Uniformity	± 5.0 °C at 120°C (JSCO-150T)
Air Filtration	High Temp. H14 (ISO Class 5) HEPA Filter 99.995% > 0.3µm particles
Control	Programmable PID Control 5 Patterns 80 Segments 999 Repeatable
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Insulation : 50mm Woven Mineral Wool Floor Standing with Caster Including Stainless Steel Perforated Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase or 380 ± 10% VAC 50/60Hz 3-Phase 4-Wire

Plug config.



CEE 7/7 Schuko

or



BS 1363

or



30 Amp

Control Accuracy

- Programmable 16-bit Microprocessor Digital PID control with ±0.1°C resolution
- 5 Patterns memory 80 Segments 999 times repeatable
- Constant Temp. Mode / Program Mode
- Pattern link and Segment skip function
- Automatic STOP timer Max. 99min 59sec / 99hr 59min
- Temperature calibration and auto-tuning function
- Class A Pt-100 Ω sensor

- 해상도 ±0.1 °C 정밀한 16-bit 프로그램 PID 콘트롤러
- 5패턴 저장 메모리 80세그먼트, 999회 또는무한 반복운전
- 정지운전 또는 프로그램운전 기능
- 작동 중인 패턴 종료 후 다른 패턴으로 링크하여 연속작동
- 현재 작동 중인 세그먼트 건너 뛰기 기능
- 타이머 내장 99분59초 / 99시간59분
- 온도보정, 오토튜닝 기능 내장
- Class A Pt-100 Ω 온도 센서

Performance

- Forced air convection through HI-TEMP. H14 (ISO Class 5) HEPA Filter removes particles up to 99.995%
- HEPA filtered clean horizontal laminar air flow created across the chamber between HEPA Filter installed on the back wall and drawn into the inlet grilles on front door planum keep circulated by powerful sirocco blower prevent cross-contamination and excellent thermal uniformity
- 50mm thick high thermal efficiency mineral wool with woven aluminum barrier sheet saves energy and less dust

- 가열된 공기가 고온용 HEPA Filter를 통과하며 0.3um 크기 이상의 입자를 99.995% 여과하여 순환되므로 오븐내부 공기의 청정도 유지
- 챔버 뒷면의 HEPA 필터를 통과한 여과된 공기는 도어의 흡입 구로 순환 되어 챔버 내부에 수평기류를 형성, 교차오염을 방지하고 균일한 온도 분포를 유지함
- 50mm 두께의 고효율 단열재는 알미늄 피복층이 있어 에너지 소비가 적고 분진이 없음

Convenience

- Floor standing for easy transport and large volume allow more throughput and productivity of sample treatment
- Stainless Steel 316 (ASTM 316) Chamber [OPTION]
- Removable and height adjustable shelf by 25mm spacing
- Outer door with silicone gasket and compression door lock
- Easy-to-Replace HEPA Filter

- 바퀴를 장착한 대용량 설계로 대량의 시료를 효율적으로 처리
- 내부식성이 SUS304에 비해 월등한 SUS316 챔버 [옵션]
- 25mm 간격으로 높이 조절 가능한 선반
- 밀착력이 뛰어난 압착식 도어 잠금 장치
- 교체가 용이한 고온용 HEPA 필터

Safety

- DUAL OVER TEMP. CUT-OFF
- MAX TEMP CUT-OFF
- SENSOR DISCONNECTION ALARM
- OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Options

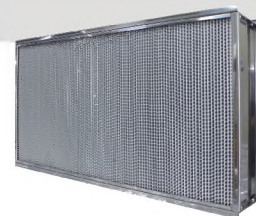
Art No.	Descriptions
OEC-003	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-232C Interface, PC Software
OHC-002	Differential Pressure Gauge for monitoring HEPA Filter Pressure Drop
OHM-001	Stainless Steel 316 (ASTM316) Chamber

Accessories

Art No.	Descriptions
	Perforated Shelf, Stainless Steel 304
PHS-A08	for JSCO-150T W570 x D540mm
PHS-A08	for JSCO-300T W570 x D540mm
PHS-A17	for JSCO-1200T W970 x D980mm
PHS-A99	Shelf Support, Set of 4

HEPA Filter

- HI-TEMP H14 (ISO Class 5) HEPA Filter
Stainless Steel Frame



Ordering Information

	JSCO-150T	JSCO-300T	JSCO-1200T
Chamber Volume (Capacity)	168 L	336 L	1200 L
Dimensions Inner	600 x 560 x 500	600 x 560 x 1000	1000 x 1000 x 1200
W x D x H mm Outer	845 x 1100 x 1240	845 x 1100 x 1740	1245 x 1540 x 1940
Clearance	845 x 1110 x 1250	845 x 1110 x 1750	1245 x 1550 x 1950
Temperature Range	ambient +10 °C to 250 °C		
Accuracy at 120°C	± 0.3 °C	± 0.3 °C	± 0.5 °C
Uniformity at 120°C	± 5.0 °C	± 5.0 °C	± 8.0 °C
HEPA Filter	H14 (ISO Class 5) HI-TEMP HEPA Filter Efficiency 99.995% > 0.3 um Particles		
No. of Shelves / Maximum No.	2 / 14	3 / 36	4 / 36
Heater Capacity	2 x 1.0 kW	2 x 2.0 kW	3 x 2.5 kW
Electric Requirement	220 VAC 50/60Hz 1P	220 VAC 50/60Hz 1P	220 VAC 1P or 380 VAC 3P 4W
Power Rating	11.0 Amp	20.2 Amp	
Power Plug	CEE 7/7 Schuko	30 Amp	30 Amp

Dual

SPECIAL OVENS








INDUSTRIAL LARGE CAPACITY

Independent Control



Dual Chamber Oven

Dual Chamber Industrial Drying Oven is ideal for a laboratory and industrial application needs a large number of sample treatment such as sample drying, heat treatment or thermal testing. Independent temperature controller for each chamber to set and run at different temperature according to requirement. Nevertheless it's large volume, dual heating system on upper and lower compartment with two separate heating elements and blowers provide better air circulation throughout the chamber to achieve excellent temperature uniformity and faster heat up time.

-  Dual Chamber Independent Temperature
-  Max 250 °C
-  Constant Temperature Controller
-  Timer On / Off 
-  [OPTION] RS-232C Serial Computer Interface
-  [OPTION] Program Controller with PC Control Software

Specifications

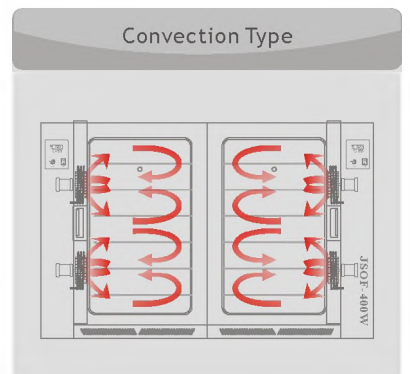
Configuration	Dual Chamber Independent Temp. Control
Heating	Forced Air Convection Dual Heating Chamber System
Temp. Range	ambient + 10°C - 250°C
Accuracy	± 0.3 °C at 120 °C (JSOF-400W)
Uniformity	± 2.0 °C at 120 °C (JSOF-400W)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Insulation : 50mm Woven Mineral Wool Floor Standing with Caster Including Stainless Steel Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



Control Accuracy

- ▶ ±0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서



Performance

- › DUAL heating system located on upper and lower compartment with two separate heating elements and blowers provide better air circulation throughout the chamber to achieve excellent temperature uniformity and faster heat up time
- › Separate heating compartment located on sidewall prevents contamination and maintenance free
- › 50mm thick high thermal efficiency mineral wool with woven aluminum barrier sheet saves energy and less dust
- › 대용량 챔버에 적합하도록 상하로 분리된 두 개의 개별적인 가열시스템으로 설계 되어 우수한 온도 균일성과 신속한 건조
- › 가열 챔버가 측면에 위치 하여 액체 흘림으로 인한 오염과 고장이 적음
- › 50mm 두께의 고효율 단열재는 알미늄 피복층이 있어 에너지 소비가 적고 분진이 없음

Convenience

- › Floor standing large capacity independent temperature control dual chamber oven provides more throughput and productivity of sample treatment
- › Double layered tempered safety glass window for easy observation of samples under testing
- › Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents leakage
- › Removable and height adjustable shelf by 25mm spacing
- › Outer door with silicone gasket and compression door lock
- › Opening size adjustable ventilation damper
- › Non-contact door switch cut-off heater and blower
- › Caster for easy transport
- › 두 개의 대용량 챔버는 각각 온도를 제어할 수 있으며 대량의 시료를 효율적으로 처리
- › 이중 강화유리 도어 투시창으로 도어를 열지 않고 샘플 관찰
- › 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지

Ordering Information

	JSOF-400W	JSOF-600W
Chamber Volume (Capacity)	2 Chambers x 432 L	2 Chambers x 612 L
Dimensions Inner	600 x 600 x 1200 / Chamber	600 x 850 x 1200 / Chamber
W x D x H mm Outer	2165 x 775 x 1545	2165 x 1025 x 1545
Clearance	2165 x 775 x 1695 (incl. Damper)	2165 x 10025 x 1695 (incl. Damper)
Window	W150 x H615	
Temperature Range	ambient +10 °C to 250 °C	
Accuracy at 120°C	± 0.3 °C	± 0.3 °C
Uniformity at 120°C	± 2.0 °C	± 3.0 °C
Heat up time to 60°C	15 min.	15 min.
No. of Shelves / Maximum No.	4 / 22 per chamber	4 / 22 per chamber
No. of Ventilation damper	2	2
Heater Capacity	4 x 1.5 kW	4 x 2.0 kW
Power Rating	2 x 13.9 Amp per Chamber	2 x 18.5 Amp per chamber
Power Plug	2 x CEE 7/7 Schuko Plug (for each chamber)	2 x 30 AMP

- › 25mm 간격으로 높이 조절 가능한 선반
- › 밀착력이 뛰어난 압착식 도어 잠금 장치
- › 수분 및 증기를 배출할 수 있는 배기구 장착
- › 비접촉식 도어센서 장착, 도어 개방 시 히터 및 팬 동작 정지

Safety

- › DUAL OVERTEMP. CUT-OFF
- › MAX TEMP CUT-OFF
- › DOOR SENSOR
- › SENSOR DISCONNECTION ALARM
- › OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Options

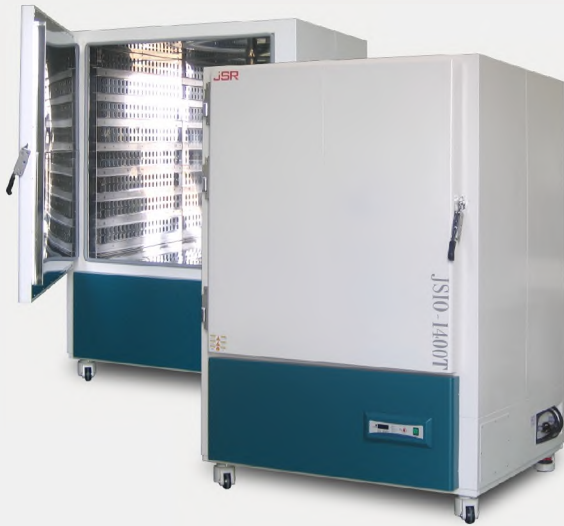
Art No.	Descriptions
OEC-001	JSC-1D Digital PID Controller /w RS-232C Interface, PC Software
OEC-003	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-232C Interface, PC Software
OEC-005	JSC-5D Programmable Controller 5 Patterns 80 Segments

Accessories

Art No.	Descriptions
Perforated Shelf, Stainless Steel 304	
PHS-A09	for JSOF-400W W570 x D580 mm
PHS-A10	for JSOF-600W W570 x D830 mm
Wire Shelf, Stainless Steel 304	
PHS-B09	for JSOF-400W W570 x D580 mm
PHS-B10	for JSOF-600W W570 x D830 mm
PHS-A99	Shelf Support, Set of 4

Industrial SPECIAL OVENS

INDUSTRIAL SCALE Rugged Design



Heavy Duty Industrial Oven

Durable and Rugged Large Capacity Industrial Oven for industrial production lines such as drying printed circuit panel, glass panel and stability test of electronic parts and components.

Horizontal air flow with adjustable damper system on each shelf level allow to maintain optimum air circulation throughout the chamber which provides excellent temperature uniformity and operational condition

Specifications

Heating	Forced Air Convection Horizontal Air Flow
Temp. Range	ambient + 10 °C - 250 °C
Accuracy	± 0.3 °C at 120°C (JSIO-400T)
Uniformity	± 5.0 °C at 120°C (JSIO-400T)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Galvanized Steel (EGI) Insulation : 50mm Woven Mineral Wool Floor Standing with Caster Including Stainless Steel Perforated Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase or 380 ± 10% VAC 50/60Hz 3-Phase 4-Wire

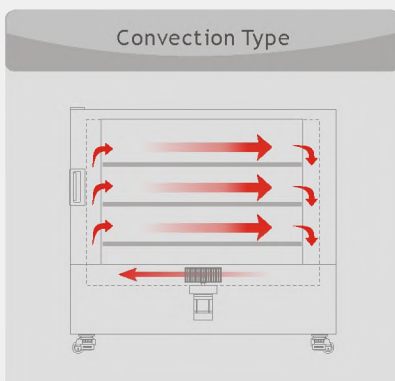
Plug config.



30 Amp

Control Accuracy

- ± 0.1 °C Digital PID Controller with automatic START / STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor



- Heavy Duty Industrial Scale
- Max 250 °C
- Constant Temperature Controller
- Timer On / Off
- [OPTION] RS-232C Serial Computer Interface
- [OPTION] Program Controller with PC Control Software

- 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- 예약 / 정지 타이머 내장 99분59초/99시간59분/99일23시간
- 온도보정, 오토튜닝 기능 내장
- Class A Pt-100 Ω 온도 센서

Performance

- High capacity powerful sirocco blowers provide big volume of horizontal airflow
- Adjustable damper system on each shelf level allow maintaining optimum air circulation throughout the chamber to achieve excellent temperature uniformity and operational condition
- Separate heating compartment located on bottom plate prevents contamination and maintenance free
- 50mm thick high thermal efficiency mineral wool with woven aluminum barrier sheet saves energy and less dust
- 고용량 시로코팬을 장착하여 챔버 내부에 공기 순환 원활
- 각 선반 측면에 위치한 통기구의 크기를 조절하여 공기의 흐름과 온도 분포를 운전 조건에 맞도록 조절
- 가열 챔버가 바닥에 분리 되어 있어 하여 액체 흘림으로 인한 오염과 고장이 적음
- 50mm 두께의 고효율 단열재는 알미늄 피복층이 있어 에너지 소비가 적고 분진이 없음

Convenience

- Floor standing industrial scale big volume oven provides more throughput and productivity of sample treatment
- Corrosion resistant Stainless Steel 304 Chamber
- Removable and height adjustable 3 tier shelf
- Outer door with silicone gasket and compression door lock
- Opening size adjustable ventilation damper
- Caster for easy transport

Ordering Information

	JSIO-400T	JSIO-960T	JSIO-1400T
Chamber Volume (Capacity)	410 L	960 L	1386 L
Dimensions Inner	650 x 600 x 1050	1000 x 800 x 1200	1100 x 1050 x 1200
W x D x H mm Outer	935 x 835 x 1810	1285 x 1035 x 1960	1385 x 1235 x 1960
Clearance	935 x 845 x 1820	1285 x 1045 x 1970	1385 x 1245 x 1970
Temperature Range	ambient +10 °C to 250 °C		
Accuracy at 120°C	± 0.3 °C	± 0.5 °C	± 0.5 °C
Uniformity at 120°C	± 5.0 °C	± 6.0 °C	± 8.0 °C
Heat up time to 120°C	20 min.	25 min.	25 min.
No. of Shelves / Maximum No.	3 / 8	3 / 8	3 / 8
No. of Ventilation damper	1	1	1
Electric Requirement	220 VAC 50/60Hz 1P or 380 VAC 50/60Hz 3P 4W		
Heater Capacity	4.5 kW	7.5 kW	10.5 kW
Power Rating	220 VAC 22 Amp	380 VAC 22 Amp	380 VAC 30 Amp
Power Plug	30 Amp	4-Pin	4-Pin

- 산업용 스케일의 대용량 오븐으로 대량의 시료를 처리
- 부식에 강한 Stainless Steel 304 챔버
- 높이 조절 가능한 3단 선반
- 밀착력이 뛰어난 압착식 도어 잠금 장치
- 수분 및 증기를 배출할 수 있는 배기구 장착

Safety

- DUAL OVERTEMP. CUT-OFF
- MAX TEMP CUT-OFF
- SENSOR DISCONNECTION ALARM
- OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Options

Art No.	Descriptions
OEC-001	JSC-1D Digital PID Controller /w RS-232C Interface, PC Software
OEC-003	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-232C Interface, PC Software
OEC-005	JSC-5D Programmable Controller 5 Patterns 80 Segments

Accessories

Art No.	Descriptions
Perforated Shelf, Stainless Steel 304	
PHS-A12	for JSIO-400T W640 x D560 mm
PHS-A16	for JSIO-960T W990 x D760 mm
PHS-A18	for JSIO-1400T W1090 x D1010 mm

Laboratroy **INCUBATOR**

SELECTION GUIDE

JSGI-Series General Heated Incubator

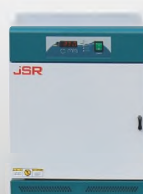


- ▶ amb. +5 °C ~ 70 °C
- ▶ Constant Temperature
- ▶ Timer On / Off
- ▶ RS-232C or 485 [OPTION]
- ▶ Program Controller
- ▶ 5 PTN 80 SEG [OPTION]



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSGI-050T	48 L	amb. + 5 °C - 70 °C	± 0.2 °C
JSGI-100T	96 L		± 0.2 °C
JSGI-150T	150 L		± 0.2 °C
JSGI-250T	250 L		± 0.3 °C
JSGI-250DT	2 x 250 L		± 0.3 °C

JSGI-Series Compact Incubator



- ▶ amb. +5 °C ~ 50 °C
- ▶ Constant Temperature
- ▶ Timer On / Off



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSGI-10T	9.3 L	amb. + 5 °C	± 0.2 °C
JSGI-30T	31.5 L	~ 50 °C	± 0.2 °C

JSBI-C Series Cooled BOD Incubator



- ▶ +0 °C ~ 70 °C
- ▶ Constant Temperature
- ▶ Timer On / Off
- ▶ RS-232C or 485 [OPTION]



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSBI-050C	50 L	+ 0 °C ~ 70 °C	± 0.2 °C
JSBI-100C	100 L		
JSBI-150C	150 L		
JSBI-250C	250 L		
JSBI-420C	420 L		
JSBI-840C	840 L		

JSBI-CP Series Programmable Cooled Incubator



- ▶ +0 °C ~ 70 °C
- ▶ Program Controller
- ▶ 5 PTN 80 SEG
- ▶ RS-232C or 485 [OPTION]



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSBI-150CP	150 L	+ 0 °C ~ 70 °C	± 0.2 °C
JSBI-250CP	250 L		
JSBI-420CP	420 L		

JSBI-DCP Series Dual Chamber Cooled Incubator



- ▶ Dual Chamber
- ▶ +0 °C ~ 70 °C
- ▶ Constant Temperature or Program Controller
5 PTN 80 SEG
- ▶ Timer On / Off
- ▶ RS-232C or 485 [OPTION]



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSBI-250DC	2 x 250 L	+ 0 °C ~ 70 °C	± 0.2 °C
JSBI-250DCP			

JSMI-02 Series 2 Chamber Incubator



- ▶ Dual Chamber
- ▶ +0 °C ~ 70 °C
- ▶ Constant Temperature or Program Controller
5 PTN 80 SEG
- ▶ Timer On / Off
- ▶ Photoperiodic Light Control
- ▶ RS-232C or 485 [OPTION]



MODEL	CAPACITY	TEMPERATURE	FEATURE
JSMI-02C	2 x 125 L	+ 0 °C ~ 70 °C	Constant
JSMI-02CP			Program
JSMI-02CPL			Light

JSMI-04 Series Multi-Room Incubator



- ▶ Four Chamber
- ▶ +0 °C ~ 70 °C
- ▶ Constant Temperature or Program Controller
5 PTN 80 SEG
- ▶ Timer On / Off
- ▶ Photoperiodic Light Control
- ▶ RS-232C or 485 [OPTION]



MODEL	CAPACITY	TEMPERATURE	FEATURE
JSMI-04T	4 x 125 L	amb. + 5°C ~ 70°C	Heated
JSMI-04C		Cooled	
JSMI-04CP		0 °C ~ 70 °C	Program
JSMI-04CPL		Light	
JSMI-05C(L)	5 x 44 L	+5 °C ~ 70 °C	Cooled
JSMI-08CP(L)	8 x 26 L	+5 °C ~ 70 °C	Cooled

JSSC-Series Cold Lab Storage Chamber



- ▶ 4 °C Refrigerator
- ▶ On/Off Control
- ▶ RS-232C or 485 [OPTION]



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSSC-700C	686 L	+ 0 °C ~ 10 °C	± 2.0 °C
JSSC-1200C	1176 L		

Controller Guide

	JSC-0D Basic Controller	JSC-1D Digital PID Controller	JSC-3D Programmable Controller	JSC-5D Programmable Controller
Type	Digital PID	Digital PID	16-bit Microprocessor	16-bit Microprocessor
Display	LED	LED	2-Line Back light LCD	2-Line Back light LCD
Operation	Constant Temperature	Constant Temperature	Constant Temp. Mode Program Mode	Constant Temp. Mode Program Mode
Accuracy	± 0.1 °C	± 0.1 °C	± 0.1 °C	± 0.1 °C
Timer	Auto START/STOP	Auto START/STOP	Auto STOP	Auto STOP
Timer Scale	Max. 99min 59sec / 99hr 59min / 99 day 23hr selectable	Max. 99min 59sec / 99hr 59min / 99 day 23hr selectable	Max. 99min 59sec / 99hr 59min selectable	Max. 99min 59sec / 99hr 59min selectable
Pattern Memory	n/a	n/a	1 Pattern	5 Patterns
Max. Segment			11 Segments	80 Segments
Max. Repeats			999 or unlimited	999 or unlimited
			Segment Skip	Segment Skip Pattern Link
Light Control			On/Off control integrated with programming	
RS-232C or RS-485	n/a	Yes [OPTION]	Yes [OPTION]	Yes [OPTION]
PC Software	n/a	Yes [OPTION]	Yes [OPTION]	n/a
Calibration	Yes	Yes	Yes	Yes
Auto-tuning	Yes	Yes	Yes	Yes

JSC-0D



JSC-1D



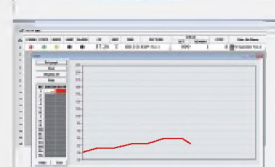
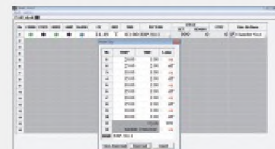
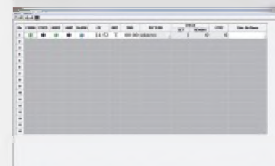
JSC-3D



JSC-5D



▶ PC Software [OPTION]



- ▶ RS-232C Serial Port Communication
- ▶ Turn On and Off control
- ▶ Temperature and Timer Setting
- ▶ Pattern Programming and uploading
- ▶ Current temperature Graph Rendering
- ▶ Temperature Data Logging
- ▶ Alarm Signal
- ▶ RS-232C 시리얼 포트 통신
- ▶ 작동, 정지 제어
- ▶ 온도설정, 타이머 설정 기능
- ▶ 패턴 프로그래밍 기능
- ▶ 작동 중 온도 그래프 표시 기능
- ▶ 온도 데이터 수집 및 저장 기능
- ▶ 알람 현황 표시

ASCII Data Collection

Date	Time	Temp	Step	Seg	Cycle
2014:01:08	09:00:00	37.00	00:05	03	001/999
2014:01:08	09:00:10	37.01	00:05	03	001/999
2014:01:08	09:00:20	37.01	00:05	03	001/999
2014:01:08	09:00:30	37.00	00:05	03	001/999

Performance & Convenience

▶ Construction



- ▶ Durable epoxy powder coated metallic casing
- ▶ 내구성이 뛰어난 에폭시 분체 도장

▶ Chamber



- ▶ Corrosion resistant Stainless Steel 304 chamber with seamless round cornered edge allows easy cleaning and prevents leakage
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버 코너는 이음새없이 라운드 처리 되어 있어 세척이 간편

▶ Inner Glass Door



- ▶ High density silicone packing with air-tight door lock
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락
- ▶ 25mm 간격으로 높이 조절 가능한 선반

▶ Light Control



- ▶ Programmable Photoperiodic lighting control system
- ▶ 일광조절이 가능한 조도 ON/OFF 프로그램기능

Safety



- ▶ **DUAL OVER TEMP. CUT-OFF**
 - 1) Digital system cut-off heater and AUDIO VISUAL ALARM in case +2°C above set temperature
 - 2) Analog system cut-off heater 10% above set temp.
- ▶ **MAX TEMP CUT-OFF** heater and AUDIO VISUAL ALARM when +1°C above maximum limit
- ▶ **GLASS DOOR SWITCH**
- ▶ **SENSOR DISCONNECTION ALARM**
- ▶ **OVER CURRENT CUT-OFF** : Electrical Leakage Breaker

▶ 이중과열방지장치

- 1) 설정 온도 +2 °C 초과 시 히터 차단 및 시청각 알람
- 2) 콘트롤러 오류로 지정 온도 10% 초과 시 히터차단

▶ 최고온도알람기능 : 작동한계 온도 +1°C 초과시 히터 차단

▶ 도어스위치

▶ 센서단락알람

▶ 누전차단기 : 전기누설 시 주전원 차단

▶ Maintenance









- ▶ Easy to maintain refrigeration system with dust filter
- ▶ 편리한 유지보수 먼지 필터 장착

General INCUBATOR

HEATED CONVECTION Microbiology



JSGI-150T General Incubator
with programmable controller and
RS-232C Serial Port

-  Heated amb.+5 °C ~ 70 °C
-  Constant Temperature Controller
-  Timer On / Off 
-  [OPTION] RS-232C Serial Computer Interface
-  [OPTION] Program Controller with PC Control Software

Heated General Incubator

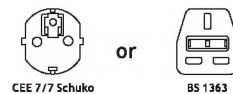
JSGI-Series General Incubator is ideal for bacterial, fungal, cell and tissue culture incubation temperature range from ambient + 5°C to 70°C.

Coaxial Fan mildly circulates air within the chamber to maintain thermal uniformity of incubator.

Specifications

Heating	Forced Air Convection
Temp. Range	ambient + 5 °C ~ 70 °C
Accuracy	± 0.2 °C at 37.0°C (JSGI-100T)
Uniformity	± 0.5 °C at 37.0°C (JSGI-100T)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Including PVC Coated Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



Control Accuracy

- ▶ ± 0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating compartment prevents contamination and maintenance free

- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ 내구성이 뛰어난 Stainless Steel 304 재질의 히터
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ 가열챔버가 후면에 위치하여 액체 흘림으로 인한 고장이적음

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock, door switch to cut-off heater and fan to protect thermal drop when put in and out sample
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevent leakage
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Opening size adjustable access port

- ▶ 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 챔버의 기밀성이 뛰어남
- ▶ 유리도어 센서는 도어 개방 시 히터 및 팬 동작을 정지하여 샘플 수불 시 온도의 변화를 방지
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 챔버 내부에 전원 또는 센서를 투입할 수 있는 통기구 장착

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ GLASS DOOR SWITCH
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE

Options

Art No.	Descriptions
OEC-001	JSC-1D Digital PID Controller /w RS-232C Interface, PC Software
OEC-003	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-232C Interface, PC Software
OEC-005	JSC-5D Programmable Controller 5 Patterns 80 Segments

Accessories

Art No.	Descriptions
	Perforated Shelf, Stainless Steel 304
PHS-A03	for JSGL-050T W370 x D280 mm
PHS-A04	for JSGL-100T W370 x D380 mm
PHS-A06	for JSGL-150T, 250T, 250DT W470 x D480 mm
	PVC Coated Wire Shelf
PHS-C03	for JSGL-050T W370 x D280 mm
PHS-C04	for JSGL-100T W370 x D380 mm
PHS-C05	for JSGL-150T, 250T, 250DT W470 x D480 mm
PHS-A99	Shelf Support, Set of 4

Ordering Information

	JSGL-050T	JSGL-100T	JSGL-150T	JSGL-250T	JSGL-250DT
Chamber Volume (Capacity)	48 L	96 L	150 L	250 L	250 L x 2 Chamber
Dimensions Inner	400 x 300 x 400	400 x 400 x 600	500 x 500 x 600	500 x 500 x 1000	500 x 500 x 1000
W x D x H mm Outer	580 x 535 x 720	580 x 635 x 920	680 x 735 x 920	680 x 735 x 1320	1365 x 735 x 1400
Temperature Range	ambient+5 °C to 70 °C				
Accuracy at 37.0°C	± 0.2 °C	± 0.2 °C	± 0.2 °C	± 0.3 °C	± 0.3 °C
Uniformity at 37.0°C	± 0.5 °C	± 0.5 °C	± 1.0 °C	± 1.5 °C	± 1.5 °C
Heat up time to 37.0°C	15 min.	15 min.	15 min.	20 min.	25 min.
Number of shelves / Maximum No.	2 / 20	2 / 20	2 / 20	3 / 25	6 / 25
No. of Access Port	1	1	1	1	2
Heater Capacity	150 W	200 W	250 W	400 W	2 x 400 W
Power Rating	0.7 Amp	1.0 Amp	1.2 Amp	2.0 Amp	2 x 2.0 Amp
Power Plug	CEE 7/7 Schuko				

Compact INCUBATOR

ECONOMIC
for HACCP LAB.

Gravity Convection



Compact Incubator

JSGI-Series Compact Economic Incubator is suitable for personal, small food laboratory or HACCP Industry doing daily incubation of bacterial screening with Petri-Dish or Petri-Film.

Specifications

Heating	Gravity Convection (JSGI-10T) Forced Convection (JSGI-30T)
Temp. Range	ambient + 5 °C ~ 50 °C
Accuracy	± 0.2 °C at 37.0°C (JSGI-10T)
Uniformity	± 0.5 °C at 37.0°C (JSGI-10T)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door (JSGI-30T only) Including PVC Coated Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



CEE 7/7 Schuko

or



BS 1363

Control Accuracy

- ▶ ±0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서



Heated amb.+5 °C ~ 50 °C



Constant Temperature
Controller



Timer On / Off



Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ JSGI-10T : Mild gravity convection with durable silicone film heater
- ▶ JSGI-30T : Forced Convection with blower maintain better thermal uniformity
- ▶ Simple and durable design permits practical usage of bacteria screening such as HACCP laboratory

- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ JSGI-10T : 판형태의 실리콘 히터로 챔버의 바닥 전체를 외부로부터 가열하는 자연대류방식
- ▶ JSGI-30T : 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ 구조가 간단하여 내구성이 뛰어나 소규모 실험실이나 식품 분야의 HACCP 관리 실험실의 미생물 스크린 용도에 적합

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock (*JSGI-30T only*)
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents contamination
- ▶ Two tier removable PVC coated wire shelf
- ▶ 기밀성이 뛰어난 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 기밀성이 뛰어남 (*JSGI-030T*)
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 2단 PVC 코팅 선반

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE

Accessories

Art No.	Descriptions
	PVC Coated Wire Shelf
PHS-C01	for JSGI-10T W205 x D200 mm
PHS-C02	for JSGI-30T W295 x D290 mm

Ordering Information

		JSGI-10T	JSGI-30T
Heating		Gravity Convection	Forced Convection
Chamber Volume (Capacity)		9.3 L	31.5 L
Dimensions	Inner	210 x 210 x 210	300 x 300 x 350
W x D x H mm	Outer	315 x 370 x 435	425 x 460 x 590
	Inner Glass Door	no	yes
Temperature	Range	ambient+5 °C to 50 °C	
	Accuracy at 37.0°C	± 0.2 °C	± 0.2 °C
	Uniformity at 37.0°C	± 0.5 °C	± 0.5 °C
Number of shelves		2	2
Heater Capacity		60 W	100 W
Power Rating		0.3 Amp	0.5 Amp
Power Plug		CEE 7/7 Schuko	

Cooled INCUBATOR

COMPACT TABLE TOP

Refrigerated Incubator



Table Top Refrigerated Incubator

Table Top Refrigerated Incubator gives excellent incubation conditions below ambient temperature within a compact size for bacterial, fungal, cell and tissue culture incubation temperature range from +0 °C to 70 °C.

Specifications

Heating	Forced Air Convection
Cooling	CFC Free air cooled compressor
Temp. Range	+ 0 °C - 70 °C
Accuracy	± 0.2 °C at 20.0°C
Uniformity	± 0.5 °C at 20.0°C
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Including PVC Coated Wire Shelf Built-in Caster for easy transport
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



CEE 7/7 Schuko






or



BS 1363

Control Accuracy

- ▶ ±0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

-  Cooled +0 °C to 70 °C
-  Constant Temperature Controller
-  Timer On / Off 
-  [OPTION] RS-232C Serial Computer Interface

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevents contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor

- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ 가열챔버가 후면에 위치하여 액체 흘림으로 인한 고장이적음
- ▶ 내구성이 강한 냉각 시스템

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents contamination
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Auto-defrost system, user settable interval and time
- ▶ 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 챔버의 기밀성이 뛰어나
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지

- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 제상 간격 및 시간을 조절할 수 있는 자동 제상 시스템

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electric Leakage Breaker

Options

Art No.	Descriptions
OEC-001	JSC-1D Digital PID Controller /w RS-232C Interface, PC Software

Accessories

Art No.	Descriptions
	Perforated Shelf, Stainless Steel 304
PHS-A23	for JSBI-050C W370 x D340 mm
PHS-A24	for JSBI-100C W420 x D430 mm
	PVC Coated Wire Shelf
PHS-C09	for JSBI-050C W370 x D340 mm
PHS-C10	for JSBI-100C W420 x D430 mm
PHS-A99	Shelf Support, Set of 4

Ordering Information

	JSBI-050C	JSBI-100C
Chamber Volume (Capacity)	50 L	100 L
Dimensions Inner	400 x 350 x 360	450 x 450 x 500
W x D x H mm Outer	580 x 600 x 770	630 x 700 x 910
Temperature Range	+0 °C to 70 °C	
Accuracy at 20.0°C	± 0.2 °C	
Uniformity at 20.0°C	± 0.5 °C	
Number of shelves / Maximum No.	2 / 20	2 / 16
Heater Capacity	500 Watt	700 Watt
Refrigeration System	CFC-Free Air Cooled Compressor	
Power Rating	5.5 Amp	6.0 Amp
Power Plug	CEE 7/7 Schuko	

Cooled INCUBATOR

REFRIGERATED LOW TEMPERATURE B.O.D. Incubator



Refrigerated BOD Incubator

JSBI-C Series Refrigerated BOD Incubator gives excellent incubation conditions below ambient temperature for bacterial, fungal, cell and tissue culture incubation temperature range from 0°C to 70°C or BOD (Biological Oxygen Demand) test, QA or QC laboratory in pharmaceutical industries.

Specifications

Heating	Forced Air Convection
Cooling	CFC Free air cooled compressor
Temp. Range	+ 0 °C - 70 °C
Accuracy	± 0.2 °C at 20.0°C (JSBI-150C)
Uniformity	± 0.5 °C at 20.0°C (JSBI-150C)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Including PVC Coated Wire Shelf Built-in Caster for easy transport
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



CEE 7/7 Schuko






or



BS 1363

Control Accuracy

- ▶ ±0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

-  Cooled +0 °C to 70 °C
-  Constant Temperature Controller
-  Timer On / Off 
-  [OPTION] RS-232C Serial Computer Interface

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevents contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ 가열챔버가 후면에 위치하여 액체 흘림으로 인한 고장이 적음
- ▶ 내구성이 강한 냉각 시스템

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents contamination
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport
- ▶ 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 챔버의 기밀성이 뛰어나
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지

- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 제상 간격 및 시간을 조절할 수 있는 자동 제상 시스템
- ▶ 바퀴를 장착하여 설치 및 이동이 편리함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electric Leakage Breaker

Options

Art No.	Descriptions
OEC-001	JSC-1D Digital PID Controller /w RS-232C Interface, PC Software
OEA-001	Power Outlet Consent in Chamber for CEE 7/7 Schuko Plug
OEA-002	Power Outlet Consent in Chamber for BS 1363 Plug

Accessories

Art No.	Descriptions
Perforated Shelf, Stainless Steel 304	
PHS-A06	for JSBI-150C, 250C W470 x D480 mm
PHS-A13	for JSBI-420C W670 x D580 mm
PHS-A14	for JSBI-840C W675 x D525 mm
PVC Coated Wire Shelf	
PHS-C05	for JSBI-150C, 250C W470 x D480 mm
PHS-C06	for JSBI-420C W670 x D580 mm
PHS-C07	for JSBI-840C W675 x D525 mm
PHS-A99	Shelf Support, Set of 4

Ordering Information

	JSBI-150C	JSBI-250C	JSBI-420C	JSBI-840C
Chamber Volume (Capacity)	150 L	250 L	420 L	840 L
Dimensions Inner	500 x 500 x 600	500 x 500 x 1000	700 x 600 x 1000	1400 x 600 x 1000
W x D x H mm Outer	680 x 825 x 1370	680 x 825 x 1770	880 x 925 x 1770	1580 x 925 x 1770
Temperature Range	+0 °C to 70 °C			
Accuracy at 20.0°C	± 0.2 °C	± 0.2 °C	± 0.2 °C	± 0.2 °C
Uniformity at 20.0°C	± 0.5 °C	± 0.5 °C	± 0.5 °C	± 1.0 °C
Number of shelves / Maximum No.	2 / 20	3 / 25	3 / 25	6 / 50
Heater Capacity	900 W	1.0 kW	1.5 kW	2 x 1.5 kW
Refrigeration System	CFC-Free Air Cooled Compressor			
Power Rating	7.1 Amp	7.6 Amp	10.3 Amp	22 Amp
Power Plug	CEE 7/7 Schuko			

Cooled INCUBATOR

5 PATTERN MEMORY 80 SEGMENTS

Programmable Control



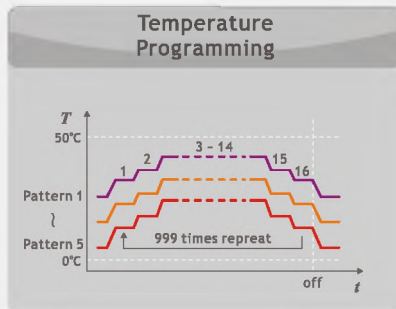
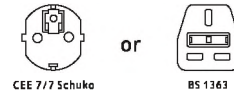
Programmable Refrigerated Incubator






JSBI-CP Series Programmable Refrigerated BOD Incubator gives excellent incubation conditions below ambient temperature for bacterial, fungal, cell and tissue culture incubation with temperature vs time programming up to 5 patterns internal memory and 80 temperature segments range from 0°C to 70°C.

Specifications

Heating	Forced Air Convection
Cooling	CFC-Free air cooled compressor
Temp. Range	+ 0 °C - 70 °C
Accuracy	± 0.2 °C at 20.0°C (JSBI-150CP)
Uniformity	± 0.5 °C at 20.0°C (JSBI-150CP)
Control	Programmable PID Control 5 Pattern 80 Segments 999 Repeatable
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Including PVC Coated Wire Shelf Built-in Caster for easy transport
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



-  Cooled +0 °C to 70 °C
-  Program Controller
5 Patterns 80 Segments
-  Timer Off 
-  [OPTION] 11 Segment Program Control with RS-232C

Control Accuracy

- Programmable 16-bit Microprocessor Digital PID control with ±0.1°C resolution
- 5 Patterns memory 80 Segments 999 times repeatable
- Constant Temp. Mode / Program Mode
- Pattern link and Segment skip function
- Automatic STOP timer Max. 99min 59sec / 99hr 59min
- Temperature calibration and auto-tuning function
- Class A Pt-100 Ω sensor

- ▶ 해상도 ±0.1 °C 정밀한 16-bit 프로그램 PID 컨트롤러
- ▶ 5패턴 저장 메모리 80세그먼트, 999회 또는무한 반복운전
- ▶ 정지운전 또는 프로그램운전 기능
- ▶ 작동 중인 패턴 종료 후 다른 패턴으로 링크하여 연속작동
- ▶ 현재 작동 중인 세그먼트 건너 뛰기 기능
- ▶ 타이머 내장 99분59초 / 99시간59분
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevents contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor

- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ 가열챔버가 후면에 위치하여 액체 흘림으로인한 고장이적음
- ▶ 내구성이 강한 냉각 시스템

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents contamination
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport

Ordering Information

	JSBI-150CP	JSBI-250CP	JSBI-420CP
Chamber Volume (Capacity)	150 L	250 L	420 L
Dimensions Inner	500 x 500 x 600	500 x 500 x 1000	700 x 600 x 1000
W x D x H mm Outer	680 x 810 x 1430	680 x 810 x 1830	880 x 810 x 1830
Temperature Range	+0 °C to 70 °C		
Accuracy at 20.0°C	± 0.2 °C	± 0.2 °C	± 0.2 °C
Uniformity at 20.0°C	± 0.5 °C	± 0.5 °C	± 0.5 °C
Number of shelves / Maximum No.	2 / 20	3 / 25	3 / 25
Heater Capacity	900 W	1.0 kW	1.5 kW
Refrigeration System	CFC-Free Air Cooled Compressor		
Power Rating	7.1 Amp	7.6 Amp	10.3 Amp
Power Plug	CEE 7/7 Schuko		

- ▶ 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 챔버의 기밀성이 뛰어난
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 제상 간격 및 시간을 조절할 수 있는 자동 제상 시스템
- ▶ 바퀴를 장착하여 설치 및 이동이 편리함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electric Leakage Breaker

Options

Art No.	Descriptions
OEC-003	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-232C Interface, PC Software
OEA-001	Power Outlet Consent in Chamber for CEE 7/7 Schuko Plug
OEA-002	Power Outlet Consent in Chamber for BS 1363 Plug

Accessories

Art No.	Descriptions
Perforated Shelf, Stainless Steel 304	
PHS-A06	for JSBI-150CP, 250CP W470 x D480 mm
PHS-A13	for JSBI-420CP W670 x D580 mm
PVC Coated Wire Shelf	
PHS-C05	for JSBI-150CP, 250CP W470 x D480 mm
PHS-C06	for JSBI-420CP W670 x D580 mm
PHS-A99	Shelf Support, Set of 4

2-Chamber COOLED INCUBATOR

INDEPENDENT TEMPERATURE CONTROL High Efficiency



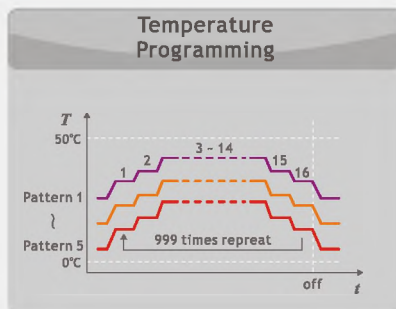
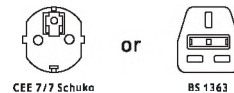
Dual Chamber Refrigerated Incubator

Dual Chamber Refrigerated BOD Incubator provides large capacity volume and independent temperature control to treat large number of samples in various incubation conditions below ambient temperature for bacterial, fungal, cell and tissue culture incubation temperature range from 0°C to 70°C or BOD (Biological Oxygen Demand) test, QA or QC laboratory in pharmaceutical industries.

Specifications

Heating	Forced Air Convection
Cooling	CFC-Free air cooled compressor
Temp. Range	+ 0 °C - 70 °C
Accuracy	± 0.2 °C at 20.0°C
Uniformity	± 0.5 °C at 20.0°C
Control	Microprocessor PID Control (JSBI-250DC) Programmable PID Control (JSBI-250DCP)
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Including PVC Coated Wire Shelf Built-in Caster for easy transport
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



- Dual Chamber Independent Temperature
- Cooled +0 °C to 70 °C
- Constant Temperature Controller
- Program Controller 5 Patterns 80 Segments
- [OPTION] RS-485 Multi-Drop Computer Interface

JSBI-250DC Controller

- ▶ ±0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

JSBI-250DCP Controller

- ▶ Programmable 16-bit Microprocessor Digital PID control with $\pm 0.1^{\circ}\text{C}$ resolution
- ▶ 5 Patterns memory 80 Segments 999 times repeatable
- ▶ Constant Temp. Mode / Program Mode
- ▶ Pattern link and Segment skip function
- ▶ Automatic STOP timer Max. 99min 59sec / 99hr 59min
- ▶ Temperature calibration and auto-tuning function
- ▶ Class A Pt-100 Ω sensor

- ▶ 해상도 $\pm 0.1^{\circ}\text{C}$ 정밀한 16-bit 프로그램 PID 컨트롤러
- ▶ 5패턴 저장 메모리 80세그먼트, 999회 또는 무한 반복운전
- ▶ 정지운전 또는 프로그램운전 기능
- ▶ 작동 중인 패턴 종료 후 다른 패턴으로 링크하여 연속작동
- ▶ 현재 작동 중인 세그먼트 건너 뛰기 기능
- ▶ 타이머 내장 99분59초 / 99시간59분
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevents contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ 가열챔버가 후면에 위치하여 액체 흘림으로 인한 고장이 적음
- ▶ 내구성이 강한 냉각 시스템

Ordering Information

	JSBI-250DC	JSBI-250DCP
Chamber Volume (Capacity)	250 L x 2 Chamber 2 Door	
Dimensions Inner	500 x 500 x 1000	
W x D x H mm Outer	1365 x 825 x 1760	1365 x 810 x 1830
Temperature Controller	JSC-1D Digital PID Control	JSC-5D Programmable Controller
Range	+0 $^{\circ}\text{C}$ to 70 $^{\circ}\text{C}$	
Accuracy at 20.0 $^{\circ}\text{C}$	$\pm 0.2^{\circ}\text{C}$	
Uniformity at 20.0 $^{\circ}\text{C}$	$\pm 0.5^{\circ}\text{C}$	
Number of shelves / Maximum No.	3 / 20 per chamber	
Heater Capacity	1.0 kW x 2 ea	
Refrigeration System	CFC-Free Air Cooled Compressor	
Power Rating	15.0 Amp	
Power Plug	CEE 7/7 Schuko	

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevent contamination
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electric Leakage Breaker

Options

Art No.	Descriptions
OEC-002	JSC-1D Constant Temperature Controller /w RS-485C Multi-Drop Interface, PC Software
OEC-004	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-485 Multi-Drop Interface, PC Software
OEA-001	Power Outlet Consent in Chamber for CEE 7/7 Schuko Plug
OEA-002	Power Outlet Consent in Chamber for BS 1363 Plug

Accessories

Art No.	Descriptions
	Perforated Shelf, Stainless Steel 304
PHS-A06	for JSBI-250DC(P) W470 x D480 mm
	PVC Coated Wire Shelf
PHS-C05	for JSBI-250DC(P) W470 x D480 mm
PHS-A99	Shelf Support, Set of 4

2-Chamber COOLED INCUBATOR

5 PATTERN MEMORY
80 SEGMENTS



Photoperiodic Control

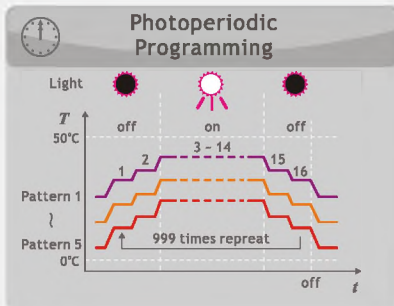











Programmable Multi-Room Incubator

JSMI-02CP(L) Series Multi-Room Programmable Refrigerated Incubator equipped with 5 Pattern internal memory, 80 segments and light control for photoperiodic day-night simulation program capability provides various incubation and test condition needs temperature vs time vs light programming.

Specifications

Heating	Forced Air Convection
Cooling	CFC-Free air cooled compressor
Temp. Range	+ 0 °C - 70 °C
Accuracy	± 0.2 °C at 20.0 °C
Uniformity	± 0.5 °C at 20.0 °C
Control	Programmable PID Control 5 Pattern 80 Segments 999 Repeatable Photoperiodic Light Control (JSMI-02CPL)
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Including PVC Coated Wire Shelf Built-in Caster for easy transport
Electric	220 ± 10% VAC 50/60Hz 1-Phase
Plug config.	 or  <small>CEE 7/7 Schuko RS 1363</small>



-  **Dual Chamber Independent Temperature**
-  **Cooled +0 °C to 70 °C**
-  **Constant Temperature Controller**
-  **Program Controller 5 Patterns 80 Segments**
-  **Timer Off** 
-  **Photoperiodic Control** 
-  **[OPTION] 11 Segment Program with RS-485C Multi-Drop**

Control Accuracy

- Programmable 16-bit Microprocessor Digital PID control with ±0.1°C resolution
- 5 Patterns memory 80 Segments 999 times repeatable
- Constant Temp. Mode / Program Mode
- Pattern link and Segment skip function
- Automatic STOP timer Max. 99min 59sec / 99hr 59min
- Programmable photoperiodic light control system
- Temperature calibration and auto-tuning function
- Class A Pt-100 Ω sensor

- ▶ 해상도 ±0.1 °C 정밀한 16-bit 프로그램 PID 컨트롤러
- ▶ 5패턴 저장 메모리 80세그먼트, 999회 또는무한 반복운전
- ▶ 정지운전 또는 프로그램운전 기능
- ▶ 작동 중인 패턴 종료 후 다른 패턴으로 링크하여 연속작동
- ▶ 현재 작동 중인 세그먼트 건너 뛰기 기능
- ▶ 타이머 내장 99분59초 / 99시간59분
- ▶ 일광조절이 가능한 조도 ON/OFF 프로그램기능
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevents contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor

- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ 가열챔버가 후면에 위치하여 액체 흘림으로인한 고장이적음
- ▶ 내구성이 강한 냉각 시스템

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents contamination
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport

Ordering Information

	JSMI-02C	JSMI-02CP	JSMI-02CPL
Chamber Volume (Capacity)		125 L x 2 Chamber 2 Door	
Dimensions Inner		500 x 500 x 500 / chamber	
W x D x H mm Outer		935 x 830 x 1875	
Temperature Controller	JSC-1D Digital PID Control	JSC-5D Controller	JSC-5D Controller
Range		+0 °C to 70 °C	
Accuracy at 20.0°C		± 0.2 °C at 20 °C	
Uniformity at 20.0°C		± 0.5 °C at 20 °C	
Lighting Control	none	none	2 x 32 Watt FPL
Number of shelves / Maximum No.		2 / 16 per chamber	
Heater Capacity	2 x 900 W	2 x 900 W	2 x 900 W
Refrigeration System		CFC-Free Air Cooled Compressor	
Power Rating	14.1 Amp	14.1 Amp	14.7 Amp
Power Plug		CEE 7/7 Schuko	

- ▶ 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 챔버의 기밀성이 뛰어난
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 제상 간격 및 시간을 조절할 수 있는 자동 제상 시스템
- ▶ 바퀴를 장착하여 설치 및 이동이 편리함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electric Leakage Breaker

Options

Art No.	Descriptions
OEC-004	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-485C Multi-Drop Interface, PC Software
OEA-001	Power Outlet Consent in Chamber for CEE 7/7 Schuko Plug
OEA-002	Power Outlet Consent in Chamber for BS 1363 Plug

Accessories

Art No.	Descriptions
	Perforated Shelf, Stainless Steel 304
PHS-A06	for JSMI-02CP(L) W470 x D480 mm
	PVC Coated Wire Shelf
PHS-C05	for JSMI-02CP(L) W470 x D480 mm
PHS-A99	Shelf Support, Set of 4

4-Chamber INCUBATOR

INDEPENDENT TEMPERATURE CONTROL Small Foot Print



Multi-Room Incubator

JSMI-04T(C) Series Multi-Room Refrigerated Incubator provides 4 chambers in a compact unit share less footprint.

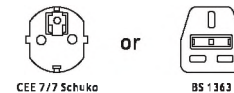
Temperature of each chamber can be controlled independently which allow to process incubation at different temperature condition at the same time to save incubation time and cost.

Useful for bacteria incubation or comparison test of samples such as food packaging at different temperature condition.

Specifications

Heating	Forced Air Convection
Cooling	CFC-Free air cooled compressor
Temp. Range	JSMI-04T ambient +5 °C - 70 °C Heating JSMI-04C +0 °C - 70 °C Cooling
Accuracy	± 0.2 °C at 20.0°C (JSMI-04C)
Uniformity	± 0.5 °C at 20.0°C (JSMI-04C)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Including PVC Coated Wire Shelf Built-in Caster for easy transport
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.










CEE 7/7 Schuko

BS 1363

Control Accuracy

- ± 0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor

- 
Four Chamber Independent Temperature
- 
Heated amb. +5 °C - 70 °C
- 
Cooled +0 °C to 70 °C
- 
Constant Temperature Controller
- 
Timer On / Off

- 
[OPTION] RS-485 Multi-Drop Serial Interface

- ▶ 정밀한 PID 컨트롤러는 온도를 $\pm 0.1\text{ }^{\circ}\text{C}$ 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초/99시간59분/99일23시간
- ▶ 온도보정, 오토튠닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevents contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor

- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ 가열챔버가 후면에 위치하여 액체 흘림으로 인한 고장이 적음
- ▶ 내구성이 강한 냉각 시스템

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents contamination
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport

- ▶ 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 챔버의 기밀성이 뛰어나
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 제상 간격 및 시간을 조절할 수 있는 자동 제상 시스템
- ▶ 바퀴를 장착하여 설치 및 이동이 편리함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electric Leakage Breaker

Options

Art No.	Descriptions
OEC-002	JSC-1D Constant Temperature Controller /w RS-485C Multi-Drop Interface, PC Software
OEA-001	Power Outlet Consent in Chamber for CEE 7/7 Schuko Plug
OEA-002	Power Outlet Consent in Chamber for BS 1363 Plug

Accessories

Art No.	Descriptions
PHS-A06	Perforated Shelf, Stainless Steel 304 for JSMI-04T(C) W470 x D480 mm
PHS-C05	PVC Coated Wire Shelf for JSMI-04T(C) W470 x D480 mm
PHS-A99	Shelf Support, Set of 4

Ordering Information

	JSMI-04T	JSMI-04C
Chamber Volume (Capacity)	125 L x 4 Chamber 4 Door	
Dimensions Inner	500 x 500 x 500 / chamber	
W x D x H mm Outer	1365 x 830 x 1815	
Temperature Range	ambient +5 $^{\circ}\text{C}$ to 70 $^{\circ}\text{C}$	+0 $^{\circ}\text{C}$ to 70 $^{\circ}\text{C}$
Accuracy	$\pm 0.2\text{ }^{\circ}\text{C}$ at 37 $^{\circ}\text{C}$	$\pm 0.2\text{ }^{\circ}\text{C}$ at 20 $^{\circ}\text{C}$
Uniformity	$\pm 0.7\text{ }^{\circ}\text{C}$ at 37 $^{\circ}\text{C}$	$\pm 0.5\text{ }^{\circ}\text{C}$ at 20 $^{\circ}\text{C}$
Number of shelves / Maximum No.	2 / 16 per chamber	
Heater Capacity	4 x 200 W	4 x 900 W
Refrigeration System	none	CFC-Free Air Cooled Compressor
Power Rating	2 x 2.0 Amp	2 x 14.1 Amp
Power Plug	2 x CEE 7/7 Schuko Plug (two each chambers)	

4-Chamber INCUBATOR









5 PATTERN MEMORY
80 SEGMENTS

Photoperiodic Control



Programmable Multi-Room Incubator

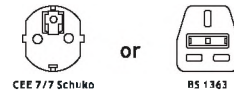
JSMI-CP(L) Series Multi-Room Programmable Refrigerated Incubator equipped with 5 Pattern internal memory, 80 segments and light control for photoperiodic day-night simulation program capability provides various incubation and test condition needs temperature vs time vs light programming.

- 
Four Chamber Independent Temperature
- 
Cooled +0 °C to 70 °C
- 
Program Controller
5 Patterns 80 Segments
- 
Timer Off

- 
Photoperiodic Control

- 
[OPTION] 11 Segment Program
with RS-485C Multi-Drop

Specifications

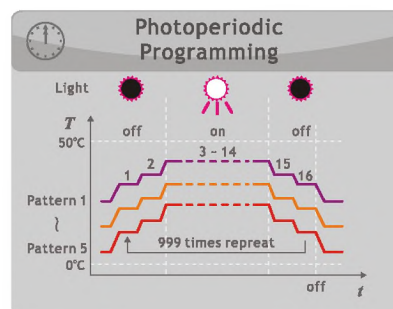
Heating	Forced Air Convection
Cooling	CFC-Free air cooled compressor
Temp. Range	+ 0 °C - 70 °C
Accuracy	± 0.2 °C at 20.0°C (JSMI-04CP)
Uniformity	± 0.5 °C at 20.0°C (JSMI-04CPL)
Control	Programmable PID Control 5 Pattern 80 Segments 999 Repeatable Photoperiodic Light Control (JSMI-04CPL)
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Including PVC Coated Wire Shelf Built-in Caster for easy transport
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



Control Accuracy

- Programmable 16-bit Microprocessor Digital PID control with ±0.1°C resolution
- 5 Patterns memory 80 Segments 999 times repeatable
- Constant Temp. Mode / Program Mode
- Pattern link and Segment skip function
- Automatic STOP timer Max. 99min 59sec / 99hr 59min
- Programmable photoperiodic light control system
- Temperature calibration and auto-tuning function
- Class A Pt-100 Ω sensor



JSMI-04 Outer Door with Glass Window Option

- ▶ 해상도 ±0.1 °C 정밀한 16-bit 프로그램 PID 컨트롤러
- ▶ 5패턴 저장 메모리 80세그먼트, 999회 또는무한 반복운전
- ▶ 정지운전 또는 프로그램운전 기능
- ▶ 작동 중인 패턴 종료 후 다른 패턴으로 링크하여 연속작동
- ▶ 현재 작동 중인 세그먼트 건너 뛰기 기능
- ▶ 타이머 내장 99분59초 / 99시간59분
- ▶ 일광조절이 가능한 조도 ON/OFF 프로그램기능
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevents contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor

- ▶ 내구성이 뛰어난 에폭시 분체 도장 분체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ 가열챔버가 후면에 위치하여 액체 흘림으로인한 고장이적음
- ▶ 내구성이 강한 냉각 시스템

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents contamination
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport

Ordering Information

	JSMI-04CP	JSMI-04CPL
Chamber Volume (Capacity)	125 L x 4 Chambers	
Dimensions Inner	500 x 500 x 500 / chamber	
W x D x H mm Outer	1365 x 815 x 1885	
Temperature Range	+0 °C to 70 °C	
Accuracy at 20.0°C	± 0.2 °C at 20 °C	
Uniformity at 20.0°C	± 0.5 °C at 20 °C	
Lighting Control	none	2 x 32 Watt FPL Lamp
Number of shelves / Maximum No.	2 / 16 per chamber	
Heater Capacity	4 x 900 W	4 x 900 W
Refrigeration System	CFC-Free Air Cooled Compressor	
Power Rating	2 x 14.8 Amp	2 x 15.4 Amp
Power Plug	CEE 7/7 Schuko Two plug system	

- ▶ 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 챔버의 기밀성이 뛰어남
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 제상 간격 및 시간을 조절할 수 있는 자동 제상 시스템
- ▶ 바퀴를 장착하여 설치 및 이동이 편리함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electric Leakage Breaker

Options

Art No.	Descriptions
OEC-004	JSC-3D Programmable Controller 1 Pattern 11 Segments /w RS-485C Multi-Drop Interface, PC Software
OEA-001	Power Outlet Consent in Chamber for CEE 7/7 Schuko Plug
OEA-002	Power Outlet Consent in Chamber for BS 1363 Plug
OEC-105	Outer Door with Glass Window

Accessories

Art No.	Descriptions
PHS-A06	Perforated Shelf, Stainless Steel 304 for JSMI-04CP(L) W470 x D480 mm
PHS-C05	PVC Coated Wire Shelf for JSMI-04CP(L) W470 x D480 mm
PHS-A99	Shelf Support, Set of 4

5-Chamber INCUBATOR

INDEPENDENT TEMPERATURE CONTROL Small Foot Print



Multi-Room Incubator






JSMI-05C(L) Series Multi-Room Refrigerated Incubator has five individual inner chambers in a compact unit share less footprint. Temperature of each chamber can be controlled independently which allow to process incubation at different temperature condition at the same time to save incubation time and cost.

Useful for bacteria, insect incubation or comparison test of samples such as food packaging at different temperature condition.

Specifications

Heating	Forced Air Convection
Cooling	CFC-Free air cooled compressor
Temp. Range	JSMI-05C +5 °C - 70 °C JSMI-05CL +5 °C - 70 °C with light
Accuracy	± 0.2 °C at 20.0°C (JSMI-05C)
Uniformity	± 0.5 °C at 20.0°C (JSMI-05C)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Built-in Caster for easy transport
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.  or 
CEE 7/7 Schuko BS 1363

-  Five Chamber Independent Temperature
-  Cooled +5 °C to 70 °C
-  Constant Temperature Controller
-  Photoperiodic Control 

Control Accuracy

- ▶ ± 0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor

- ▶ 정밀한 PID 컨트롤러는 온도를 ± 0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초/99시간59분/99일23시간
- ▶ 온도보정, 오토튠닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
 - ▶ Corrosion resistant Stainless Steel 304 chamber
 - ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
 - ▶ Forced circulation for excellent thermal uniformity
 - ▶ Separate heating and cooling compartment prevents contamination and maintenance free
 - ▶ Cooling system with hermetically sealed compressor
-
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
 - ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
 - ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
 - ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
 - ▶ 가열챔버가 후면에 위치하여 액체 흘림으로인한 고장이적음
 - ▶ 내구성이 강한 냉각 시스템

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents contamination
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport

- ▶ 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 챔버의 기밀성이 뛰어남
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 제상 간격 및 시간을 조절할 수 있는 자동 제상 시스템
- ▶ 바퀴를 장착하여 설치 및 이동이 편리함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electric Leakage Breaker

Ordering Information

	JSMI-05C	JSMI-05CL
Chamber Volume (Capacity)	44 L x 5 Chambers / Single Outer Door/ Five Inner Glass Door	
Dimensions Inner	400 x 500 x 220 / chamber	
W x D x H mm Outer	600 x 825 x 1920	
Temperature Range	+5 °C to 70 °C	
Accuracy at 20.0°C	± 0.2 °C at 20 °C	
Uniformity at 20.0°C	± 0.5 °C at 20 °C	
Lighting Control	none	2 x 32 Watt FPL Lamp
Number of shelves / Maximum No.	-	
Heater Capacity	5 x 400 Watt	
Refrigeration System	CFC-Free Air Cooled Compressor	
Power Rating	15 Amp	
Power Plug	CEE 7/7 Schuko Two plug system	

8-Chamber INCUBATOR

INDEPENDENT TEMPERATURE CONTROL Small Foot Print



Multi-Room Incubator

JSMI-08CP(L) Series Multi-Room Refrigerated Incubator provides 8 chambers in a compact unit share less footprint.

Temperature of each chamber can be controlled independently which allow to process incubation at different temperature condition at the same time to save incubation time and cost.

Useful for bacteria incubation or comparison test of samples such as food packaging at different temperature condition.

Specifications

Heating	Forced Air Convection
Cooling	CFC-Free air cooled compressor
Temp. Range	JSMI-08CP +5 °C ~ 70 °C JSMI-08CPL +5 °C ~ 70 °C with Light
Accuracy	± 0.2 °C at 20.0°C (JSMI-08CP)
Uniformity	± 0.5 °C at 20.0°C (JSMI-08CP)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Including PVC Coated Wire Shelf Built-in Caster for easy transport
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



or



CEE 7/7 Schuko

BS 1363

Control Accuracy

- Programmable 16-bit Microprocessor Digital PID control with ±0.1°C resolution
- 5 Patterns memory 80 Segments 999 times repeatable
- Constant Temp. Mode / Program Mode
- Pattern link and Segment skip function
- Automatic STOP timer Max. 99min 59sec / 99hr 59min
- Programmable photoperiodic light control system
- Temperature calibration and auto-tuning function
- Class A Pt-100 Ω sensor



Eight Chamber
Independent Temperature



Cooled +5 °C to 70 °C



Program Controller
5 Patterns 80 Segments



Timer On / Off



[OPTION] RS-485 Multi-Drop
Serial Interface

- ▶ 해상도 ±0.1 °C 정밀한 16-bit 프로그램 PID 컨트롤러
- ▶ 5패턴 저장 메모리 80세그먼트, 999회 또는무한 반복운전
- ▶ 정지운전 또는 프로그램운전 기능
- ▶ 작동 중인 패턴 종료 후 다른 패턴으로 링크하여 연속작동
- ▶ 현재 작동 중인 세그먼트 건너 뛰기 기능
- ▶ 타이머 내장 99분59초 / 99시간59분
- ▶ 일광조절이 가능한 조도 ON/OFF 프로그램기능
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevents contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor
- ▶ 내구성이 뛰어난 예폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ 가열챔버가 후면에 위치하여 액체 흘림으로인한 고장이적음
- ▶ 내구성이 강한 냉각 시스템

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevents contamination
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport
- ▶ 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 챔버의 기밀성이 뛰어나
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 제상 간격 및 시간을 조절할 수 있는 자동 제상 시스템
- ▶ 바퀴를 장착하여 설치 및 이동이 편리함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electric Leakage Breaker

Ordering Information

	JSMI-08CP	JSMI-08CPL
Chamber Volume (Capacity)	26 L x 8 Chambers	
Dimensions Inner	290 x 360 x 250 / chamber	
W x D x H mm Outer	1300 x 670 x 1870	
Temperature Range	+5 °C to 70 °C	
Accuracy at 20.0°C	± 0.2 °C at 20 °C	
Uniformity at 20.0°C	± 0.5 °C at 20 °C	
Lighting Control	none	1 x 10 Watt FPL Lamp
Number of shelves / Maximum No.	1 / 8 per chamber	
Heater Capacity	8 x 300 W	
Refrigeration System	CFC-Free Air Cooled Compressor	
Power Rating	2 x 9.1 Amp	
Power Plug	CEE 7/7 Schuko Two plug system	

Cold Lab CHAMBER

REFRIGERATION STORAGE CHAMBER

Sample & Reagent Store



Cold Lab Chamber

Cold Lab Chamber provide the reliability and security essential for the protection of temperature sensitive samples to be stored in +4 °C range. Ideal for the demanding requirements of daily laboratory applications such as storage of chemicals, reagents and samples.

Complete with adjustable shelves for storage, digital control for temperature setting with high and low temperature cut-off.

Specifications

Cooling	CFC-Free air cooled compressor
Temp. Range	+ 0 °C ~ 10 °C (General Operation at +4 °C)
Control	Digital ON/OFF Control
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Low-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Glass Outer Door Window : Double Layer Tempered Safety Glass Including PVC Coated Wire Shelf
Electric	Built-in Caster for easy transport 220 ± 10% VAC 50/60Hz 1-Phase
Plug config.	



or









CEE 7/7 Schuko

RS 1363

Control Accuracy

- ▶ ± 2.0 °C Digital ON/OFF Control
- ▶ Temperature calibration
- ▶ Class A Pt-100 Ω sensor
- ▶ RS-232C Communication Interface and Software [OPTION]
- ▶ 디지털 컨트롤러는 ±2.0 °C 범위에서 냉동기를 ON/OFF 제어
- ▶ 온도보정 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서
- ▶ 통신용 RS-232C 시리얼 포트, 데이터 저장 및 컨트롤 소프트웨어 포함 [옵션]

-  Cooled +0 °C to 10 °C
-  Constant Temperature Controller
-  Timer On / Off 
-  [OPTION] RS-232C Serial Computer Interface
-  [OPTION] Chart Recorder

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Cooling system with CFC-Free compressor

- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ 공기 순환식 설계로 균일한 온도 분포
- ▶ 내구성이 강한 냉각 시스템

Convenience

- ▶ Outer door with self adhesive magnetic packing with double layer glass window
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Stainless Steel 304 Chamber
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport
- ▶ 자석 접착방식의 외부 도어 패킹과 이중 강화유리 도어 투시창
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 챔버의 기밀성이 뛰어남
- ▶ Stainless Steel 304 챔버
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 제상 간격 및 시간을 조절할 수 있는 자동 제상 시스템
- ▶ 바퀴를 장착하여 설치 및 이동이 편리함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ LOW TEMP. CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electric Leakage Breaker

Options

Art No.	Descriptions
OEC-001	JSC-1D Constant Temperature Controller /w RS-232C Interface, PC Software
OEA-001	Power Outlet Consent in Chamber for CEE 7/7 Schuko Plug
OEA-002	Power Outlet Consent in Chamber for BS 1363 Plug

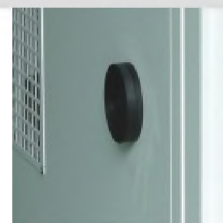
Accessories

Art No.	Descriptions
OER-010	6-Channel Chart Recorder
OHC-104	50 mm Access Port
	PVC Coated Wire Shelf
PHS-C16	for JSSC-700C W670 x D680 mm
PHS-C17	for JSSC-1200C W585 x D630 mm
PHS-A99	Shelf Support, Set of 4

Chart Recorder



Access Port



Ordering Information

	JSSC-700C	JSSC-1200C
Chamber Volume (Capacity)	686 L	1176 L
Dimensions Inner	700 x 700 x 1400	1200 x 700 x 1400
W x D x H mm Outer	900 x 900 x 1980	1410 x 900 x 1980
Temperature Range	+0 °C ~ 10 °C (General Operation at 4 °C)	
Accuracy	± 2.0 °C ON/OFF Control	
Uniformity	± 1.6 °C at 4 °C	± 2.0 °C at 4 °C
Number of shelves / Maximum No.	4 / 25	8 / 50
Heater Capacity	-	-
Refrigeration System	CFC-Free Air Cooled Compressor	
Power Rating	3.0 Amp	4.0 Amp
Power Plug	CEE 7/7 Schuko Plug	

Shaking INCUBATOR

SELECTION GUIDE

Complete Range



JSSI-300 Series
Floor Standing



JSSI-200 Series
Stackable

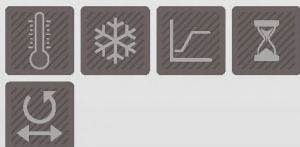
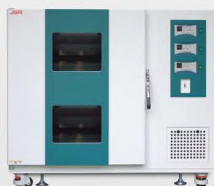


MODEL	JSSI-300T	JSSI-300C	JSSI-300CL	JSSI-200T	JSSI-200C	JSSI-200CL
SHAKING PLATFORM	W 700 x D 650 mm			W 500 x D 465 mm		
No. OF PLATFORM	1			1 Shaking & Static Shelf		
ORBITAL	yes			yes		
RECIPROCAL	yes			yes		
STATIC SHELF	no			yes		
TEMP. RANGE	heating	cooling	Cooling	heating	cooling	Cooling
LIGHTING	no	no	yes	no	no	yes
MAX. No. OF FLASKS	Universal Platform		Dedicated Platform	Universal Platform		Dedicated Platform
100 ml	41		72	32		36
200 ml	25		42	20		20
500 ml	25		25	9		12
1000 ml	16		16	9		9
2000 ml	9		-	5		-
3000 ml	9		-	4		-
5000 ml	5		-	2		-

JSSI-100 Series Compact

JSSI-CML Series Multi-Stack

JSSI-202C Series Multi-Chamber

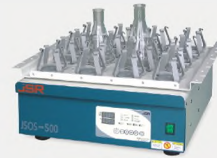


JSSI-100T	JSSI-100C	JSSI-2CM(L)	JSSI-4CM(L)	JSSI-202C	JSSI-202CL	MODEL
W 500 x D 465 mm		W 700 x D 650 mm		W 700 x D 650 mm		SHAKING PLATFORM
1		2	4	2 Chamber x 2 Platform		No. OF PLATFORM
yes		yes		yes		ORBITAL
yes		yes		yes		RECIPROCAL
no		no		no		STATIC SHELF
heating	Cooling	Cooling		Cooling		TEMP. RANGE
no		yes (CML model only)		no	yes	LIGHTING
Universal Platform	Dedicated Platform	Universal Platform	Dedicated Platform	Universal Platform	Dedicated Platform	MAX. No. OF FLASKS
32	36	41	72	41	72	100 ml
20	20	25	42	25	42	200 ml
9	12	25	25	25	25	500 ml
9	9	16	16	16	16	1000 ml
5	-	9	-	9	-	2000 ml
4	-	9	-	9	-	3000 ml
2	-	5	-	5	-	5000 ml

Shaking INCUBATOR

SELECTION GUIDE Accessories

Platform & Accessories



DESCRIPTIONS	JSOS-300 Art. No.	JSOS-500 Art. No.		JSSI-070T(C) Art. No.
Adaptor Kit for Reciprocal Motion	-	PHF-P11		-
Stacking Bracket Kit	-	-		-
Universal Spring Rack	-	PHF-U50	PHF-U70	PHF-U40
Dimensions		W490 x D470 mm	W690 x D650 mm	W410 x D380 mm
holds approx.	100 ml	20 ea	42 ea	
	250 ml	12 ea	25 ea	
	500 ml	9 ea	19 ea	
	1000 ml	5 ea	15 ea	
	2000 ml	4 ea	8 ea	
Universal Flask Platform	PHF-P30	PHF-P60	PHF-P70	PHF-P40
Dimensions	W 275 x D 345 mm	W495 x D495 mm	W700 x D650 mm	W410 x D380 mm
holds maximum	50 - 100 ml	25 ea	41 ea	23 ea
polycarbonate	200 - 300 ml	16 ea	25 ea	16 ea
flask holder	500 ml	16 ea	25 ea	9 ea
	1000 ml	9 ea	16 ea	6 ea
	2L / 3L / 5L	5 ea	9 / 9 / 5 ea	4 ea
Dedicated Flask Platform	-	PHF-P61	PHF-P71	-
incl. PC Flask Holder 50-100ml		36 ea	72 ea	
Dedicated Flask Platform	-	PHF-P62	PHF-P72	-
incl. PC Flask Holder 200-300ml		25 ea	42 ea	
Dedicated Flask Platform	-	PHF-P63	PHF-P73	-
incl. PC Flask Holder 500 - 1000 ml		16 ea / 9 ea	25 ea / 16 ea	
Non-Slip Rubber Mat	PHF-M30	PHF-M60	PHF-M70	PHF-M40

▶ Universal Spring Rack

Art. No.	Dimensions	Image
PHF-U50	490 x 470 x 140 mm for JSOS-500, JSSI-100, JSSI-200	
PHF-U70	690 x 650 x 140 mm for JSSI-300, JSSI-2CML, JSSI-4CML, JSSI-202CL	

▶ Stainless Steel Flask Holder

Art. No.	Capacity	Image
PHF-S01	100 ml	
PHF-S02	250 ml	
PHF-S03	500 ml	
PHF-S04	1000 ml	
PHF-S05	2000 ml	
PHF-S06	3000 ml	
PHF-S07	5000 ml	


Platform & Accessories



DESCRIPTIONS	JSSI-300	JSSI-xCML Art. No.	JSSI-202CL	JSSI-200 Art. No.	JSSI-100 Art. No.
Adaptor Kit for Reciprocal Motion		PHF-P11		PHF-P11	
Stacking Bracket Kit		-		PHF-P12	-
Universal Spring Rack		PHF-U70		PHF-U50	
Dimensions		W690 x D650 mm		W490 x D470mm	
holds approx. 100 ml		42 ea		20 ea	
250 ml		25 ea		13 ea	
500 ml		19 ea		10 ea	
1000 ml		15 ea		6 ea	
2000 ml		8 ea		5 ea	
Universal Flask Platform		PHF-P70		PHF-P50	
Dimensions		W700 x D650 mm		W500 x D465mm	
holds maximum 50 - 100 ml		41 ea		32 ea	
polycarbonate 200 - 300 ml		25 ea		20 ea	
flask holder 500 ml		25 ea		9 ea	
1000 ml		16 ea		9 ea	
2L / 3L / 5L		9 ea / 9 ea / 5 ea		5 ea / 4 ea / 2 ea	
Dedicated Flask Platform		PHF-P71		PHF-P51	
incl. PC Flask Holder 50-100ml		72 ea		36 ea	
Dedicated Flask Platform		PHF-P72		PHF-P52	
incl. PC Flask Holder 200-300ml		42 ea		20 ea	
Dedicated Flask Platform		PHF-P73		PHF-P53	
incl. PC Flask Holder 500 - 1000 ml		25 ea / 16 ea		12 ea / 9 ea	
Non-Slip Rubber Mat		PHF-M70		PHF-M50	


▶ Polycarbonate Flask Holder

Art. No.	Size Adjustable
PHF-P01	50 - 100 ml
PHF-P02	200 - 300 ml
PHF-P03	500 - 1000 ml



▶ Test Tube Holder

Art. No.	Size
PHF-T01	8 mm Dia. for 80 test tubes
PHF-T02	10 mm Dia. for 80 test tubes
PHF-T03	12 mm Dia. for 54 test tubes
PHF-T04	14 mm Dia. for 54 test tubes
PHF-T05	16 mm Dia. for 30 test tubes
PHF-T06	25 mm Dia. for 15 test tubes
PHF-T07	35 mm Dia. for 8 test tubes



Shaking INCUBATOR

PROMINENT ADVANTAGE Feature

Controller

▶ JSC-7S Controller



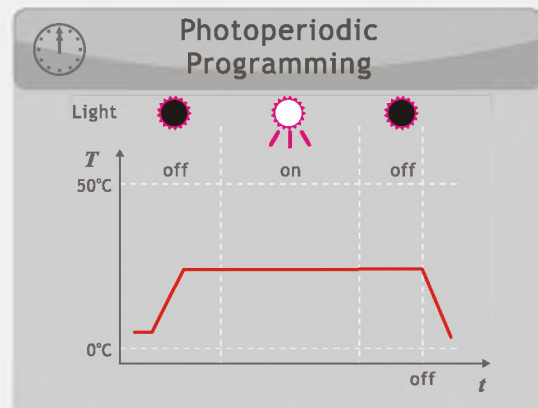
- ▶ Integrated Digital PID Controller
- ▶ Temperature control with $\pm 0.1^\circ\text{C}$
- ▶ Shaking speed control within $\pm 1\text{ rpm}$
- ▶ Automatic STOP timer
Max. 99min 59sec / 99hr 59min / 99day 23hr
- ▶ Dual digital LED displays
TEMP, RPM and remaining TIME
- ▶ Temperature calibration
- ▶ Shaking speed calibration
- ▶ Slow Start and Stop Control
- ▶ Auto-tuning function
- ▶ Class A Pt-100 Ω sensor

- ▶ 온도, 속도, 타이머 통합제어 PID 컨트롤러
- ▶ 온도제어 정밀도 : $\pm 0.1^\circ\text{C}$
- ▶ 교반속도 제어 정밀도 : $\pm 1\text{ rpm}$
- ▶ 타이머 설정 최대 99분 59초/99시간 59분 /99일 23시간
- ▶ 현재온도, 교반속도, 잔여시간 디스플레이
- ▶ 온도 및 속도 보정 기능
- ▶ 작동 시 가속 및 감속 속도 제어
- ▶ 오토튜닝 기능 내장
- ▶ Class A Pt-100 온도센서

▶ Chamber Light [SPECIFIC MODELS ONLY]



- ▶ Programmable Photoperiodic lighting control system
- ▶ 일광조절이 가능한 조도 ON/OFF 프로그램기능



Performance & Convenience

▶ Construction



- ▶ Self-balanced door with magnetic packing, glass window and lighting
- ▶ 자석 접착방식의 패킹, 이중 강화 유리창과 작업등

▶ Chamber



- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버

▶ Interchangeable Platforms



- ▶ Various interchangeable shaking platforms
- ▶ 용도에 따라 교환할 수 있는 다양한 교반 플랫폼

▶ Maintenance



- ▶ Easy to maintain refrigeration system
- ▶ 편리한 유지보수

Safety

▶ DUAL OVER TEMP. CUT-OFF

- 1) Digital system cut-off heater and AUDIO VISUAL ALARM in case +2°C above set temperature
- 2) Analog system cut-off heater 10% above set temp.

▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM

- when if +1°C above maximum limit

▶ MAX RPM CUT-OFF motor and AUDIO VISUAL ALARM

- when +10 rpm above maximum limit

▶ MOTOR FAILURE ALARM in case of shaking start failure

▶ DOOR SENSOR : Cut-off motor when door opened

▶ SENSOR DISCONNECTION ALARM

▶ OVER CURRENT CUT-OFF : Electrical Leakage Breaker

▶ 이중과열방지장치

- 1) 설정온도 +2 °C 초과 시 히터 차단 및 시청각알람
- 2) 콘트롤러 오류로 지정온도 10% 초과 시 히터차단

▶ 최고온도알람기능 : 작동 한계온도 +1°C 초과시 히터 차단

▶ 최고속도알람기능 : 작동 한계속도 +10 rpm 초과시 모터 차단

▶ 속도이상알람기능 : 교반이상시 알람

▶ 도어스위치 : 도어를 열면 모터가 정지하여 사용자를 보호

▶ 센서단락알람

▶ 누전차단기 : 전기누설 시 주전원 차단

Shaking INCUBATOR

JSSI-070 TABLETOP Orbital Motion



Tabletop Shaking Incubator

JSSI-070 Series Tabletop Shaking Incubator is ideal for any shaking application requiring controlled temperature and shaking speed for microbiology, cell biology, cell culture, tissue culture, bio-chemistry, molecular biology, environmental engineering, soil testing field temperature range from + 10°C to +70°C.

Specifications

Heating	Forced Air Convection	
Temp. Range	JSSI-070T	ambient + 5 °C ~ 70 °C
	JSSI-070C	+10 °C ~ 70 °C
Accuracy	± 0.2 °C at 25.0°C (JSSI-070C)	
Uniformity	± 1.0 °C at 25.0°C (JSSI-070C)	
Shaking Motion	Orbital	
Speed Range	20 - 350 rpm	
Control	Integrated Microprocessor PID Control Auto STOP Timer	
Sensor	Class A Pt-100 Ω Sensor	
Safety	Over-Temperature Cut-Off Over Current Cut-Off	
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Window Glass : Tempered Safety	
Electric	220 ± 10% VAC 50/60Hz 1-Phase	

Plug config.



or



CEE 7/7 Schuko

BS 1363

Control Accuracy

- Integrated Digital PID Controller with ± 0.1 °C temperature control resolution, shaking speed by ± 1 rpm and automatic STOP timer
max. 99min 59sec / 99hr 59min / 99 day 23 hr
- Dual digital LED displays operating status of TEMP, RPM and remaining TIME
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor



Heated amb. +5 °C ~ 70 °C



Cooled +10 °C to 70 °C



Timer Off



20 ~ 350 rpm Orbital



Max. Load 25 kgs

- ▶ 통합형 PID 컨트롤러는 배양기의 온도를 $\pm 0.1^{\circ}\text{C}$ 교반속도를 ± 1 rpm 단위로 제어하고 타이머 설정 최대 99분 59초 / 99시간 59분 / 99일 23시간
- ▶ 두 개의 디스플레이는 설정온도, 현재온도, 교반속도, 잔여시간등 작동상태를 표시
- ▶ 온도 및 속도 보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 온도센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevent contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor
- ▶ Durable shaking mechanism with powerful AC motor

Convenience

- ▶ Unique design glass folding door for easy loading and unloading samples in limited space, lighting in chamber for easy observation during cultivation
- ▶ Door switch to cut-off shaking motion when put in and out sample
- ▶ Auto-defrost system, user settable interval and time
- ▶ Height adjustable level feet for balancing, anti-vibration
- ▶ Various choice of shaking platforms

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ MAX RPM CUT-OFF motor and AUDIO VISUAL ALARM
- ▶ MOTOR FAILURE ALARM
- ▶ DOOR SWITCH
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF

Accessories

Art No.	Descriptions	
PHF-U40	Universal Spring Rack	W410 x D380 mm
PHF-P40	Flask Holder Platform	W410 x D380 mm
PHF-M40	Non-Slip Rubber Mat	W410 x D380 mm
PHF-Pxx	Polycarbonate Flask Holder	50 - 1000 ml
PHF-Sxx	Stainless Steel Flask Holder	100 - 5000 ml
PHF-Txx	Test Tube Rack	Dia. 8 - 35 mm

*Shaking Incubator supplied without shaking platform and accessories
Refer Ordering Information page 56*



Ordering Information

	JSSI-070T	JSSI-070C
Chamber Volume (Capacity)	62 L	
Dimensions Inner	505 x 400 x 310	
W x D x H mm Outer	550 x 700 x 660	
Platform	W410 x D380 mm	
Temperature Range	ambient +5 °C ~ 70 °C	+10 °C ~ 70 °C
Accuracy	$\pm 0.2^{\circ}\text{C}$ at 37 °C	$\pm 0.2^{\circ}\text{C}$ at 25 °C
Uniformity	$\pm 1.0^{\circ}\text{C}$ at 37 °C	$\pm 1.0^{\circ}\text{C}$ at 25 °C
Shaking Motion	Orbital	
Speed /Stroke	20 ~ 350 rpm / 20mm	
Working Light	25 Watt Bulb	
Heater Capacity	300 Watt	500 Watt
Refrigeration System	None	CFC Free Air Cooled Compressor
Power Rating	3.2 Amp	4.5 Amp
Electric	220VAC 50/60Hz 1P	
Power Plug	CEE 7/7 Schuko	

Shaking INCUBATOR

JSSI-300 FLOOR STANDING Orbital & Reciprocal



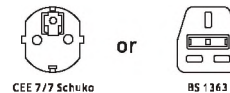
Floor Standing Shaking Incubator

JSSI-300 Series Shaking Incubator is ideal for any shaking application requiring controlled temperature and speed for microbiology, cell biology, cell culture, tissue culture, biochemistry, molecular biology, environmental engineering, soil testing field temperature range from +10°C to +70°C and shaking speed from 20 - 350 rpm.

Specifications

Heating	Forced Air Convection
Temp. Range	JSSI-300T ambient + 5 °C ~ 70 °C JSSI-300C(L) +10 °C ~ 70 °C
Accuracy	± 0.2 °C at 25.0°C (JSSI-300C)
Uniformity	± 1.0 °C at 25.0°C (JSSI-300C)
Shaking Motion	Orbital or Reciprocal
Speed Range	20 - 350 rpm (orbital)
Control	Integrated Microprocessor PID Control Auto STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Window Glass : Tempered Safety
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



Control Accuracy

- Integrated Digital PID Controller with ±0.1 °C temperature control resolution, shaking speed by ± 1 rpm and automatic STOP timer
max. 99min 59sec / 99hr 59min / 99 day 23 hr
- Dual digital LED displays operating status of TEMP, RPM and remaining TIME
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor

	Heated amb. +5 °C ~ 70 °C
	Cooled +10 °C to 70 °C
	Timer Off
	20 - 350 rpm Orbital or Reciprocal
	Photoperiodic Control
	Max. Load 35 kgs

- ▶ 통합형 PID 콘트롤러는 배양기의 온도를 $\pm 0.1^{\circ}\text{C}$ 교반속도를 ± 1 rpm 단위로 제어하고 타이머 설정 최대 99분 59초 / 99시간 59분 / 99일 23시간
- ▶ 두 개의 디스플레이는 설정온도, 현재온도, 교반속도, 잔여시간등 작동상태를 표시
- ▶ 온도 및 속도 보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 온도센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevent contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor
- ▶ Durable shaking mechanism with powerful AC motor supports orbital or reciprocal shaking motion
- ▶ Programmable Lighting System with 24 hour timer for photosynthetic culture (JSSI-300CL only)

Convenience

- ▶ Easy-to-open self-balanced door with air tight self adhesive magnetic packing and double layer glass window, lighting in chamber for easy observation during cultivation
- ▶ Door switch to cut-off shaking motion when put in and out sample
- ▶ Auto-defrost system, user settable interval and time
- ▶ Caster and height adjustable level feet for easy transport balancing and anti-vibration
- ▶ Various choice of shaking platforms

Ordering Information

	JSSI-300T	JSSI-300C	JSSI-300CL
Chamber Volume (Capacity)		204 L	
Dimensions	Inner	760 x 715 x 375	
W x D x H mm	Outer	1080 x 875 x 975	
	Platform	W700 x D650 mm	
Temperature	Range	ambient +5°C - 70°C	+10°C - 70°C
	Accuracy		$\pm 0.2^{\circ}\text{C}$ at 25°C (Lamp Off)
	Uniformity		$\pm 1.0^{\circ}\text{C}$ at 25°C (Lamp Off)
Shaking	Motion	Orbital or Reciprocal	
	Speed /Stroke	20 - 350 rpm / 20mm	
Illumination		none	20 Watt FL x 4 ea / 24 hr Timer
Working Light	25 Watt Bulb	25 Watt Bulb	none
Heater Capacity	700 Watt	1.5 kW	1.5 kW
Refrigeration System	None	CFC Free Air Cooled Compressor	CFC Free Air Cooled Compressor
Power Rating	3.2 Amp	10.0 Amp	10.5 Amp
Power Plug		CEE 7/7 Schuko	

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ MAX RPM CUT-OFF motor and AUDIO VISUAL ALARM
- ▶ MOTOR FAILURE ALARM
- ▶ DOOR SWITCH
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF

Accessories

Art No.	Descriptions	
PHF-P11	Adaptor Kit for Reciprocal Motion	
PHF-U70	Universal Spring Rack	W690 x D650 mm
PHF-P70	Flask Holder Platform	W700 x D650 mm
PHF-M70	Non-Slip Rubber Mat	W700 x D650 mm
PHF-Pxx	Polycarbonate Flask Holder	50 - 1000 ml
PHF-Sxx	Stainless Steel Flask Holder	100 - 5000 ml
PHF-Txx	Test Tube Rack	Dia. 8 - 35 mm

*Shaking Incubator supplied without shaking platform and accessories
Refer Ordering Information page 56*










Shaking INCUBATOR

JSSI-200 STACKABLE Front Loading

Stackable Shaking Incubator

JSSI-200 Series Shaking Incubator is designed to save laboratory space by stacking one onto the other unit which shares less footprint. Front loading door system allow easy sample loading and unloading. Static shelf space above shaking platform can be used as general incubator for petri-dishes.



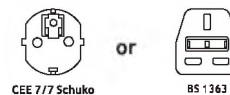
-  Stackable System
Shaking and Static Shelf
-  Heated amb. +5 °C ~ 70 °C
-  Cooled +10 °C to 70 °C
-  Timer Off 
-  20 ~ 350 rpm
Orbital or Reciprocal
-  Photoperiodic Control 
-  Max. Load 25 kgs



Specifications

Heating	Forced Air Convection
Temp. Range	JSSI-200T ambient + 5 °C ~ 70 °C JSSI-200C(L) +10 °C ~ 70 °C
Accuracy	± 0.2 °C at 25.0°C (JSSI-200C)
Uniformity	± 1.0 °C at 25.0°C (JSSI-200C)
Shaking Motion	Orbital or Reciprocal
Speed Range	20 ~ 350 rpm (orbital)
Control	Integrated Microprocessor PID Control Auto STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Window Glass : Tempered Safety PVC Coated Static Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



Control Accuracy

- Integrated Digital PID Controller with ±0.1 °C temperature control resolution, shaking speed by ± 1 rpm and automatic STOP timer max. 99min 59sec / 99hr 59min / 99 day 23 hr
- Dual digital LED displays operating status of TEMP, RPM and remaining TIME
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor

- ▶ 통합형 PID 컨트롤러는 배양기의 온도를 $\pm 0.1\text{ }^{\circ}\text{C}$ 교반속도를 $\pm 1\text{ rpm}$ 단위로 제어하고 타이머 설정 최대 99분 59초 / 99시간 59분 / 99일 23시간
- ▶ 두 개의 디스플레이는 설정온도, 현재온도, 교반속도, 잔여시간등 작동상태를 표시
- ▶ 온도 및 속도 보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 온도센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevent contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor
- ▶ Durable shaking mechanism with powerful AC motor supports orbital or reciprocal shaking motion
- ▶ Programmable Lighting System with 24 hour timer for photosynthetic culture

Convenience

- ▶ Front loading system for easy loading and unloading culture flasks and available to install optional static shelf above platform for general incubation at the same time
- ▶ Double layer glass window, lighting in chamber for easy observation during cultivation
- ▶ Door switch to cut-off shaking motion when put in and out sample
- ▶ Auto-defrost system, user settable interval and time
- ▶ Height adjustable level feet for balancing, anti-vibration
- ▶ Optional staking bracket kit to stacking one onto the other unit to save space and operation efficiency
- ▶ Various choice of shaking platforms

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ MAX RPM CUT-OFF motor and AUDIO VISUAL ALARM
- ▶ MOTOR FAILURE ALARM
- ▶ DOOR SWITCH
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF

Accessories

Art No.	Descriptions	
PHF-P11	Adaptor Kit for Reciprocal Motion	
PHF-P12	Stacking Bracket Kit	
PHS-C08	PVC Coated Wire Shelf	W530 x D580 mm
PHF-U50	Universal Spring Rack	W490 x D470 mm
PHF-P50	Flask Holder Platform	W500 x D465 mm
PHF-M50	Non-Slip Rubber Mat	W500 x D465 mm
PHF-Pxx	Polycarbonate Flask Holder	50 - 1000 ml
PHF-Sxx	Stainless Steel Flask Holder	100 - 5000 ml
PHF-Txx	Test Tube Rack	Dia. 8 - 35 mm

*Shaking Incubator supplied without shaking platform and accessories
Refer Ordering Information page 56*

Ordering Information

	JSSI-200T	JSSI-200C	JSSI-200CL
Chamber Volume (Capacity)		198 L	
Dimensions	Inner	560 x 600 x 590	
W x D x H mm	Outer	930 x 740 x 955	
	Platform	W500 x D465 mm	
Temperature	Range	ambient +5 °C - 70 °C	+10 °C - 70 °C
	Accuracy	$\pm 0.2\text{ }^{\circ}\text{C}$ at 37 °C	$\pm 0.2\text{ }^{\circ}\text{C}$ at 25 °C
	Uniformity	$\pm 1.0\text{ }^{\circ}\text{C}$ at 37 °C	$\pm 1.0\text{ }^{\circ}\text{C}$ at 25 °C
Shaking	Motion	Orbital or Reciprocal	
	Speed /Stroke	20 - 350 rpm / 20mm	
Illumination		none	36 Watt FPL x 2 ea / 24 hr Timer
Working Light		25 Watt Bulb	none
Heater Capacity		500 Watt	700 Watt
Refrigeration System		None	CFC Free Air Cooled Compressor
Power Rating		3.2 Amp	5.7 Amp
Power Plug			CEE 7/7 Schuko

Shaking INCUBATOR

JSSI-100 COMPACT Orbital & Reciprocal

Compact Shaking Incubator

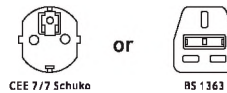
JSSI-100 Series Compact Shaking Incubator is ideal for any shaking application requiring controlled temperature and shaking speed for microbiology, cell biology, cell culture, tissue culture, biochemistry, molecular biology, environmental engineering, soil testing field temperature range from +10°C to +70°C.



Specifications

Heating	Forced Air Convection
Temp. Range	JSSI-100T ambient + 5 °C - 70 °C JSSI-100C +10 °C - 70 °C
Accuracy	± 0.2 °C at 25.0°C (JSSI-100C)
Uniformity	± 1.0 °C at 25.0°C (JSSI-100C)
Shaking Motion	Orbital or Reciprocal
Speed Range	20 - 350 rpm (orbital)
Control	Integrated Microprocessor PID Control Auto STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Window Glass : Tempered Safety
Electric	220 ± 10% VAC 50/60Hz 1-Phase







Plug config.



Control Accuracy

- Integrated Digital PID Controller with ±0.1 °C temperature control resolution, shaking speed by ± 1 rpm and automatic STOP timer max. 99min 59sec / 99hr 59min / 99 day 23 hr
- Dual digital LED displays operating status of TEMP, RPM and remaining TIME
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor



	Heated amb. +5 °C - 70 °C
	Cooled +10 °C to 70 °C
	Timer Off 
	20 - 350 rpm Orbital or Reciprocal
	Max. Load 25 kgs

- ▶ 통합형 PID 컨트롤러는 배양기의 온도를 $\pm 0.1\text{ }^{\circ}\text{C}$ 교반속도를 $\pm 1\text{ rpm}$ 단위로 제어하고 타이머 설정 최대 99분 59초 / 99시간 59분 / 99일 23시간
- ▶ 두 개의 디스플레이는 설정온도, 현재온도, 교반속도, 잔여시간등 작동상태를 표시
- ▶ 온도 및 속도 보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 온도센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevent contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor
- ▶ Durable shaking mechanism with powerful AC motor supports orbital or reciprocal shaking motion

Convenience

- ▶ Easy-to-open self-balanced door with air tight packing and glass window, lighting in chamber for easy observation during cultivation
- ▶ Door switch to cut-off shaking motion when put in and out sample
- ▶ Auto-defrost system, user settable interval and time
- ▶ Height adjustable level feet for balancing, anti-vibration
- ▶ Various choice of shaking platforms

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ MAX RPM CUT-OFF motor and AUDIO VISUAL ALARM
- ▶ MOTOR FAILURE ALARM
- ▶ DOOR SWITCH
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF

Accessories

Art No.	Descriptions	
PHF-P11	Adaptor Kit for Reciprocal Motion	
PHF-U50	Universal Spring Rack	W490 x D470 mm
PHF-P50	Flask Holder Platform	W500 x D465 mm
PHF-M50	Non-Slip Rubber Mat	W500 x D465 mm
PHF-Pxx	Polycarbonate Flask Holder	50 - 1000 ml
PHF-Sxx	Stainless Steel Flask Holder	100 - 5000 ml
PHF-Txx	Test Tube Rack	Dia. 8 - 35 mm

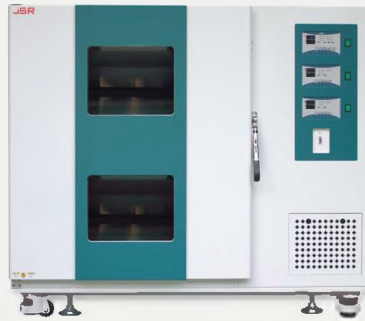
*Shaking Incubator supplied without shaking platform and accessories
Refer Ordering Information page 56*

Ordering Information

	JSSI-100T	JSSI-100C
Chamber Volume (Capacity)	110 L	
Dimensions Inner	545 x 585 x 345	
W x D x H mm Outer	770 x 715 x 790	
Platform	W500 x D465 mm	
Temperature Range	ambient +5 °C - 70 °C	+10 °C - 70 °C
Accuracy	$\pm 0.2\text{ }^{\circ}\text{C}$ at 37 °C	$\pm 0.2\text{ }^{\circ}\text{C}$ at 25 °C
Uniformity	$\pm 1.0\text{ }^{\circ}\text{C}$ at 37 °C	$\pm 1.0\text{ }^{\circ}\text{C}$ at 25 °C
Shaking Motion	Orbital or Reciprocal	
Speed /Stroke	20 - 350 rpm / 20mm	
Working Light	25 Watt Bulb	
Heater Capacity	400 Watt	700 Watt
Refrigeration System	None	CFC Free Air Cooled Compressor
Power Rating	2.2 Amp	5.8 Amp
Electric	220VAC 50/60Hz 1P	
Power Plug	CEE 7/7 Schuko	








Shaking INCUBATOR

JSSI-x CML MULTI-STACK 2-Shakers / 4-Shakers



Multi-Stack Shaking Incubator

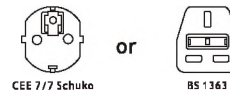
JSSI-CM Series Shaking Incubator provides multiple shaking platforms in a temperature controlled chamber for big volume tissue culture applications.

-  2 or 4 Multi-Stack Shaker
-  Cooled +10 °C to 70 °C
-  Timer Off 
-  20 - 350 rpm
Orbital or Reciprocal
-  Photoperiodic Control 
-  Max. Load 35 kgs

Specifications

Heating	Forced Air Convection
Temp. Range	+10 °C - 70 °C
Accuracy	± 0.5 °C at 25.0°C (JSSI-2CM)
Uniformity	± 2.0 °C at 25.0°C (JSSI-2CM)
Shaking Motion	Orbital or Reciprocal
Speed Range	20 - 350 rpm (orbital)
Control	Microprocessor PID Temperature Control Auto START / STOP Timer Individual Shaking RPM Controller
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Window Glass : Tempered Safety
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



Control Accuracy

TEMPERATURE CONTROL

- ± 0.1 °C Digital PID temperature controller with automatic START/STOP timer max. 99min 59sec/99hr 59min/99day 23hr
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor

- › Digital feedback RPM controller with automatic STOP timer max. 99min 59sec / 99hr 59min / continuous
- › 4 digit dual digital LED displays RPM and TIME
- › Inbuilt rpm calibration function
- › Adjustable smooth start and stop motion

- › 정밀한 PID 온도 컨트롤러는 온도를 $\pm 0.1^{\circ}\text{C}$ 단위로 제어
- › 예약 / 정지 타이머 내장 99분59초/99시간59분/99일23시간
- › 온도보정, 오토튜닝 기능 내장
- › Class A Pt-100 Ω 온도 센서
- › 피드백 제어방식 컨트롤러는 교반속도를 ± 1 rpm 단위로 제어 타이머 99분 59초/99시간 59분/연속작동 설정 기능
- › 속도, 시간표시 디지털 LED 디스플레이
- › 속도 보정기능내장
- › 부드러운 가속 및 감속 제어 기능

Performance

- › 2 or 4 independently controlled shaking platform in a temperature controlled chamber enables large volume of culture under same condition for time saving and consistent production result.
- › Each shaking platform can be operated independently under different speed and time
- › Separate heating and cooling compartment prevent contamination and maintenance free
- › Cooling system with hermetically sealed compressor
- › Durable shaking mechanism with powerful AC motor supports orbital or reciprocal shaking motion
- › Programmable Lighting System above each platform with 24 hour timer for photosynthetic culture [OPTION]

Ordering Information

	JSSI-2CM	JSSI-2CML	JSSI-4CM	JSSI-4CML
Chamber Volume (Capacity)	600 L		1080 L	
No. of Shaking Platform	2 Shaking Platforms		4 Shaking Platforms	
Dimensions Inner	850 x 720 x 975		850 x 720 x 1925	
W x D x H mm	1510 x 910 x 1300		1590 x 910 x 2255	
Platform	W700 x D650 mm		W700 x D650 mm	
Temperature Range	+10 °C ~ 70 °C		10 °C ~ 70 °C	
Accuracy	$\pm 0.5^{\circ}\text{C}$ at 25 °C		$\pm 0.5^{\circ}\text{C}$ at 25 °C	
Uniformity	$\pm 2.0^{\circ}\text{C}$ at 25 °C		$\pm 3.0^{\circ}\text{C}$ at 25 °C	
Shaking Motion	Orbital or Reciprocal			
Speed /Stroke	20 - 350 rpm / 20mm			
Illumination Working Lamp	none	36 Watt FPL x 4 ea	none	36 Watt FPL x 8 ea
Heater Capacity	25 Watt Bulb	none	25 Watt Bulb	none
Refrigeration System	CFC Free Air Cooled Compressor			
Power Rating	1.5 kW		2.0 kW	
Power Plug	11.4 Amp		15.0 Amp	
	CEE 7/7 Schuko		CEE 7/7 Schuko	

Convenience

- › Door with silicone packing and compression door lock
- › Glass window on each platform, lighting in chamber for easy observation during cultivation
- › Door switch to cut-off shaking motion when put in and out sample
- › Auto-defrost system, user settable interval and time
- › Caster with height adjustable level feet for balancing, anti-vibration and easy transport
- › Various choice of shaking platforms

Safety

- › DUAL OVER TEMP. CUT-OFF
- › MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- › MAX RPM CUT-OFF motor and AUDIO VISUAL ALARM
- › MOTOR FAILURE ALARM
- › DOOR SWITCH
- › SENSOR DISCONNECTION ALARM
- › OVER CURRENT CUT-OFF

Accessories

Art No.	Descriptions
PHF-P11	Adaptor Kit for Reciprocal Motion
OHC-106	24 Hour Timer Photoperiodic Light Control
PHF-U70	Universal Spring Rack W690 x D650 mm
PHF-P70	Flask Holder Platform W700 x D650 mm
PHF-M70	Non-Slip Rubber Mat W700 x D 650 mm
PHF-Pxx	Polycarbonate Flask Holder 50 - 1000 ml
PHF-Sxx	Stainless Steel Flask Holder 100 - 5000 ml
PHF-Txx	Test Tube Rack Dia. 8 - 35 mm

*Shaking Incubator supplied without shaking platform and accessories
Refer Ordering Information page 56*




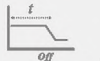




Shaking INCUBATOR

JSSI-202C Series TWO-CHAMBER 2-Chamber 2-Shaker



Multi-Chamber Shaking Incubator

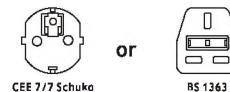
JSSI-202 Series Shaking Incubator has two independent temperature controlled chambers with shaker for big volume tissue culture applications at different temperature and shaking speed.

- 
Dual Chamber Independent Control
- 
Cooled +10 °C to 70 °C
- 
Timer Off

- 
20 - 350 rpm
Orbital or Reciprocal
- 
Photoperiodic Control

- 
Max. Load 35 kgs

Specifications

Heating	Forced Air Convection
Temp. Range	+10 °C - 70 °C
Accuracy	± 0.5 °C at 25.0°C
Uniformity	± 2.0 °C at 25.0°C
Shaking Motion	Orbital or Reciprocal
Speed Range	20 - 350 rpm (orbital)
Control	Integrated Microprocessor PID Control Auto STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Window Glass : Tempered Safety
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



Control Accuracy

- Integrated Digital PID Controller with ±0.1 °C temperature control resolution, shaking speed by ± 1 rpm and automatic STOP timer max. 99min 59sec / 99hr 59min / 99 day 23 hr
- Dual digital LED displays operating status of TEMP, RPM and remaining TIME
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor

- ▶ 통합형 PID 컨트롤러는 배양기의 온도를 $\pm 0.1\text{ }^{\circ}\text{C}$ 교반속도를 $\pm 1\text{ rpm}$ 단위로 제어하고 타이머 설정 최대 99분 59초 / 99시간 59분 / 99일 23시간
- ▶ 두 개의 디스플레이는 설정온도, 현재온도, 교반속도, 잔여시간등 작동상태를 표시
- ▶ 온도 및 속도 보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 온도센서

Performance

- ▶ Two independent temperature controlled chamber with shaking platform allows conducting two different culture condition at the same time.
- ▶ Separate heating and cooling compartment prevent contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor
- ▶ Durable shaking mechanism with powerful AC motor supports orbital or reciprocal shaking motion
- ▶ Programmable Lighting System above each platform with 24 hour timer for photosynthetic culture [OPTION]

Convenience

- ▶ Door with air tight silicone packing and glass window on each chamber, lighting in chamber for easy observation during cultivation
- ▶ Door switch to cut-off shaking motion when put in and out sample
- ▶ Auto-defrost system, user settable interval and time
- ▶ Caster with height adjustable level feet for balancing, anti-vibration and easy transport
- ▶ Various choice of shaking platforms

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ MAX RPM CUT-OFF motor and AUDIO VISUAL ALARM
- ▶ MOTOR FAILURE ALARM
- ▶ DOOR SWITCH
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF

Accessories

Art No.	Descriptions	
PHF-P11	Adaptor Kit for Reciprocal Motion	
OHC-106	24 Hour Timer Photoperiodic Light Control	
PHF-U70	Universal Spring Rack	W690 x D650 mm
PHF-P70	Flask Holder Platform	W700 x D650 mm
PHF-M70	Non-Slip Rubber Mat	W700 x D 650 mm
PHF-Pxx	Polycarbonate Flask Holder	50 - 1000 ml
PHF-Sxx	Stainless Steel Flask Holder	100 - 5000 ml
PHF-Txx	Test Tube Rack	Dia. 8 - 35 mm

*Shaking Incubator supplied without shaking platform and accessories
Refer Ordering Information page 56*

Ordering Information

	JSSI-202C	JSSI-202CL
Chamber Volume (Capacity)	2 x 324 L	
No. of Shaking Platform	2	
Dimensions Inner	750 x 720 x 600	
W x D x H mm	1295 x 845 x 1750	
Platform	W700 x D650 mm	
Temperature Range	+10 °C - 70 °C	
Accuracy	$\pm 0.5\text{ }^{\circ}\text{C}$ at 25 °C	
Uniformity	$\pm 2.0\text{ }^{\circ}\text{C}$ at 25 °C	
Shaking Motion	Orbital or Reciprocal	
Speed /Stroke	20 - 350 rpm / 20mm	
Illumination Working Lamp	none 25 Watt Bulb	36 Watt FPL x 4 ea none
Heater Capacity	2 x 1.2 kW	
Refrigeration System	CFC Free Air Cooled Compressor	
Power Rating	20.0 Amp	
Power Plug	CEE 7/7 Schuko	

Orbital SHAKER

JSOS-300
JSOS-500

Orbital or Reciprocal



Orbital Shaker

JSOS-Series for agitating samples in a container (e.g. flasks, bottles, tubes) in ambient condition to aerating, mixing and extracting samples. Various application in chemistry, biomedical, pharmaceutical, cell culture, tissue culture, environmental and agriculture applications.

Specifications

Shaking Motion	JSOS-300	Orbital
	JSOS-500/700	Orbital and Reciprocal
Speed Range	20 - 350 rpm (orbital)	
Accuracy	± 1 rpm	
Control	Microprocessor Feedback Control Auto STOP Timer	
Safety	Over-Speed Cut-Off	
Material	Body : Epoxy Powder Coated Steel Platform : Steel with Epoxy Powder Coating Spring Rack : Stainless Steel 304	
Electric	220 ± 10% VAC 50/60Hz 1-Phase	

Plug config.



CEE 7/7 Schuko

or



BS 1363

Control Accuracy

- ▶ Digital feedback RPM controller with automatic STOP timer max. 99min 59sec / 99hr 59min / continuous
- ▶ 4 digit dual digital LED displays RPM and TIME
- ▶ Inbuilt rpm calibration function
- ▶ Adjustable smooth start and stop motion

- ▶ 피드백 제어방식 컨트롤러는 교반속도를 ±1 rpm 단위로 제어 타이머 99분 59초 / 99시간 59분 / 연속작동 설정 기능
- ▶ 속도, 시간표시 디지털 LED 디스플레이
- ▶ 속도 보정기능내장
- ▶ 부드러운 가속 및 감속 제어 기능



Timer Off



20 - 350 rpm
Orbital or Reciprocal



Max. Load 15 - 35 kgs

Performance

- › Speed control from 20 to 350 rpm
- › Precise feedback control within ± 1 rpm
- › Durable shaking mechanism with powerful AC motor supports orbital or reciprocal shaking motion maximum load up to 35 kgs for JSOS-500
- › Orbital shaking only for JSOS-300

- › 20 ~ 350 rpm 속도 조절 기능
- › ± 1 rpm 정밀도의 피드백제어
- › 강력한 AC 모터로 구동되는 진탕메카니즘은 회전 및 왕복 운동을 동시에 지원 (JSOS-500)
- › JSOS-300 모델은 회전 운동만 지원

Convenience

- › Height adjustable level feet for balancing, anti-vibration
- › Various choice of shaking platforms
 - > Reciprocal Motion Adaptor
 - > Universal Spring Rack
 - > Universal Flask Holder Platform
 - > Dedicated Flask Holder Platform
 - > Non slip Rubber Mat
 - > Size adjustable poly-carbonate flask holder
 - > Stainless steel flask holder
 - > Test Tube Rack
- › 미끄럼방지 수평조절좌를 장착하여 평형유지 및 진동흡수기능
- › 다양한 배양용기를 사용할 수 있는 악세서리
 - > 왕복운동용 어댑터
 - > 다용도 스프링와이어랙
 - > 플라스크홀더 플랫폼
 - > 미끄럼 방지 고무매트
 - > 사이즈조절이 가능한 플라스틱 플라스크 홀더
 - > 스테인레스 플라스크 홀더
 - > 시험관 랙

Safety

- › MAX RPM CUT-OFF motor and AUDIO VISUAL ALARM
- › MOTOR FAILURE ALARM
- › OVER CURRENT CUT-OFF

Accessories

Art No.	Descriptions	
	for JSOS-300	
PHF-P30	Flask Holder Platform	W275 x D345 mm
PHF-M30	Non-Slip Rubber Mat	W275 x D345 mm
	for JSOS-500	
PHF-P11	Adaptor Kit for Reciprocal Motion	
PHF-U50	Universal Spring Rack	W490 x D470 mm
PHF-P60	Flask Holder Platform	W495 x D495 mm
PHF-M60	Non-Slip Rubber Mat	W495 x D495 mm
	Oversized platform for JSOS-500	
PHF-U70	Universal Spring Rack	W690 x D650 mm
PHF-P70	Flask Holder Platform	W700 x D650 mm
PHF-M70	Non-Slip Rubber Mat	W700 x D650 mm
PHF-Pxx	Polycarbonate Flask Holder	50 - 1000 ml
PHF-Sxx	Stainless Steel Flask Holder	100 - 5000 ml
PHF-Txx	Test Tube Rack	Dia. 8 - 35 mm

*Shaking Incubator supplied without shaking platform and accessories
Refer Ordering Information page 56*

Ordering Information

		JSOS-300	JSOS-500
Shaking Motion	Speed / Stroke	Orbital 20 - 350 rpm	Orbital and Reciprocal 20 - 350 rpm
Dimensions	Platform	W275 x D345 mm	W495 x D495 mm
	Oversized Platform	none	W700 x D650 mm
W x D x H mm	Outer	350 x 520 x 165	545 x 565 x 350
	Max. Load	15 kgs	35 kgs
Motor Capacity		15 Watt	25 Watt
Power Rating		0.5 Amp	0.5 Amp
Power Plug		CEE 7/7 Schuko	

Laboratory

STERILIZER

SELECTION GUIDE

Autoclave Sterilizer

JSAT-Series Vertical Autoclave

- ▶ Max. 123 °C
- ▶ Timer On / Off
- ▶ Automatic sterilization cycle



MODEL	CAPACITY	TEMPERATURE	PRESSURE
JSAT-45	45 L	123 °C	0.12 MPa
JSAT-65	65 L		
JSAT-85	85 L		
JSAT-105	105 L		

JSOF-S Series Dry Heat Sterilizer



- ▶ Max. 250 °C
- ▶ Constant Temperature
- ▶ Timer On / Off



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSOF-030S	33 L	amb. + 10 °C - 250 °C	± 0.2 °C
JSOF-050S	48 L		± 0.2 °C
JSON-030S	33 L		± 0.3 °C
JSON-050S	48 L		± 0.3 °C



▶ Program Control

Fully automatic autoclave cycle
Maximum sterilization temperature
and pressure up to 123 °C and 0.13 Mpa
Validation compliance performance
accuracy within ± 0.5 °C
uniformity within ± 2.0 °C

▶ Safety

SAFETY DOOR INTER-LOCKING SYSTEM
lock the door during operation which
integrated with temperature, pressure
in the chamber and in case electric cut-off

▶ Construction

Vertical loading chamber with light
weight self balanced door
Stainless steel 304 chamber,
lid and top plate

▶ Convenience Utility

Two steam collection bottles removes most
of steam generated during operation for
comfortable laboratory environment

Laboratory

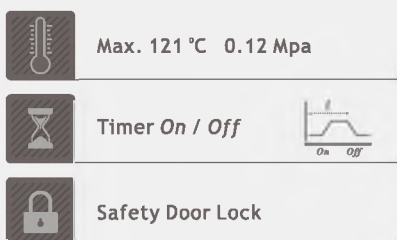
STERILIZER

AUTOCLAVE STEAM STERILIZER 123 °C Automatic



Autoclave Steam Sterilizer

JSAT-Series Autoclave, Steam Sterilizer is for sterilization of bacteria, microorganism and virus with steamed hot air usually at 121°C, 0.12 Mpa. Sterilization for laboratory ware needs being sterilized before use such as flasks, bottles, pipets, animal cages and plastic ware, broth or agar media for bacterial culture or disposal of biohazard wastes such as syringe, cloth, gloves or petri dishes



JSAT-Series Autoclave, Steam Sterilizer is an innovative replacement of conventional laboratory autoclave by providing reliable performance, up-to-dated design and safety door inter-lock system integrated with temperature and pressure for perfect user safety.

Specifications

Temp. Range	Maximum 123 °C
Accuracy	± 0.5 °C at 121°C
Pressure	Up to 0.12 Mpa
Control	Fully Automatic PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over-Pressure Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.	 or  or 
	CEE 7/7 Schuko BS 1363 30 Amp

Control Accuracy

- ▶ ±0.1 °C Digital PID Controller
 - ▶ Automatic START/STOP timer Max. 99min 59sec
 - ▶ DUAL LED displays temperature and remaining time
 - ▶ Temperature calibration and auto-tuning function
 - ▶ Class A Pt-100 Ω sensor
-
- ▶ 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
 - ▶ 예약 / 정지 타이머 내장 최대 99분 59초
 - ▶ 온도, 잔여 시간 표시 디지털 LED 디스플레이
 - ▶ 온도보정, 오토튜닝 기능 내장
 - ▶ Class A Pt-100 Ω 온도센서

Performance

- Vertical loading type chamber with 2 ea service basket
- Maximum sterilization temperature and pressure up to 123°C at 0.12 Mpa
- Automatic sterilization cycle starts just by setting sterilization temperature and time
- Stainless Steel 304 (AISI304) chamber, lid and top plate to protect from corrosion by water and steam
- Special plated heating element provides resistant to dry-burn, corrosion and guarantee long life in repeated use
- Two Stainless Steel Wire Basket included
- 기구 멸균에서 배양배지 멸균까지 다양한 멸균 용도에 적합
- 최고 멸균온도 123°C, 내압성능 0.12 MPa 멸균 조건 충족
- 온도와 멸균시간을 설정하면 자동으로 멸균 완료 후 알람
- 부식에 강한 스테인레스 스틸 히터
- 전해연마 처리된 스테인레스 스틸 와이어 멸균 바스켓 포함

Convenience

- Vertical opening chamber lid with safety door lock for easy access to chamber and user safety
- Two steam collection bottle removes most of the steam during operation for comfortable laboratory environment
- Equipped with drain valve for cleaning or changing with fresh water
- Metallic body with durable epoxy powder coating
- High temperature and pressure resistant silicone gasket
- Built-in analog pressure gauge
- Manual pressure release valve
- Four casters for easy transport
- 수직으로 열리는 도어는 안전잠금장치가 장착되어 멸균물을 넣고 꺼내기 쉬우며 안전함
- 두개의 스티姆 응축 포집병이 작동중 발생하는 스티姆을 완벽히 제거하여 쾌적한 실험실 환경 유지, 드레인 밸브 장착
- 내구성이 강한 분체 도장 처리 본체
- 내부식성이 강한 Stainless Steel (SUS304) 챔버
- 밀착성과 기밀성이 뛰어난 내온 내압 고밀도 실리콘 가스켓
- 아나로그 압력계 내장
- 수동 압력 해제 밸브 장착
- 바퀴를 장착하여 이동 및 설치가 용이

Ordering Information

	JSAT-45	JSAT-65	JSAT-85	JSAT-105
Chamber Volume (Capacity)	45 L	65 L	85 L	105 L
Dimensions Inner	Φ350 x H490	Φ350 x H680	Φ450 x H535	Φ450 x H665
W x D x H mm Usable	Φ350x H410	Φ350 x H620	Φ450 x H480	Φ450 x H610
Outer	555 x 670 x 955	555 x 670 x 1105	655 x 780 x 1010	655 x 780 x 1110
Basket x 2 ea	Φ330 x H190	Φ330 x H280	Φ430 x H220	Φ430 x H270
Temperature Range	up to 123 °C			
Accuracy	± 0.5 °C			
Uniformity	± 2.0 °C			
Heater Capacity	2.0 kW	3.0 kW	4.0 kW	5.0 kW
Power Rating	9.2 Amp	13.7 Amp	18.2 Amp	22.8 Amp
Electric	220VAC 50/60Hz 1P			
Power Plug	CEE 7/7 Schuko	CEE 7/7 Schuko	30 Amp	30 Amp

Safety

- SAFETY DOOR LOCK**
Door interlocking system integrated with high temperature high pressure and electric cut-off
- TRIPLE OVER TEMP. CUT-OFF**
 - 1) Controller cut-off heater, and AUDIO VISUAL ALARM in case +2°C above set temp. or +1°C above max. temp. 123°C
 - 2) Analog System cut-off heater in case 10% above set temp.
- DUAL OVER PRESSURE CUT-OFF**
 - 1) Controller open pressure valve and AUDIO VISUAL ALARM in case +2°C above set temp. or +1°C above max. temp. 123°C
 - 2) Mechanical over pressure valve release pressure automatically in case over maximum pressure limit
- ANALOG PRESSURE GAUGE**
0 - 0.3 Mpa pressure gage indicating actual pressure
- MANUAL PRESSURE RELEASE VALVE**
- Electrical Leakage Breaker** : Over current cut-off
- 안전한 도어잠금장치**
챔버의 온도와 압력을 감지하여 자동으로 잠금장치 작동 작동 중 전원 차단 시 잠금장치 작동
- 삼중과열방지장치**
 - 1) 설정온도 +2 °C 초과 시 또는 작동 한계온도+1°C 초과 시 히터 차단 및 알람
 - 2) 콘트롤러오류로 인하여 설정온도 +10% 초과 시 히터 차단
- 이중압력안전장치**
 - 1) 설정온도 +2 °C 초과 시 또는 작동 한계온도+1°C 초과 시 밸브 개방 및 알람
 - 2) 작동 한계 압력을 초과할시 자동으로 밸브를 열어 압력해제
- 아나로그 압력계** : 챔버내부에 압력 유무를 확인
- 수동 압력해제 밸브**
- 누전차단기** : 전기 누설 시 주전원 차단

JSAT-시리즈 전제품에 대하여
 까다로운 품질검사와
 엄격한 적격성평가와
 밸리데이션을 통하여
 멸균력이 입증된 제품만을
 생산하고 있습니다.

Laboratory

STERILIZER

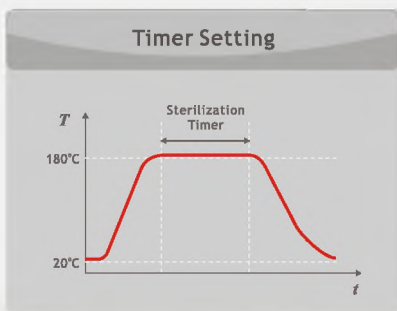
DRY HEAT STERILIZER

Compact & Efficient



Dry Heat Sterilizer

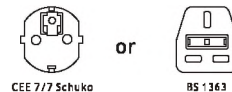
Dry Heat Sterilizer is a common instrument to be used to drying, heating and sterilizing objects by heating air up to 160°C or 180°C with gravity or forced convection system during specified sterilizing exposure time range from 30 to 60 minutes temperature and sterilization exposure time



Specifications

Heating	Forced Air Convection or Gravity Air Convection
Temp. Range	ambient + 10 °C ~ 250 °C
Accuracy	± 0.2 °C at 180°C (JSOF-030S)
Uniformity	± 1.0 °C at 180°C (JSOF-030S)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Insulation : 50mm Woven Mineral Wool
Electric	Including Stainless Steel Wire Shelf 220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



Control Accuracy

- ±0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor
- 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- 온도보정, 오토튜닝 기능 내장
- Class A Pt-100 Ω 온도 센서

Max 250 °C

Constant Temperature Controller

Timer On / Off

Performance

- ▶ Choice of Forced or Gravity air convection
- ▶ Separate heating compartment prevents contamination and maintenance free
- ▶ 50mm thick high thermal efficiency mineral wool with woven aluminum barrier sheet save energy and less dust

- ▶ 강제공기순환식 또는 자연대류방식 선택
- ▶ 가열챔버가 분리 되어 있어 액체 흘림으로인한 오염과 고장이 적음
- ▶ 50mm 두께의 고효율 단열재는 알미늄 피복층이 있어 에너지 소비가 적고 분진이 없음

Convenience

- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevent leakage
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Easy to open and air-tight one touch door latch
- ▶ Opening size adjustable ventilation damper
- ▶ Non-contact door switch cut-off heater and/or blower
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 원터치방식의 도어 잠금 장치
- ▶ 수분 및 증기를 배출할 수 있는 배기구 장착
- ▶ 비접촉식 도어센서 장착, 도어 개방 시 히터, 팬 동작 정지

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ DOOR SENSOR
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Accessories

Art No.	Descriptions
	Perforated Shelf, Stainless Steel 304
PHS-A02	for JSOF-030S W320 x D250 mm
PHS-A03	for JSOF-050S W370 x D280 mm
PHS-A02	for JSON-030S W320 x D250 mm
PHS-A03	for JSON-050S W370 x D280 mm
	Wire Shelf, Stainless Steel 304
PHS-B02	for JSOF-030S W320 x D250 mm
PHS-B03	for JSOF-050S W370 x D280 mm
PHS-B02	for JSON-030S W320 x D250 mm
PHS-B03	for JSON-050S W370 x D280 mm
PHS-A99	Shelf Support, Set of 4

Ordering Information

		JSOF-030S	JSOF-050S	JSON-030S	JSON-050S
Air Circulation		Forced Convection		Gravity Convection	
Chamber Volume (Capacity)		33 L	48 L	33 L	48 L
Dimensions	Inner	350 x 270 x 350	400 x 300 x 400	350 x 270 x 350	400 x 300 x 400
	W x D x H mm Outer	510 x 555 x 660	560 x 585 x 710	510 x 475 x 660	560 x 505 x 710
Temperature	Range	ambient +10 °C to 250 °C			
	Accuracy at 180°C	± 0.2 °C	± 0.2 °C	± 0.3 °C	± 0.3 °C
	Uniformity at 180°C	± 1.0 °C	± 1.0 °C	± 2.0 °C	± 2.0 °C
Heat up time to 180°C		15 min.	15 min.	15 min.	15 min.
No. of Shelves / Maximum No.		2 / 10	2 / 12	2 / 10	2 / 12
No. of Ventilation damper		1	1	1	1
Heater Capacity		800 W	1.0 kW	800 W	1.2 kW
Power Capacity		3.8 Amp	4.7 Amp	3.7 Amp	5.5 Amp
Power Plug		CEE 7/7 Schuko			

Laboratory

WATER BATH

JSWB-Series Heated Bath



- amb. +5 °C ~ 80 °C (99 °C)
- Constant Temperature
- Timer On / Off



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSWB-06T(L)	6 L	JSWB-TL amb. + 5 °C - 80 °C	± 0.1 °C
JSWB-11T(L)	11 L		
JSWB-22T(L)	22 L	JSWB-T amb. + 5 °C - 99 °C	
JSWB-30T(L)	30 L		

JSOB-Series Digital Oil Bath



- amb. +10 °C ~ 250 °C
- Constant Temperature
- Timer On / Off



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSOB-100T	11 L	amb. + 10 °C ~ 250 °C	± 1.0 °C
JSOB-200T	20 L		
JSOB-300T	33 L		

JSVB-Series Visco-Sight Bath



- amb. +5 °C ~ 99 °C
- Constant Temperature
- Timer On / Off
- Glass Window
- Internal Circulation



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSVB-30T	31 L	amb. + 5 °C ~ 99 °C	± 0.1 °C

JSEB-Series Extraction Bath



- amb. +5 °C ~ 99 °C
- Constant Temperature
- Timer On / Off
- 6 to 10 Multi-Extraction Ports



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSEB-60T	6 Ports	amb. +5 °C ~ 99 °C	± 0.5 °C
JSEB-62T	2 x 3 Ports		
JSEB-82T	2 x 4 Ports		
JSEB-102T	2 x 5 Ports		

JSIB-Series Circulation Bath



- ▶ amb. +5 °C ~ 99 °C
- ▶ Constant Temperature
- ▶ Timer On / Off
- ▶ Internal and external Circulation Pump
- ▶ Flow Rate : 8 L/min
- ▶ Pressure : 0.3 bar



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSIB-11T	11 L	amb. +5 °C ~ 99 °C	± 0.1 °C
JSIB-22T	22 L		
JSIB-50T	48 L		
JSIB-100T	100 L		

JSRC-C(L) Series Refrigerated Circulation Bath



- ▶ - 20 (- 40) °C ~ 120 °C
- ▶ Constant Temperature
- ▶ Timer On / Off
- ▶ Internal and external Circulation Pump
- ▶ Flow Rate : 10 L/min
- ▶ Pressure : 0.5 bar



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSRC-06C(L)	7 L	JSRC-C	± 0.1 °C
JSRC-13C(L)	11 L	-20 °C ~ 120 °C	
JSRC-22C(L)	20 L	JSRC-CL	
JSRC-30C(L)	30 L	-40 °C ~ 120 °C	

JSCT-Series JSCTC-Series Ultra-Low Cold Trap Bath



- ▶ Minimum Temperature
-25 °C ~ - 85 °C
- ▶ On/Off Temperature Control



MODEL	CAPACITY	MINIMUM TEMPERATURE
JSCT-25C	7.2 L	- 25°C
JSCT-55ULT		- 55 °C
JSCT-85ULT		- 85 °C
JSCTC-55ULT	2.8 L	- 55 °C
JSCTC-85ULT		- 85 °C

JSSB-Series Shaking Water Bath



- ▶ amb. +5 °C ~ 99 °C
- ▶ Constant Temperature
- ▶ Timer On / Off
- ▶ Shaking Speed 20 ~ 120 rpm
- ▶ 25 mm stroke reciprocal motion



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSSB-30T	30 L	amb. +5 °C ~ 99 °C	± 0.2 °C
JSSB-50T	50 L		

Laboratory

WATER BATH

Controller

▶ JSC-0D [BASIC]



- ▶ $\pm 0.1\text{ }^{\circ}\text{C}$ Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99day 23hr
- ▶ Digital LED displays operating status such as TEMP and remaining TIME
- ▶ Temperature calibration
- ▶ Auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ Audio Visual Alarms

- ▶ 정밀한 PID 컨트롤러는 온도를 $\pm 0.1\text{ }^{\circ}\text{C}$ 단위로 제어
- ▶ 예약 / 정지 타이머 내장
99분59초/99시간59분/99일23시간
- ▶ 온도 보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도센서
- ▶ 안전한 작동을 위한 다양한 시청각적 알람

▶ JSC-7S Controller for Shaking Water Bath

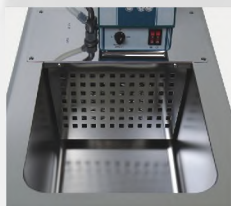


- ▶ Integrated Digital PID Controller
- ▶ Temperature control with $\pm 0.1\text{ }^{\circ}\text{C}$
- ▶ Shaking speed control within $\pm 1\text{ rpm}$
- ▶ Automatic STOP timer
Max. 99min 59sec / 99hr 59min / 99day 23hr
- ▶ Dual digital LED displays
TEMP, RPM and remaining TIME
- ▶ Temperature calibration
- ▶ Shaking speed calibration
- ▶ Slow Start and Stop Control
- ▶ Auto-tuning function
- ▶ Class A Pt-100 Ω sensor

- ▶ 온도, 속도, 타이머 통합제어 PID 컨트롤러
- ▶ 온도제어 정밀도 : $\pm 0.1\text{ }^{\circ}\text{C}$
- ▶ 교반속도 제어 정밀도 : $\pm 1\text{ rpm}$
- ▶ 타이머 설정 최대 99분 59초/99시간 59분 /99일 23시간
- ▶ 현재온도, 교반속도, 잔여시간 디스플레이
- ▶ 온도 및 속도 보정 기능
- ▶ 작동 시 가속 및 감속 속도 제어
- ▶ 오토튜닝 기능 내장
- ▶ Class A Pt-100 온도센서

Performance & Convenience

Construction



- ▶ Durable epoxy powder coated metallic casing
- ▶ High quality stainless steel 304 bath
- ▶ 내구성이 뛰어난 에폭시 분체 도장과 스테인레스 스틸 304 베스

Seamless Bath



- ▶ Easy to clean Electro-Polished seamless SUS304 Bath with perforated stainless steel bottom plate
- ▶ 부식에 강한 전해 연마 처리된 Stainless Steel (SUS304) 베스는 코너에 이음새가 없어 세척과 유지보수가 간편

Lids



- ▶ Stainless steel flat cover to help reduce heat losses and evaporation
- ▶ 온도유지와 물의 증발을 방지하기 위한 커버

Circulation Pump



- ▶ Stainless Steel or magnetic driven pump for internal and external circulation of bath fluid
- ▶ Stainless Steel 또는 Magnetic Pump는 용액을 내부 또는 외부로 순환

Safety

DUAL OVER TEMP. CUT-OFF

- 1) Digital system cut-off heater and AUDIO VISUAL ALARM in case +2°C above set temperature
- 2) Analog system cut-off heater 10% above set temp.

MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM

- ▶ when if +1°C above maximum limit

SENSOR DISCONNECTION ALARM

LOW WATER LEVEL SENSOR (Specific models only)

OVER CURRENT CUT-OFF : Electrical Leakage Breaker or Fuse

이중과열방지장치

- 1) 설정온도 +2 °C 초과 시 히터 차단 및 시청각알람
- 2) 콘트롤러 오류로 지정 온도 10% 초과 시 히터차단

최고온도알람기능 : 작동 한계온도 +1°C 초과시 히터 차단

센서단락알람

저수위감지센서 (일부모델)

누전차단기 (퓨즈) : 전기누설 시 주전원 차단

Drain



Drain for easy emptying of bath fluid [Depends model]

- ▶ 배수용 드레인 밸브 장착 [일부모델]

Maintenance



Easy to maintain refrigeration system

- ▶ 편리한 유지보수

Cold Trap

REF. BATH

ULTRA LOW TEMPERATURE
VAPOR REMOVAL

for Vacuum Applications



ULT Cold Trap Bath

JSCT-85ULT Ultra Low Temperature Cold Trap Bath collect evaporated liquid from vacuum application by providing freezing temperature -25°C or -55°C or -85°C to condensates and removes vapour or moisture being evacuated in the vacuum line to protect the vacuum pump and the laboratory environment from the harmful effect of vapours, fumes and corrosives.

Suitable used with application for highly volatile solvents such as vacuum concentrator.

Specifications

Cooling	ULT Technology CFC Free Air Cooled Compressor
Temp. Range	-25.0°C (JSCT-25CC) -55.0°C (JSCT-55ULT) -85.0°C (JSCT-85ULT)
Control	Digital ON/OFF Controller
Sensor	Class A Pt-100 Ω Sensor
Safety	Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Bath : Seamless Stainless Steel 304
Electric	$220 \pm 10\%$ VAC 50/60Hz 1-Phase

Plug config.



CEE 7/7 Schuko

or



BS 1363

Control Accuracy

- ▶ $\pm 2.0^{\circ}\text{C}$ Digital ON/OFF Control
- ▶ Temperature calibration
- ▶ Class A Pt-100 Ω sensor
- ▶ 디지털 컨트롤러는 $\pm 2.0^{\circ}\text{C}$ 범위에서 냉동기를 ON/OFF 제어
- ▶ 온도보정 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서



Cold Trap



Ultra-Low -25°C or -85°C



Digital Temperature
On/Off Controller

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant seamless stainless steel 304 bath with cooling coil
- ▶ Transparent bath cover to hold glass trap and easy to check condensate level of trap
- ▶ Minimum temperature down to -85.0 °C
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 스테인레스 스틸 (SUS304) 재질의 배스와 냉각코일
- ▶ 투명 아크릴 재질의 배스 뚜껑은 유리 트랩을 설치할 수 있고 트랩에 응축된 상태를 손쉽게 관찰할 수 있음
- ▶ 최저 냉각 온도 -85.0 °C

Safety

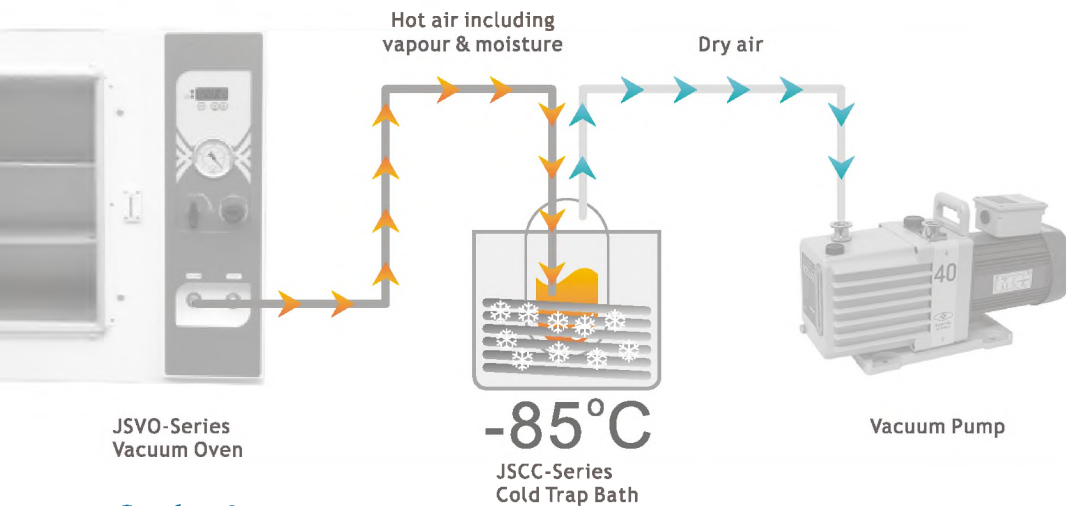
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE
- ▶ 센서단락알람
- ▶ 누전차단퓨즈 : 전기 누설 시 주전원 차단

Convenience

- ▶ Easy to clean seamless Stainless Steel 304 Bath
- ▶ Supplied with removable transparent acrylic bath cover to hold glass trap
- ▶ Dust accumulation in refrigeration system is easily cleaned by means of an removable venting grill
- ▶ 부식에 강한 Stainless Steel(SUS304) 배스는 세척과 유지보수가 간편
- ▶ 투명 아크릴 재질의 트랩 설치용 배스 커버 포함
- ▶ 냉동응축기에 발생하는 먼지를 손쉽게 제거할 수 있도록 설계

Accessories

Art No.	Descriptions
	Vacuum Pump
W2V10	Rotary Vane Vacuum Pump 100L/min 5x10 ⁻⁴ Torr Woosung 220VAC
OHG-001	Glass Trap



Ordering Information

	JSCT-25C	JSCT-55ULT	JSCT-85ULT
Bath Volume (Capacity)		7.2 L	
Dimensions Inner		Φ 200 x H230	
W x D x H mm Outer	370 x 460 x 640	370 x 470 x 730	370 x 470 x 730
Temperature Range	- 25.0 °C / 30 min.	- 55.0 °C / 30 min.	- 85.0 °C / 60 min.
On/Off Control	± 2.0 °C	± 2.0 °C	± 2.0 °C
Refrigeration System	ULT Technology CFC Free Air Cooled Compressor		
Power Rating	3.1 Amp	4.1 Amp	4.1 Amp
Power Plug		CEE 7/7 Schuko	

Cold Trap

TABLETOP

ULTRA LOW TEMPERATURE VAPOR REMOVAL

for Vacuum Applications



ULT Tabletop Cold Trap Bath

JSTC-Series Tabletop ULT Cold Trap Bath collect evaporated liquid from vacuum application by providing freezing temperature -55°C or -85°C to condensates and removes vapour or moisture being evacuated in the vacuum line to protect the vacuum pump and the laboratory environment from the harmful effect of vapours, fumes and corrosives.

The Traps may also be used in other laboratory applications such as freeze drying, vacuum concentrator, vacuum centrifuge or desiccation.

Specifications

Cooling	ULT Technology CFC Free Air Cooled Compressor
Temp. Range	-55.0°C (JSTC-55ULT) -85.0°C (JSTC-85ULT)
Control	Digital ON/OFF Controller
Sensor	Class A Pt-100 Ω Sensor
Safety	Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Bath : Seamless Stainless Steel 304
Electric	$220 \pm 10\%$ VAC 50/60Hz 1-Phase

Plug config.



CEE 7/7 Schuko

or



BS 1363

Control Accuracy

- ▶ $\pm 2.0^{\circ}\text{C}$ Digital ON/OFF Control
- ▶ Temperature calibration
- ▶ Class A Pt-100 Ω sensor
- ▶ 디지털 컨트롤러는 $\pm 2.0^{\circ}\text{C}$ 범위에서 냉동기를 ON/OFF 제어
- ▶ 온도보정 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서



Cold Trap



Ultra-Low -55°C or -85°C



Digital Temperature
On/Off Controller

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant seamless stainless steel 304 bath with cooling coil
- ▶ Transparent bath cover to hold glass trap and easy to check condensate level of trap
- ▶ Minimum temperature down to -85.0°C
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 스테인레스 스틸 (SUS304) 재질의 배스와 냉각코일
- ▶ 투명 아크릴 재질의 배스 뚜껑은 유리 트랩을 설치할 수 있고 트랩에 응축된 상태를 손쉽게 관찰할 수 있음
- ▶ 최저 냉각 온도 -85.0°C

Safety

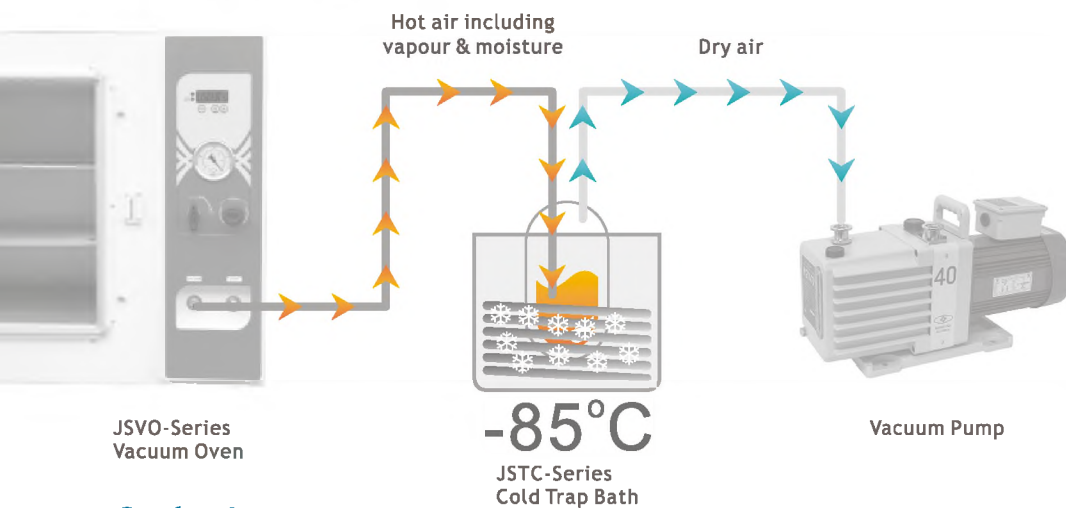
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE
- ▶ 센서단락알람
- ▶ 누전차단퓨즈 : 전기 누설 시 주전원 차단

Convenience

- ▶ Easy to clean seamless Stainless Steel 304 Bath
- ▶ Supplied with removable transparent acrylic bath cover to hold glass trap
- ▶ Dust accumulation in refrigeration system is easily cleaned by means of an removable venting grill
- ▶ 부식에 강한 Stainless Steel(SUS304) 배스는 세척과 유지보수가 간편
- ▶ 투명 아크릴 재질의 트랩 설치용 배스 커버 포함
- ▶ 냉동응축기에 발생하는 먼지를 손쉽게 제거할 수 있도록 설계

Accessories

Art No.	Descriptions
	Vacuum Pump
W2V10	Rotary Vane Vacuum Pump 100L/min 5×10^{-4} Torr Woosung 220VAC
OHG-001	Glass Trap



Ordering Information

	JSTC-55ULT	JSTC-85ULT
Bath Volume (Capacity)		2.8 L
Dimensions Inner		110 x 110 x 230
W x D x H mm Outer		380 x 560 x 520
Temperature Range	$-55.0^{\circ}\text{C} / 20 \text{ min.}$	$-85.0^{\circ}\text{C} / 60 \text{ min.}$
Accuracy at -40.0°C	$\pm 2.0^{\circ}\text{C}$	$\pm 2.0^{\circ}\text{C}$
Refrigeration System	CFC Free Air Cooled Compressor	
Power Rating	3.1 Amp	4.1 Amp
Power Plug	CEE 7/7 Schuko	

Digital WATER BATH

EXCELLENT UNIFORMITY Indirect Heating



Indirect Heating Digital Water Bath

JSWB-TL Series Digital Water Bath to provides constant temperature environment by heating water for biotechnology, chemistry, medical, environmental and general laboratory applications of temperature range from ambient +5 °C to 80 °C

Specifications

Heating	Indirect Ceramic Plate Heater
Temp. Range	ambient + 5 °C ~ 80 °C
Accuracy	± 0.1 °C at 37.0°C (JSWB-11TL)
Uniformity	± 0.5 °C at 37.0°C (JSWB-11TL)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Bath : Electro-polished Seamless Stainless Steel 304
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



CEE 7/7 Schuko

or



BS 1363

Control Accuracy

- ±0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99day 23hr
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor
- 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- 온도보정, 오토튜닝 기능 내장
- Class A Pt-100 Ω 온도 센서

Heated amb. +5 °C ~ 80 °C

Timer On / Off

Constant Temperature Controller

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 bath
- ▶ Durable and rugged ceramic plate heating element mounted underneath the bath to allow excellent thermal uniformity of the bath and no calcification problem
- ▶ Maximum temperature up to 80 °C, accuracy $\pm 0.1^{\circ}\text{C}$
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 베스
- ▶ 내구성이 뛰어난 세라믹 몰딩 히터가 베스의 외부에서 바닥 전체를 가열하여 $\pm 0.1^{\circ}\text{C}$ 의 탁월한 온도 균일도를 제공하여 정밀한 온도제어가 요구되는 바이오 분야에 적합
- ▶ 베스 외부에서 가열하는 설계로 히터 표면에 스케일이 발생하지 않음
- ▶ 최고 가열 온도 80 °C, $\pm 0.1^{\circ}\text{C}$ 의 탁월한 정밀도

Convenience

- ▶ Easy to clean Electro-Polished seamless SUS304 Bath
- ▶ Perforated stainless steel bottom plate
- ▶ Supplied with stainless steel flat cover to help reduce heat losses and evaporation
- ▶ 부식에 강한 전해 연마 처리된 Stainless Steel(SUS304) 베스는 코너에 이음새가 없어 세척과 유지보수가 간편
- ▶ Stainless Steel 304재질의 바닥 타공판
- ▶ 온도유지와 물의 증발을 방지하기 위한 평판형 뚜껑 포함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE
- ▶ 이중과열방지장치
- ▶ 최고온도알람기능 : 작동 한계온도+1°C 초과 시 히터 차단
- ▶ 센서단락알람
- ▶ 누전차단퓨즈 : 전기 누설 시 주전원 차단

Accessories

Art No.	Descriptions
	Stainless Steel Gabled Lid
PHL-W06	for JSWB-06TL
PHL-W11	for JSWB-11TL
PHL-W22	for JSWB-22TL
PHL-W30	for JSWB-30TL

Ordering Information

	JSWB-06TL	JSWB-11TL	JSWB-22TL	JSWB-30TL
Bath Volume (Capacity)	6 L	11 L	22 L	30 L
Dimensions Inner	300 x 155 x 150	300 x 240 x 150	500 x 300 x 150	500 x 300 x 190
W x D x H mm Usable	300 x 155 x 140	300 x 240 x 140	500 x 300 x 140	500 x 300 x 180
Outer	340 x 220 x 300	340 x 305 x 300	545 x 365 x 300	545 x 365 x 350
Temperature Range	ambient +5 °C - 80 °C			
Accuracy at 37.0°C	$\pm 0.1^{\circ}\text{C}$	$\pm 0.1^{\circ}\text{C}$	$\pm 0.1^{\circ}\text{C}$	$\pm 0.1^{\circ}\text{C}$
Uniformity at 37.0°C	$\pm 0.5^{\circ}\text{C}$	$\pm 0.5^{\circ}\text{C}$	$\pm 0.5^{\circ}\text{C}$	$\pm 0.5^{\circ}\text{C}$
Drain Valve	none			
Heater Capacity	620 W	1.1 kW	1.5 kW	2.0 kW
Power Rating	2.8 Amp	4.8 Amp	6.8 Amp	9.2 Amp
Power Plug	CEE 7/7 Schuko			

Digital WATER BATH

EXCELLENT UNIFORMITY Immersion Heating



Heated Digital Water Bath

JSWB-T Series Digital Water Bath provides constant temperature environment by heating water for biotechnology, chemistry, medical, environmental and general laboratory applications of temperature range from ambient +5 °C to 99 °C

Specifications

Heating	Direct Immersion Sheath Heater
Temp. Range	ambient + 5 °C ~ 99 °C
Accuracy	± 0.2 °C at 37.0°C (JSWB-11T)
Uniformity	± 0.8 °C at 37.0°C (JSWB-11T)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Bath : Electro-polished Seamless Stainless Steel 304
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



or



CEE 7/7 Schuko

BS 1363

Control Accuracy

- ▶ ± 0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Heated amb. +5 °C ~ 99 °C

Timer On / Off

Constant Temperature Controller

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 bath
- ▶ Corrosion resistant stainless steel 304 sheath immersion heater directly heating water in the bath to reach set temperature quickly
- ▶ Perforated heater cover helps convection of heated water circulation to maintain thermal uniformity of the bath
- ▶ Maximum temperature up to 99 °C, accuracy ± 0.1°C

- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 베스
- ▶ 내구성이 뛰어난 스테인레스 스틸(SUS304) 재질의 히터가 수조 내부의 물을 직접 가열하여 신속히 설정 온도에 도달
- ▶ 다공성 히터커버는 가열된 물이 베스 내부로 균일하게 순환 되도록 설계되어 균일한 온도 분포
- ▶ 최고 가열 온도 99 °C, ± 0.2°C 의 탁월한 정밀도

Convenience

- ▶ Easy to clean Electro-Polished seamless SUS304 Bath
- ▶ Perforated stainless steel bottom plate
- ▶ Drain for easy emptying of the bath fluid
- ▶ Supplied with stainless steel flat cover to help reduce heat losses and evaporation
- ▶ 부식에 강한 전해 연마 처리된 Stainless Steel(SUS304) 베스는 코너에 이음새가 없어 세척과 유지보수가 간편
- ▶ Stainless Steel 304재질의바닥 타공판
- ▶ 배수용 드레인벨브장치
- ▶ 온도유지와 물의 증발을 방지하기 위한 평판형 커버 포함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE
- ▶ 이중과열방지장치
- ▶ 최고온도알람기능 : 작동 한계온도+1°C 초과 시 히터 차단
- ▶ 센서단락알람
- ▶ 누전차단퓨즈 : 전기 누설 시 주전원 차단

Accessories

Art No.	Descriptions
	Stainless Steel Gabled Lid
PHL-W06	for JSWB-06T
PHL-W11	for JSWB-11T
PHL-W22	for JSWB-22T
PHL-W30	for JSWB-30T

Ordering Information

	JSWB-06T	JSWB-11T	JSWB-22T	JSWB-30T
Bath Volume (Capacity)	6 L	11 L	22 L	30 L
Dimensions Inner	300 x 155 x 150	300 x 240 x 150	500 x 300 x 150	500 x 300 x 190
W x D x H mm Usable	300 x 155 x 115	300 x 240 x 115	500 x 300 x 115	500 x 300 x 160
Outer	340 x 200 x 270	340 x 285 x 270	545 x 345 x 270	545 x 345 x 320
Temperature Range	ambient +5 °C - 99 °C			
Accuracy at 37.0°C	± 0.2 °C	± 0.2 °C	± 0.2 °C	± 0.2 °C
Uniformity at 37.0°C	± 0.8 °C	± 0.8 °C	± 0.8 °C	± 1.0 °C
Drain Valve	none	none	yes	yes
Heater Capacity	600 W	1.0 kW	1.5 kW	2.0 kW
Power Rating	2.7 Amp	4.6 Amp	6.8 Amp	9.2 Amp
Power Plug	CEE 7/7 Schuko			

Digital OIL BATH

HIGH TEMP
UP TO 250 °C
Immersion Heating



Digital Oil Bath

JSOB-Series Digital Oil Bath is suitable for high temperature applications using oil as a thermal media up to 250 °C such as heat transfer, dipping and melting experiment

Specifications

Heating	Direct Immersion Sheath Heater
Temp. Range	ambient + 10 °C ~ 250 °C
Accuracy	± 1.0 °C at 120.0°C (JSOB-200T)
Uniformity	± 3.0 °C at 120.0°C (JSOB-200T)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Bath : Stainless Steel 304
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



CEE 7/7 Schuko

or



BS 1363

Control Accuracy

- ▶ ±0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor

- ▶ 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서



Heated amb.+10 °C ~ 250 °C



Timer On / Off



Constant Temperature
Controller

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 bath
- ▶ Corrosion resistant stainless steel 304 sheath immersion heater directly heating oil in the bath to reach set temperature quickly
- ▶ Perforated heater cover helps convection of heated oil circulation to maintain thermal uniformity of the bath
- ▶ Maximum temperature up to 250 °C, accuracy $\pm 1.0^{\circ}\text{C}$
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 베스
- ▶ 내구성이 뛰어난 스테인레스 스틸(SUS304) 재질의 히터가 수조 내부의 오일을 직접 가열하여 신속히 설정 온도에 도달
- ▶ 다공성 히터커버는 가열된 오일이 베스 내부로 균일하게 순환 되도록 설계되어 균일한 온도 분포
- ▶ 최고 가열 온도 250 °C, $\pm 1.0^{\circ}\text{C}$ 의 탁월한 정밀도

Convenience

- ▶ Easy to clean polished Stainless Steel 304 Bath
- ▶ Perforated stainless steel bottom plate
- ▶ Drain for easy emptying of the bath fluid
- ▶ Supplied with stainless steel flat cover with silicone packing to help reduce heat losses and evaporation
- ▶ 부식에 강한 연마 처리된 Stainless Steel(SUS304) 베스는 세척과 유지보수가 간편
- ▶ Stainless Steel 304재질의바닥 타공판
- ▶ 배수용 드레인밸브장착
- ▶ 온도유지와 증발을 방지하기 위한 실리콘 패킹 커버 포함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE
- ▶ 이중과열방지장치
- ▶ 최고온도알람기능 : 작동 한계온도+1°C 초과 시 히터 차단
- ▶ 센서단락알람
- ▶ 누전차단기 : 전기 누설 시 주전원 차단

Ordering Information

		JSOB-100T	JSOB-200T	JSOB-300T
Bath Volume (Capacity)		11 L	20 L	33 L
Dimensions	Inner	300 x 220 x 170	400 x 300 x 170	430 x 300 x 260
W x D x H mm	Usable	300 x 220 x 130	400 x 300 x 130	430 x 300 x 220
	Outer	550 x 310 x 340	650 x 390 x 360	680 x 390 x 450
Temperature	Range	ambient +10 °C - 250 °C		
	Accuracy at 120.0°C	$\pm 1.0^{\circ}\text{C}$	$\pm 1.0^{\circ}\text{C}$	$\pm 1.0^{\circ}\text{C}$
	Uniformity at 120.0°C	$\pm 3.0^{\circ}\text{C}$	$\pm 3.0^{\circ}\text{C}$	$\pm 5.0^{\circ}\text{C}$
Heater Capacity		2.0 kW	3.0 kW	3.0 kW
Power Rating		9.1 Amp	13.6 Amp	13.6 Amp
Power Plug			CEE 7/7 Schuko	

Viscosity

GLASS BATH

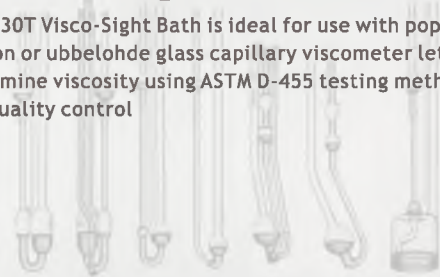
CONFORM
ASTM D-455

High Precision



Visco-Sight Bath

JSVB-30T Visco-Sight Bath is ideal for use with popular cannon or ubbelohde glass capillary viscometer let you determine viscosity using ASTM D-455 testing method and quality control



Specifications

Heating	Direct Immersion Sheath Heater with internal circulation pump
Temp. Range	ambient + 5 °C ~ 99 °C
Accuracy	± 0.1 °C at 50.0°C
Uniformity	± 0.4 °C at 50.0°C
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Circulation	Magnetic Driven Pump
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Bath : Stainless Steel 304
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



or



CEE 7/7 Schuko

BS 1363

Control Accuracy

- ± 0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99day 23hr
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor

- 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- 온도보정, 오토튜닝 기능 내장
- Class A Pt-100 Ω 온도 센서



Circulation Pump



Heated amb. +5 °C ~ 99 °C



Timer On / Off



Constant Temperature Controller

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 bath
- ▶ Corrosion resistant stainless steel 304 sheath immersion heater directly heating fluid in the bath to reach set temperature quickly
- ▶ The Visco-Sight Bath is designed to simplify ASTM D-455 viscosity testing, accommodates up to five capillary tubes
- ▶ Measuring range of ambient +5°C to 99°C, accuracy $\pm 0.1^\circ\text{C}$ and can be used with mineral oil, silicone oil, or water as a thermal fluid
- ▶ Powerful magnetic driven pump circulates heated water throughout the bath maintain thermal uniformity
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 배스
- ▶ 내구성이 뛰어난 스테인레스 스틸 (SUS304) 재질의 히터가 수조를 직접 가열하여 신속히 설정 온도에 도달
- ▶ Visco-Sight Bath는 ASTM D-455 점도측정 실험에 적합하며 5개의 점도계를 사용할수있음
- ▶ 작동 온도 범위는 상온 +5°C to 99°C, 정밀도 $\pm 0.1^\circ\text{C}$ 미네랄오일 실리콘오일, 물등을 가열 매체로 사용 가능
- ▶ 강력한 마그네틱 순환펌프를 장착하여 배스 내부의 물을 순환시켜 뛰어난 온도 분포

Convenience

- ▶ Clear side glass window to measuring viscosity easily
- ▶ Easy to clean polished Stainless Steel 304 Bath
- ▶ Perforated stainless steel shelf plate
- ▶ Corrosion resistant polycarbonate magnetic driven pump
- ▶ Drain for easy emptying of the bath fluid
- ▶ Supplied with stainless steel cover with five holes for popular capillary
- ▶ 전후면 투명한 강화 유리창을 통해 손쉽게 점도 측정
- ▶ 부식에 강한 연마 처리된 Stainless Steel(SUS304) 배스는 세척과 유지보수가 간편
- ▶ 부식에 강한 polycarbonate 재질의 마그네틱 펌프
- ▶ Stainless Steel 304재질의바닥 타공판
- ▶ 배수용 드레인밸브장착
- ▶ 표준 점도계를 5개 사용할 수 있는 홀과 커버 포함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE
- ▶ 이중과열방지장치
- ▶ 최고온도알람기능 : 작동 한계온도+1°C 초과 시 히터 차단
- ▶ 센서단락알람
- ▶ 누전차단기 : 전기 누설 시 주전원 차단

Ordering Information

		JSVB-30T
Bath Volume (Capacity)		31 L
Dimensions	Inner	350 x 300 x 300
W x D x H mm	Usable	350 x 300 x 280
	Outer	600 x 440 x 370
Temperature	Range	ambient +5 °C ~ 99 °C
	Accuracy at 120.0°C	$\pm 0.1^\circ\text{C}$
	Uniformity at 120.0°C	$\pm 0.4^\circ\text{C}$
Water Circulation		Magnetic Driven Circulation Pump
Heater Capacity		1.6 kW
Power Rating		7.2 Amp
Power Plug		CEE 7/7 Schuko

Extraction

COD BATH

CHEMICAL OXYGEN DEMAND Digestion Bath



Extraction COD Bath

JSEB-Series Extraction COD Digestion Bath is the most popular thermo reactor for determination Chemical Oxygen Demand in various substances. Chemical Oxygen Demand (COD) is a measure of the capacity of water to consume oxygen during the decomposition of organic matter and the oxidation of inorganic chemicals.

Supplied with size adjustable concentric ring covers and frame set to hold glassware.

Temperature range from ambient +5 to 99.9 °C

Specifications

Heating	Direct Immersion Sheath Heater
Temp. Range	ambient + 5 °C ~ 99.9 °C
Accuracy	± 0.5 °C at 60.0°C
Uniformity	± 1.0 °C at 60.0°C
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Bath : Stainless Steel 304 Concentric Ring Cover : Stainless Steel 304
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.







or



CEE 7/7 Schuko

BS 1363



-  Multi-Port Extraction
-  Heated amb. +5 °C ~ 99.9 °C
-  Timer On / Off
-  Constant Temperature Controller

Control Accuracy

- ±0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99day 23hr
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor
- 정밀한 PID 컨트롤러는 온도를 ±0.1 °C 단위로 제어
- 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- 온도보정, 오토튜닝 기능 내장
- Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 bath
- ▶ Corrosion resistant stainless steel 304 sheath immersion heater directly heating water in the bath to reach set temperature quickly
- ▶ Perforated heater cover helps convection of heated water circulation to maintain thermal uniformity of the bath
- ▶ Maximum temperature up to 99.9 °C, accuracy $\pm 0.1^{\circ}\text{C}$

- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 배스
- ▶ 내구성이 뛰어난 스테인레스 스틸 (SUS304) 재질의 히터가 수조를 직접 가열하여 신속히 설정 온도에 도달
- ▶ 다공성 히터커버는 가열된 물이 배스 내부로 균일하게 순환 되도록 설계되어 균일한 온도 분포
- ▶ 최고 가열 온도 99.9 °C, $\pm 0.1^{\circ}\text{C}$ 의 탁월한 정밀도

Convenience

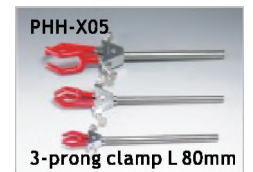
- ▶ Easy to clean polished Stainless Steel 304 Bath
- ▶ Perforated stainless steel bottom plate
- ▶ Drain for easy emptying of the bath fluid
- ▶ Supplied with stainless steel cover with concentric ring cover set of various size openings of dia. 30 mm, 60 mm and 90 mm, 110 mm
- ▶ Stainless steel pipe frame set to hold glassware clamps
- ▶ 부식에 강한 연마 처리된 Stainless Steel(SUS304) 배스는 세척과 유지보수가 간편
- ▶ Stainless Steel 304 재질의 바닥 타공판
- ▶ 배수용 드레인밸브장착
- ▶ Stainless Steel 304 재질의 링커버 세트 dia. 30mm, 60mm 90mm
- ▶ Stainless Steel 304 재질의 프레임세트

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE
- ▶ 이중과열방지장치
- ▶ 최고온도알람기능 : 작동 한계온도+1°C 초과 시 히터 차단
- ▶ 센서단락알람
- ▶ 누전차단기 : 전기 누설 시 주전원 차단

Accessories

Art No.	Descriptions
PHH-X01	Pipe Holder
PHH-X02	Clamp holder max grip 19 mm
PHH-X03	2-prong clamp Length 60 mm
PHH-X04	3-prong clamp Length 60 mm
PHH-X05	3-prong clamp Length 80 mm



Ordering Information

	JSEB-60T	JSEB-62T	JSEB-82T	JSEB-102T
Number of Extraction Ports	6	2 x 3	2 x 4	2 x 5
Dimensions Inner	920 x 162 x 150	490 x 322 x 150	650 x 322 x 150	850 x 322 x 150
W x D x H mm Outer	980 x 265 x 300	665 x 395 x 300	815 x 395 x 300	965 x 395 x 300
Temperature Range	ambient +5 °C ~ 99.9 °C			
Accuracy at 60.0°C	$\pm 0.5^{\circ}\text{C}$			
Uniformity at 60.0°C	$\pm 1.0^{\circ}\text{C}$			
Standard Accessories	Stainless Steel Frame Set, 4ea x PHH-X01 Pipe Holder			
Heater Capacity	3.0 kW	3.0 kW	4.0 kW	5.0 kW
Power Rating	13.6 Amp	13.6 Amp	18.2 Amp	23.0 Amp
Power Plug	CEE 7/7 Schuko	CEE 7/7 Schuko	30 Amp	30 Amp






Immersion CIRCULATOR

INTERNAL EXTERNAL Circulation Bath




Immersion Bath Circulator

Heated circulating open bath system controls temperature range from ambient +5 °C to 99 °C, with internal and external circulation pump. Internal circulation allows precise thermal uniformity within $\pm 0.1^{\circ}\text{C}$ comparing to the conventional heated bath without circulation pump. External circulation pump enables to circulates heated water (liquid) to external equipments such applications as warming of reagents and culture media, thawing or tempering samples, biological incubation, cell culture, enzyme assays, or controlling the temperature of laboratory equipment such as chromatography columns, viscometers, and densitometers. External circulation pump capacity 8 liters/min. in flow rate and 0.3 bar in pressure

-  Circulation Pump
-  Heated amb. +5 °C ~ 99 °C
-  Timer On / Off 
-  Constant Temperature Controller

Specifications

Heating	Direct Immersion Sheath Heater with Circulation Pump
Temp. Range	ambient + 5 °C ~ 99 °C
Accuracy	$\pm 0.1^{\circ}\text{C}$ at 37.0°C (JSIB-11T)
Uniformity	$\pm 0.2^{\circ}\text{C}$ at 37.0°C (JSIB-11T)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Bath : Electro-polished Seamless Stainless Steel 304
Electric	220 \pm 10% VAC 50/60Hz 1-Phase

Plug config.  or 

CEE 7/7 Schuko

BS 1363

Control Accuracy

- ▶ $\pm 0.1^{\circ}\text{C}$ Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 $\pm 0.1^{\circ}\text{C}$ 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 bath
- ▶ Corrosion resistant stainless steel 304 sheath immersion heater heating water within the bath quickly
- ▶ Stainless Steel circulation pump assembly circulates thermal fluid to the external closed system with flow rate 8 liter/min and 0.3 bar in pressure
- ▶ Internal circulation of water enhance thermal uniformity of the bath
- ▶ Maximum temperature up to 99 °C, accuracy ± 0.1°C

- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 배스
- ▶ 내구성이 뛰어난 스테인레스 스틸 (SUS304) 재질의 히터와 순환 펌프가 수조 내부의 물을 직접 가열하여 신속히 설정 온도에 도달
- ▶ 스테인레스 스틸 (SUS304) 재질의 순환 펌프는 외부 순환시 8 liter/min 의 유량과 0.3 bar 의 압력을 제공
- ▶ 내부 순환시 수조의 물이 강제 순환되어 균일한 온도 분포
- ▶ 최고 가열 온도 99 °C, ± 0.1°C 의 탁월한 정밀도

Convenience

- ▶ Easy to clean Electro-Polished seamless SUS304 Bath
- ▶ Drain for easy emptying of the bath fluid
- ▶ Supplied with stainless steel flat cover to help reduce heat losses and evaporation

- ▶ 부식에 강한 전해 연마 처리된 Stainless Steel(SUS304) 배스는 코너에 이음새가 없어 세척과 유지보수가 간편
- ▶ 배수용 드레인밸브장착
- ▶ 온도유지와 물의 증발을 방지하기 위한 평판형 커버 포함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ LOW WATER LEVEL SENSOR : cut-off heater
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE
- ▶ 이중과열방지장치
- ▶ 최고온도알람기능 : 작동 한계온도+1°C 초과 시 히터 차단
- ▶ 저수위감지센서 : 히터출력 정지
- ▶ 센서단락알람
- ▶ 누전차단퓨즈 : 전기 누설 시 주전원 차단

Ordering Information

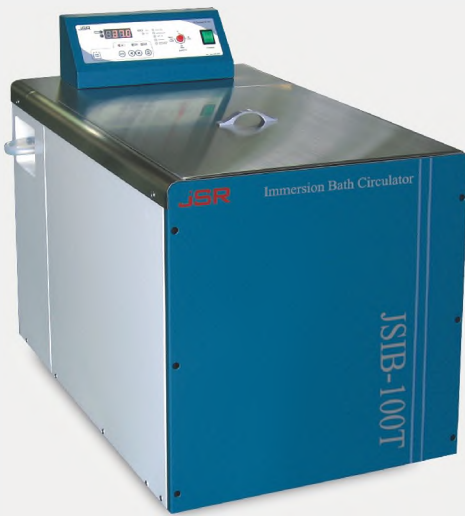
	JSIB-11T	JSIB-22T
Bath Volume (Capacity)	11 L	22 L
Dimensions Inner	300 x 240 x 150	495 x 290 x 150
W x D x H mm Usable	120 x 240 x 150	325 x 290 x 150
Outer	365 x 300 x 410	560 x 350 x 410
Temperature Range	ambient +5 °C ~ 99 °C	
Accuracy at 37.0°C	± 0.1 °C	
Uniformity at 37.0°C	± 0.2 °C	
Drain Valve	yes	
Inlet / Outlet Fitting	Φ 9 mm hose barb	
Heater Capacity	850 W	1.3 kW
Power Rating	3.9 Amp	5.9 Amp
Power Plug	CEE 7/7 Schuko	

Circulator

LARGE CAPACITY

INTERNAL EXTERNAL Circulation Bath

Immersion Bath Circulator



Heated circulating open bath system controls temperature range from ambient +5 °C to 99°C, with internal and external circulation pump. Internal circulation allows precise thermal uniformity within $\pm 0.2^\circ\text{C}$ comparing to the conventional heated bath without circulation pump. External circulation pump enables to circulates heated water (liquid) to external equipments such applications as warming of reagents and culture media, thawing or tempering samples or controlling the temperature of laboratory equipments. External circulation pump capacity 13 liters/min. in flow rate and 0.5 bar in pressure

Specifications

Heating	Direct Immersion Sheath Heater with Magnetic Driven Circulation Pump
Temp. Range	ambient + 5 °C ~ 99 °C
Accuracy	± 0.2 °C at 37.0°C (JSIB-50T)
Uniformity	± 0.5 °C at 37.0°C (JSIB-50T)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Bath : Polished Stainless Steel 304
Electric	220 \pm 10% VAC 50/60Hz 1-Phase

Plug config.



or



or



CEE 7/7 Schuko

BS 1363

30 Amp



Circulation Pump



Heated amb. +5 °C ~ 99 °C



Timer On / Off



Constant Temperature
Controller

Control Accuracy

- ▶ ± 0.1 °C Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 ± 0.1 °C 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 bath
- ▶ Corrosion resistant stainless steel 304 sheath immersion heater and circulation pump heating water to set temperature quickly and precisely
- ▶ Magnetic driven circulation pump circulates water to the external closed system with flow rate 13 liter/min and 0.5 bar in pressure
- ▶ Internal circulation of water enhance thermal uniformity of the bath
- ▶ Maximum temperature up to 99 °C, accuracy $\pm 0.2^{\circ}\text{C}$

- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 베스
- ▶ 내구성이 뛰어난 스테인레스 스틸 (SUS304) 재질의 히터와 순환 펌프가 수조 내부의 물을 직접 가열하여 신속히 설정 온도에 도달
- ▶ 마그네틱 순환 펌프는 외부 순환 시 13 liter/min 의 유량과 0.5 bar 의 압력을 제공
- ▶ 내부 순환 시 수조 내부에서 물이 순환 되면서 균일한 온도분포
- ▶ 최고 가열 온도 99 °C, $\pm 0.2^{\circ}\text{C}$ 의 탁월한 정밀도

Convenience

- ▶ Easy to clean polished Stainless Steel 304 Bath
- ▶ Corrosion resistant polycarbonate magnetic driven pump
- ▶ Drain for easy emptying of the bath fluid
- ▶ Supplied with stainless steel flat cover to help reduce heat losses and evaporation

- ▶ 부식에 강한 연마 처리된 Stainless Steel(SUS304) 베스는 세척과 유지보수가 간편
- ▶ 부식에 강한 polycarbonate 재질의 마그네틱 펌프
- ▶ 배수용 드레인밸브장착
- ▶ 온도유지와 물의 증발을 방지하기 위한 평판형 커버 포함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE

- ▶ 이중과열방지장치
- ▶ 최고온도알람기능 : 작동 한계온도+1°C 초과 시 히터 차단
- ▶ 센서단락알람
- ▶ 누전차단퓨즈 : 전기 누설 시 주전원 차단

Ordering Information

	JSIB-50T	JSIB-100T
Bath Volume (Capacity)	50 L	100 L
Dimensions Inner	300 x 400 x 400	400 x 500 x 500
W x D x H mm Usable	300 x 400 x 350	400 x 500 x 450
Outer	385 x 665 x 685	485 x 765 x 785
Temperature Range	ambient +5 °C ~ 99 °C	
Accuracy at 37.0°C	$\pm 0.2^{\circ}\text{C}$	
Uniformity at 37.0°C	$\pm 0.5^{\circ}\text{C}$	
Drain Valve	yes	
Inlet / Outlet Fitting	Φ9 mm hose barb	
Heater Capacity	3.0 kW	5.0 kW
Power Rating	14.0 Amp	30.0 Amp
Power Plug	CEE 7/7 Schuko	30 Amp

Low Temp CIRCULATOR

HEATING REFRIGERATING - 20 °C Circulation Bath








Refrigerated Circulation Bath

Heated/Refrigerated circulating open bath system capable of reaching temperature as low as -20 °C and heating up to 120 °C for a wide variety of laboratory heating and cooling applications.

Internal circulation of thermal fluid within the bath allows precise uniformity within $\pm 0.1^\circ\text{C}$. Circulation pump enables to circulates heated or refrigerated thermal fluid to external equipments such applications as reactor, condenser, rotary evaporator or controlling the temperature of laboratory equipment such as chromatography columns, viscometers, and densitometers.

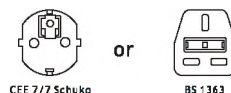
External circulation pump capacity 10 liters/min. in flow rate and 0.5 bar in pressure

-  Circulation Pump
-  Cooled - 20 °C to 120 °C
-  Timer On / Off 
-  Constant Temperature Controller

Specifications

Heating	Direct Immersion Sheath Heater with Circulation Pump
Cooling	CFC Free Air Cooled Compressor
Temp. Range	- 20 °C - 120 °C
Accuracy	$\pm 0.1^\circ\text{C}$ at -10.0°C (JSRC-13C)
Uniformity	$\pm 0.3^\circ\text{C}$ at -10.0°C (JSRC-13C)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off Low Water Level Cut-Off
Material	Body : Epoxy Powder Coated Steel Bath : Seamless Electro-Polished Stainless Steel 304
Electric	220 \pm 10% VAC 50/60Hz 1-Phase

Plug config.



Control Accuracy

- ▶ $\pm 0.1^\circ\text{C}$ Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 $\pm 0.1^\circ\text{C}$ 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서



Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ High efficiency heating and cooling system allows short heat-up and cool-down times
- ▶ Corrosion resistant stainless steel 304 sheath immersion heater and cooling coil controls bath temperature quickly and precisely
- ▶ Stainless Steel circulation pump circulates thermal fluid to the external closed system with flow rate 10 liters/min and 0.5 bar in pressure
- ▶ Internal circulation of bath fluid enhance thermal uniformity of the bath
- ▶ Temperature range from -20 °C to 120 °C, accuracy $\pm 0.1^{\circ}\text{C}$
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내구성이 뛰어난 스테인레스 스틸 (SUS304) 재질의 히터와 냉각 코일은 수조 내부의 용액을 직접 가열 또는 냉각하여 신속히 설정 온도에 도달
- ▶ 스테인레스 스틸 (SUS304) 재질의 순환 펌프는 외부 순환 시 10 liter/min의 유량과 0.5 bar의 압력을 제공
- ▶ 내부 순환 시 수조의 용액이 강제 순환되어 균일한 온도 분포
- ▶ 온도범위 - 20°C ~ 120 °C, $\pm 0.1^{\circ}\text{C}$ 의 탁월한 정밀도

Convenience

- ▶ Easy to clean Electro-polished Seamless Stainless Steel Bath
- ▶ Drain for easy emptying of the bath fluid
- ▶ Supplied with stainless steel flat cover to help reduce heat losses and evaporation
- ▶ Dust accumulation in refrigeration system is easily cleaned by means of an removable venting grill
- ▶ 부식에 강한 전해 연마 처리된 Stainless Steel(SUS304) 베스는 세척과 유지보수가 간편
- ▶ 배수용 드레인밸브장착
- ▶ 온도유지와 물의 증발을 방지하기 위한 평판형 커버 포함
- ▶ 냉동응축기에 발생하는 먼지를 손쉽게 제거할 수 있도록 설계

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ LOW WATER LEVEL SENSOR : cut-off heater
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE
- ▶ 이중과열방지장치
- ▶ 최고온도알람기능 : 작동 한계온도+1°C 초과 시 히터 차단
- ▶ 저수위감지센서 : 히터출력 정지
- ▶ 센서단락알람
- ▶ 누전차단퓨즈 : 전기 누설 시 주전원 차단

Ordering Information

	JSRC-06C	JSRC-13C	JSRC-22C	JSRC-30C
Bath Volume (Capacity)	7.0 L	11 L	20 L	30 L
Dimensions Inner	155 x 300 x 150	240 x 300 x 150	300 x 330 x 200	300 x 500 x 190
W x D x H mm Usable	155 x 120 x 150	240 x 120 x 150	300 x 150 x 200	300 x 300 x 160
Outer	290 x 470 x 670	370 x 450 x 670	430 x 480 x 720	430 x 670 x 720
Temperature Range	- 20 °C - 120.0 °C			
Accuracy at -10.0°C	$\pm 0.1^{\circ}\text{C}$			
Uniformity at -10.0°C	$\pm 0.3^{\circ}\text{C}$			
Heater Capacity	700 Watt	800 Watt	1.2 kW	1.6 kW
Refrigeration System	CFC Free Air Cooled Compressor			
Power Rating	6.7 Amp	7.1 Amp	8.9 Amp	10.5 Amp
Power Plug	CEE 7/7 Schuko			






Low Temp CIRCULATOR

HEATING
REFRIGERATING
- 40 °C Circulation Bath





Refrigerated Circulation Bath

Heated/Refrigerated circulating open bath system capable of reaching temperature as low as -40 °C and heating up to 120 °C for a wide variety of laboratory heating and cooling applications. Internal circulation of thermal fluid within the bath allows precise uniformity within $\pm 0.1^\circ\text{C}$. Circulation pump enables to circulates heated or refrigerated thermal fluid to external equipments such applications as reactor, condenser, rotary evaporator or controlling the temperature of laboratory equipment such as chromatography columns, viscometers, and densitometers. External circulation pump capacity 10 liters/min. in flow rate and 0.5 bar in pressure

	Circulation Pump
	Cooled - 40 °C to 120 °C
	Timer On / Off 
	Constant Temperature Controller



Specifications

Heating	Direct Immersion Sheath Heater with Circulation Pump
Cooling	CFC Free Air Cooled Compressor
Temp. Range	- 40 °C - 120 °C
Accuracy	$\pm 0.1^\circ\text{C}$ at -10.0°C (JSRC-13CL)
Uniformity	$\pm 0.4^\circ\text{C}$ at -10.0°C (JSRC-13CL)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off Low Water Level Cut-Off
Material	Body : Epoxy Powder Coated Steel Bath : Seamless Electro-Polished Stainless Steel 304
Electric	220 \pm 10% VAC 50/60Hz 1-Phase
Plug config.	 or 

Control Accuracy

- ▶ $\pm 0.1^\circ\text{C}$ Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor
- ▶ 정밀한 PID 컨트롤러는 온도를 $\pm 0.1^\circ\text{C}$ 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59초 / 99시간59분 / 99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
 - ▶ High efficiency heating and cooling system allows short heat-up and cool-down times
 - ▶ Corrosion resistant stainless steel 304 sheath immersion heater and cooling coil controls bath temperature quickly and precisely
 - ▶ Stainless Steel circulation pump circulates thermal fluid to the external closed system with flow rate 10 liters/min and 0.5 bar in pressure
 - ▶ Internal circulation of bath fluid enhance thermal uniformity of the bath
 - ▶ Temperature range from -40 °C to 120 °C, accuracy $\pm 0.1^{\circ}\text{C}$
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
 - ▶ 내구성이 뛰어난 스테인레스 스틸 (SUS304) 재질의 히터와 냉각 코일은 수조 내부의 용액을 직접 가열 또는 냉각 하여 신속히 설정 온도에 도달
 - ▶ 스테인레스 스틸 (SUS304) 재질의 순환 펌프는 외부 순환 시 10 liter/min의 유량과 0.5 bar의 압력을 제공
 - ▶ 내부 순환 시 수조의 용액이 강제 순환되어 균일한 온도 분포
 - ▶ 온도범위 - 40°C ~ 120 °C, $\pm 0.1^{\circ}\text{C}$ 의 탁월한 정밀도

Convenience

- ▶ Easy to clean Electro-polished Seamless Stainless Steel Bath
 - ▶ Drain for easy emptying of the bath fluid
 - ▶ Supplied with stainless steel flat cover to help reduce heat losses and evaporation
 - ▶ Dust accumulation in refrigeration system is easily cleaned by means of a removable venting grill
- ▶ 부식에 강한 전해 연마 처리된 Stainless Steel(SUS304) 배스는 세척과 유지보수가 간편
 - ▶ 배수용 드레인밸브장착
 - ▶ 온도유지와 물의 증발을 방지하기 위한 평판형 커버 포함
 - ▶ 냉동용축기에 발생하는 먼지를 손쉽게 제거할 수 있도록 설계

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
 - ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
 - ▶ LOW WATER LEVEL SENSOR : cut-off heater
 - ▶ SENSOR DISCONNECTION ALARM
 - ▶ OVER CURRENT CUT-OFF FUSE
- ▶ 이중과열방지장치
 - ▶ 최고온도알람기능 : 작동 한계온도+1°C 초과 시 히터 차단
 - ▶ 저수위감지센서 : 히터출력 정지
 - ▶ 센서단락알람
 - ▶ 누전차단퓨즈 : 전기 누설 시 주전원 차단

Ordering Information

	JSRC-06CL	JSRC-13CL	JSRC-22CL	JSRC-30CL
Bath Volume (Capacity)	7.0 L	11 L	20 L	30 L
Dimensions Inner	155 x 300 x 150	240 x 300 x 150	300 x 330 x 200	300 x 500 x 190
W x D x H mm Usable	155 x 120 x 150	240 x 120 x 150	300 x 150 x 200	300 x 300 x 160
Outer	290 x 470 x 700	370 x 450 x 700	430 x 480 x 720	430 x 670 x 720
Temperature Range	- 40 °C - 120.0 °C			
Accuracy at -10.0°C	$\pm 0.1^{\circ}\text{C}$			
Uniformity at -10.0°C	$\pm 0.3^{\circ}\text{C}$			
Heater Capacity	700 Watt	800 Watt	1.2 kW	1.6 kW
Refrigeration System	CFC Free Air Cooled Compressor			
Power Rating	6.7 Amp	8.0 Amp	9.8 Amp	11.6 Amp
Power Plug	CEE 7/7 Schuko			

Shaking

WATER BATH

HEATING
SHAKING

120 rpm Reciprocal



Shaking Water Bath

JSSB-Series Water Bath controls precise temperature and integral linear shaking system with universal spring wire rack which will accommodate almost any size and combination of vessels.

Ideal for chemistry, chemical engineering, cell culture, biotechnology, extraction and laboratory applications demanding constant temperature and mixing at the same time.

Specifications

Temp. Range	ambient + 5 °C - 99 °C
Accuracy	± 0.2 °C at 37.0°C (JSSB-30T)
Uniformity	± 0.5 °C at 37.0°C (JSSB-30T)
Shaking Motion	Linear (Reciprocal) Motion
Speed Range	20 - 120 rpm
Control	Integrated Microprocessor PID Control Auto STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Spring Wire Rack : Stainless Steel 304 with high tension spring
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



CEE 7/7 Schuko

or



BS 1363

- Reciprocal Shaking
- Heated amb. +5 °C - 99 °C
- Timer Off
- Constant Temperature Controller

Control Accuracy

- Integrated Digital PID Controller with ±0.1 °C temperature control resolution, shaking speed by ± 1 rpm and automatic STOP timer max. 99min 59sec / 99hr 59 min / 99day 23 hr
- Dual digital LED displays operating status of TEMP, RPM and remaining TIME
- Temperature calibration, auto-tuning function
- Class A Pt-100 Ω sensor

- ▶ 통합형 PID 컨트롤러는 배스의 온도를 $\pm 0.1^{\circ}\text{C}$ 교반속도를 $\pm 1\text{ rpm}$ 단위로 제어하고 타이머 설정 최대 99분 59초 / 99시간 59분 / 99일 23시간
- ▶ 두 개의 디스플레이는 현재온도, 현재교반속도, 잔여시간등 작동상태를 표시
- ▶ 온도 및 속도 보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 온도센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 bath
- ▶ Corrosion resistant stainless steel sheath immersion heater directly heating and boiling water in the bath to reach set temperature quickly
- ▶ Stainless Steel shaking rack and mechanism with powerful AC motor supports linear shaking motion up to 120 rpm
- ▶ Maximum temperature up to 99°C , accuracy $\pm 0.2^{\circ}\text{C}$
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 배스
- ▶ 내부식성이 뛰어난 스테인레스 스틸 (SUS304) 재질의 히터가 수조 내부의 물을 직접 가열하여 신속히 설정 온도에 도달
- ▶ 스테인레스 스틸 (SUS304) 재질의 스프링랙은 강력한 AC Motor로 최대 120 rpm 속도로 교반
- ▶ 최고 가열 온도 99°C , $\pm 0.2^{\circ}\text{C}$ 의 탁월한 정밀도

Convenience

- ▶ Easy to clean polished Stainless Steel 304 Bath
- ▶ Stainless steel 304 universal spring rack with high tension spring wire to accommodate almost any size and combination of vessels
- ▶ Drain for easy emptying of the bath fluid
- ▶ Supplied with stainless steel gabled cover to help reduce heat losses and evaporation
- ▶ 부식에 강한 연마 처리된 Stainless Steel(SUS304) 배스는 세척과 유지보수가 간편
- ▶ Stainless Steel 304 재질의 스프링 랙은 다양한 용량과 형태의 용기를 손쉽게 사용할 수 있음
- ▶ 배수용 드레인밸브장착
- ▶ 온도유지와 물의 증발을 방지하기 위한 커버 포함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM
- ▶ MAX RPM CUT-OFF motor and AUDIO VISUAL ALARM
- ▶ MOTOR FAILURE ALARM
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF FUSE
- ▶ 이중과열방지장치
- ▶ 최고온도알람기능 : 작동 한계온도+1 $^{\circ}\text{C}$ 초과 시 히터 차단
- ▶ 최고속도알람기능 : 작동 한계속도+10 rpm 초과시 모터 차단
- ▶ 속도이상알람기능 : 교반이상시 알람
- ▶ 속도이상알람기능 : 교반이상시 알람
- ▶ 센서단락알람
- ▶ 누전차단퓨즈 : 전기 누설 시 주전원 차단

Ordering Information

	JSSB-30T	JSSB-50T
Bath Volume (Capacity)	30 L	50 L
Dimensions Inner	500 x 300 x 190	600 x 380 x 220
W x D x H mm Outer	760 x 370 x 400	870 x 450 x 430
Spring Rack	405 x 250 x 140	535 x 315 x 160
Temperature Range	ambient +5 $^{\circ}\text{C}$ ~ 99 $^{\circ}\text{C}$	
Accuracy at 37.0 $^{\circ}\text{C}$	$\pm 0.2^{\circ}\text{C}$	
Uniformity at 37.0 $^{\circ}\text{C}$	$\pm 0.5^{\circ}\text{C}$	
Shaking Speed Range	20 ~ 120 rpm / 25mm stroke	
Accuracy	$\pm 1\text{ rpm}$	
Heater Capacity	2.0 kW	3.0 kW
Power Rating	9.2 Amp	13.8 Amp
Power Plug	CEE 7/7 Schuko	

Growth CHAMBER

CLIMATIC CONTROL Phytotron

Control Performance

- High precision Digital PID Microprocessor controller and cooling system controls temperature from +0°C to 60 °C
- Humidifier controls humidity from 30% to 85% RH with excellent temperature control
- Built-in light sensor in chamber measure and display light intensity in LUX
Combination of maximum 8 level light control can create sixteen light intensity gradation.
- Optional CO₂ control with precise NDIR-Diffusion Sensor controls CO₂ concentration from ambient approx. 700 ppm to 5000 ppm
Concentration can be expressed in % as well
- Program mode capable to create various climatic conditions of temperature, humidity, lighting and CO₂ conc. with time duration up to 11 Segments 999 cycles or unlimited repeating operation with easy-to-use 3-line back light LCD display and alpha numeric key pad

	Temp. +0 °C ~ 60 °C
	Humidity 30 ~ 98% RH
	Lighting 0 ~ 40,000 Lux
	CO ₂ Conc. amb. ~ 5000 ppm (%)
	Program Controller
	Photoperiodic Control 



3-D Illumination Plant Growth Chamber

JSPG-Series

JSPG-1500C 3-Side Illumination Plant Growth Chamber provides reliable controlled climatic condition of temperature, humidity, lighting and CO₂ concentration.

Ideal to growing plant, plant tissue culture or any other laboratory experiments needs controller climatic simulation.

1512 L large capacity and tall height of the chamber suitable to growing larger plants up to 1.2 m.

Combination of top and two side light bank with HQI and fluorescent lamps provide light intensity up to 50,000 LUX.



Top Illumination

JSGC-Series

JSGC-Series Top Illumination Plant Growth Chamber provides reliable controlled climatic condition of temperature, humidity, lighting and CO₂ concentration

Ideal to growing plant, plant tissue culture or any other laboratory experiments needs controller climatic simulation.

Various choice of capacity from 432L ~ 1512 L suitable to growing larger plants up to 1.2 m.

Light bank on the top with HQI and fluorescent lamps provide light intensity up to 40,000 LUX.



3-Side Illumination

JSPC-Series

JSPC-Series 3-Side Illumination Plant Growth Chamber provides reliable controlled climatic condition of temperature, humidity, lighting and CO₂ concentration

Ideal to growing plant, plant tissue culture or any other laboratory experiments need controlled climatic simulation.

Various choice of capacity from 200L ~ 964 L for tissue culture and plants growing.

Light bank on the 3-side with fluorescent lamps provides light intensity up to 30,000 LUX.

Growth CHAMBER

CLIMATIC CONTROL Phytotron

Controller

JSC-4CP Programmable Controller



- ▶ High precision Digital PID Microprocessor controls temperature, humidity, lighting and CO₂ concentration in one integrated unit with easy to use 4-line back-light LCD display interface
- ▶ Constant temperature, humidity, lighting and CO₂ conc. operation with automatic OFF timer
- ▶ Programmable operation capability of various climatic conditions of temperature, humidity, lighting and CO₂ conc. with time duration up to 11 Segments 999 cycles or unlimited repeating operation
- ▶ Calibration and auto-tuning function
- ▶ Class A Pt-100 Ω temperature sensor
- ▶ Precision electronic humidity sensor
- ▶ Built-in LUX Meter in chamber to measure light intensity
- ▶ The most accurate NDIR-Diffusion (Infra Red) CO₂ Sensor
- ▶ Automatic defrost cycle

- ▶ 정밀한 PID 컨트롤러는 온도, 습도, 조도 및 CO₂ 농도를 통합적으로 제어하고 back-light LCD 창을 통해 손쉽게 조작할 수 있음
- ▶ 정치 제어 기능은 고정된 온도, 습도, 조도 및 CO₂ 농도에서 연속 작동 하거나 타이머 설정
- ▶ 프로그램 제어 기능은 온도, 습도, 조도 및 CO₂ 농도 등 다양한 환경 조건을 시간에 따라 11 segment 999회 또는 무한 반복 작동
- ▶ 온도, 습도, 조도, CO₂ 농도 보정, 오토튜닝 기능
- ▶ Class A Pt-100Ω 온도센서
- ▶ 전자식 습도센서
- ▶ 챔버 내부 조도 센서
- ▶ 정밀한 적외선 방식 (NDIR-Diffusion) CO₂ 농도 센서
- ▶ 자동 제상 시스템

Performance & Convenience

Light Bank System

- ▶ Light Bank System with HQI and Fluorescent lamps
- ▶ Combination of 8-Level Lamp Control creates over 16 light intensity gradation
- ▶ Lamp-on-Delay System turn on lamp one by one which provides gradual increase of light intensity



Chamber

- ▶ Stainless Steel 304 chamber
- ▶ Removable and height adjustable shelf
- ▶ Internal LUX meter sensor
- ▶ Built-in humidifier and automatic water supply
- ▶ Low water level sensor and alarm



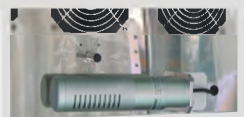
Maintenance

- ▶ Easy to access Light Bank System for convenient maintenance
- ▶ Easy to maintain refrigeration system



Infra-Red CO₂ Sensor

- ▶ High precision Dual wavelength NDIR Diffusion sensor to measure and control CO₂ concentration
- ▶ 적외선 방식 CO₂ 센서로 챔버 내부의 이산화탄소 농도를 정밀하게 제어



Performance

- ▶ Forced air circulation of controlled temperature and humidity to achieve excellent thermal uniformity
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Temperature control within $\pm 0.1^{\circ}\text{C}$ resolution
- ▶ Humidity control within $\pm 1.0\%$ RH resolution
- ▶ Lighting control from 0 - 50,000 Lux by 8-Step light intensity for photoperiodic Day-Night simulation
- ▶ Lamp-on-Delay System by turn on lamp one by one which provides gradual increase of light to eliminate sudden light intensity change
- ▶ CO₂ concentration control within ± 1 ppm (1%) resolution

- ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ $\pm 0.1^{\circ}\text{C}$ 해상도의 온도제어능력
- ▶ $\pm 1.0\%$ RH 해상도의 상대습도 제어능력
- ▶ 0 ~ 40,000 Lux 의 조도를 8 단계로 제어하는 일광조절기능
- ▶ 각 단계별로 램프가 한 개씩 순차적으로 점등 되어 급격한 조도의 변화에 의한 식물체의 스트레스를 방지
- ▶ ± 1 ppm (1%) 해상도의 CO₂ 농도 제어능력

Convenience

- ▶ Outer door with self adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock (depends model)
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Easy to access Light Bank System for convenient maintenance
- ▶ Corrosion resistant Stainless Steel 304 (ASTM 304) chamber
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport

- ▶ 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 기밀성이 뛰어남 [일부모델]
- ▶ 내부식성이 강한 Stainless Steel (SUS304) 챔버
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 라이트뱅크 시스템은 손쉽게 조명기구를 교체할 수있음
- ▶ 바퀴와 수평조절좌를 장착하여 설치, 이동, 평형유지 기능

Safety

- ▶ **OVER TEMP. CUT-OFF**
Analog system cut-off heater 10% above set temp.
- ▶ **MAX TEMP CUT-OFF heater and AUDIO VISUAL ALARM**
when if $+1^{\circ}\text{C}$ above maximum limit
- ▶ **SENSOR DISCONNECTION ALARM**
- ▶ **LOW WATER LEVEL ALARM**
- ▶ **DRY BURN PROTECTION OF HUMIDIFIER**
- ▶ **OVER CURRENT CUT-OFF : Electrical Leakage Breaker**

- ▶ **과열방지장치**
컨트롤러 오류로 설정온도 초과 시 히터차단
- ▶ **최고온도알람기능** : 한계온도 $+1^{\circ}\text{C}$ 초과시 히터 차단
- ▶ **센서단락알람**
- ▶ **저수위 알람**
- ▶ **누전차단기** : 전기 누설 시 주전원 차단



Growth CHAMBER

JSPG-1500C 3-D ILLUMINATION High Light Intensity










Specifications

Heating	Forced Air Convection
Cooling	CFC Free Air Cooled Compressor
Humidifier	Water Boiling Humidifier
Temp. Range	+0 °C ~ 60 °C (Light Off) +10 °C ~ 60 °C (Light On)
Accuracy	± 0.3 °C at 20.0°C 60% RH
Uniformity	± 1.0 °C at 20.0°C 60% RH
Temp. Sensor	Class A Pt-100 Ω Sensor
Humidity Range	30 ~ 98% RH (Sensor Range) 30 ~ 85% RH (Control Range)
Accuracy	± 3.0 % RH at 20.0°C, 60% RH
Humidity Sensor	Electronic Sensor
Illumination	0 ~ 50,000 Lux by 8-Step Combination
Light Sensor	Lux Meter 1 Lux resolution
CO₂ Range	ambient to 5,000 ppm (- 20 %)
CO₂ Sensor	Dual Wavelength NDIR Diffusion
Controller	Programmable PID Control 11 Segment 999 Cycle Repeat
Safety	Over-Temperature Cut-Off Over Current Cut-Off Low Water Level Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Double Layer Vacuum Glass Wall on Light Bank Including PVC Coated Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase Direct connect to 60 Amp ELB Mains

Feature

- 3-D illumination from top and two side light bank with HQI and fluorescent lamps provide light intensity up to 50,000 LUX
- Double layered vacuum sealed tempered safety glass wall on light bank
- Observation window with layered vacuum sealed tempered safety glass on front door
- Front door with silicone packing and compression door lock
- 천정과 측면에 설치된 조명은 HQI 와 형광램프를 장착하여 최대 50,000 LUX 조도구현
- 라이트뱅크에 이중 진공 페어 유리를 사용하여 온도 전도 방지
- 도어에 관측창을 마련하여 문을 열지 않고 관측

	Temp. +0 °C ~ 60 °C
	Humidity 30 ~ 85% RH
	Lighting 0 ~ 50,000 Lux
	CO ₂ Conc. amb. ~5000 ppm (%)
	Program Controller
	Timer On / Off 
	Photoperiodic Control 

Performance

- ▶ Forced air circulation of controlled temperature and humidity to achieve excellent thermal uniformity
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Temperature control within $\pm 0.1^\circ\text{C}$ resolution
- ▶ Humidity control within $\pm 1.0\%$ RH resolution
- ▶ Lighting control from 0 ~ 50,000 Lux by 8-Step light intensity for photoperiodic Day-Night simulation
- ▶ Lamp-on-Delay System provides gradual increase of light to eliminate sudden light intensity change
- ▶ CO₂ concentration control within ± 1 ppm (1%) resolution

- ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ $\pm 0.1^\circ\text{C}$ 해상도의 온도제어능력
- ▶ $\pm 1.0\%$ RH 해상도의 상대습도 제어능력
- ▶ 0 ~ 50,000 Lux 의 조도를 8 단계로 제어하는 일광조절기능
각 단계별 램프는 한 개씩 순차적으로 점등되어 급격한 조도의 변화에 의한 식물체의 스트레스를 방지
- ▶ ± 1 ppm (1%) 해상도의 CO₂ 농도 제어능력

Ordering Information

		JSPG-1500C
Chamber Volume (Capacity)		1512L
Dimensions	Inner	1400 x 900 x 1200
W x D x H mm	Outer	1880 x 1390 x 2065
Temperature	Range	Light Off : $+0^\circ\text{C} \sim 60^\circ\text{C}$ Light On : $+10^\circ\text{C} \sim 60^\circ\text{C}$ w/o Humidity Control
	Accuracy	$\pm 0.3^\circ\text{C}$ at 20.0°C 60% RH (Light Off)
	Uniformity	$\pm 1.0^\circ\text{C}$ at 20.0°C 60% RH (Light Off)
Humidity	Range	30 ~ 98% RH (Sensor Range) 30 ~ 85% RH (Control Range)
	Accuracy	$\pm 3.0\%$ RH at 20.0°C 60% RH
	Uniformity	$\pm 6.0\%$ RH at 20.0°C 60% RH
Illumination	Range / Steps	0 ~ 50,000 Lux by 8-Step Combination
	Lamp Configuration	Top : 6 x 150W HQI Side : 4 x 70W HQI, 8 x 55W FPL
CO ₂ Conc.	Range	ambient ~ 5,000 ppm (ambient ~ 20%)
	Accuracy	± 50 ppm
Controller		Programmable PID Control 11 Segment 999 Cycle Repeat
Sensors		Class A Pt-100 Ω Sensor / Electronic Humidity Sensor / Lux Meter / NDIR Diffusion CO ₂ Sensor
No. of Shelves / Maximum No.		6 / 20
Heater Rating		10.0 kW
Refrigeration System		CFC Free Air Cooled Compressor
Power Rating		220 VAC 50/60Hz 1P 55 Amp
Plug Configuration		Direct connect to 60 Amp ELB Mains

Options

Art No.	Descriptions
OHC-100	CO ₂ Control ~ 5,000 ppm with NDIR CO ₂ Sensor supplied without CO ₂ gas cylinder
OHC-101	2 Stage CO ₂ Gas Regulator
OHC-102	Flow Meter
OHC-103	Metering Valve

Accessories

Art No.	Descriptions
PHS-C11	PVC Coated Wire Shelf W680 x D845 mm









Growth CHAMBER

JSGC-Series TOP ILLUMINATION Wide Range



Specifications

Heating	Forced Air Convection
Cooling	CFC Free Air Cooled Compressor
Humidifier	Water Boiling Humidifier
Temp. Range	+0 °C - 60 °C (Light Off JSGC-960C) +10 °C - 60 °C (Light On JSGC-960C)
Accuracy	± 0.3 °C at 20.0°C 60% RH
Uniformity	± 1.0 °C at 20.0°C 60% RH
Temp. Sensor	Class A Pt-100 Ω Sensor
Humidity Range	30 - 98% RH (Sensor Range) 30 - 85% RH (Control Range)
Accuracy	± 3.0 % RH at 20.0°C 60% RH
Humidity Sensor	Electronic Sensor
Illumination	0 - 40,000 Lux by 8-Step Combination
Light Sensor	Lux Meter 1 Lux resolution
CO₂ Range	ambient to 5,000 ppm (~ 20 %)
CO₂ Sensor	Dual Wavelength NDIR Diffusion
Controller	Programmable PID Control 11 Segment 999 Cycle Repeat
Safety	Over-Temperature Cut-Off Over Current Cut-Off Low Water Level Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Double Layer Vacuum Glass Ceiling on Light Bank Including PVC Coated Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase
Plug config.	Direct connect to 60 Amp ELB Mains

	Temp. +0 °C ~ 60 °C
	Humidity 30 - 85% RH
	Lighting 0 - 40,000 Lux
	CO ₂ Conc. amb. ~5000 ppm (%)
	Program Controller
	Timer On / Off 
	Photoperiodic Control 

Performance

- Forced air circulation of controlled temperature and humidity to achieve excellent thermal uniformity
- Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- Temperature control within $\pm 0.1^\circ\text{C}$ resolution
- Humidity control within $\pm 1.0\%$ RH resolution
- Lighting control from 0 ~ 40,000 Lux by 8-Step light intensity for photoperiodic Day-Night simulation
- Lamp-on-Delay System provides gradual increase of light to eliminate sudden light intensity change
- CO₂ concentration control within ± 1 ppm (1%) resolution

- 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- 부드러운 공기 순환식 설계로 균일한 온도 분포
- $\pm 0.1^\circ\text{C}$ 해상도의 온도제어능력
- $\pm 1.0\%$ RH 해상도의 상대습도 제어능력
- 0 ~ 40,000 Lux 의 조도를 8 단계로 제어하는 일광조절기능
- 각 단계별 램프는 한 개씩 순차적으로 점등되어 급격한 조도의 변화에 의한 식물체의 스트레스를 방지
- ± 1 ppm (1%) 해상도의 CO₂ 농도 제어능력

Options

Art No.	Descriptions
OHC-100	CO ₂ Control - 5,000 ppm with NDIR CO ₂ Sensor supplied without CO ₂ gas cylinder
OHC-101	2 Stage CO ₂ Gas Regulator
OHC-102	Flow Meter
OHC-103	Metering Valve

Accessories

Art No.	Descriptions
PVC Coated Wire Shelf	
PHS-C13	for JSGC-420C W570 x D580 mm
PHS-C12	for JSGC-960C W870 x D880 mm
PHS-C11	for JSGC-1500C W670 x D830 mm

Ordering Information

		JSGC-420C	JSGC-960C	JSGC-1500C
Chamber Volume (Capacity)		432L	972L	1512L
Dimensions	Inner	600 x 600 x 1200	900 x 900 x 1200	1400 x 900 x 1200
	W x D x H mm Outer	1180 x 850 x 2080	1480 x 1150 x 2080	1865 x 1250 x 2100
Temperature	Range	Light Off : $+0^\circ\text{C} \sim 60^\circ\text{C}$ Light On : $+10^\circ\text{C} \sim 60^\circ\text{C}$ w/o Humidity Control		
	Accuracy	$\pm 0.3^\circ\text{C}$ at 20.0°C 60% RH (Light Off)		
	Uniformity	$\pm 1.0^\circ\text{C}$ at 20.0°C 60% RH (Light Off)		
Humidity	Range	30 ~ 98% RH (Sensor Range) 30 ~ 85% RH (Control Range)		
	Accuracy	$\pm 3.0\%$ RH at 20.0°C 60% RH		
	Uniformity	$\pm 6.0\%$ RH at 20.0°C 60% RH		
Illumination	Range / Steps	6 Step	7 Step	8 Step
	Lamp Configuration	2 x 150W HQJ 4 x 55W FPL	3 x 150W HQJ 4 x 55W FPL	4 x 150W HQJ 8 x 36W FPL
CO ₂ Conc.	Range Accuracy	ambient ~ 5,000 ppm (ambient ~ 20%) ± 50 ppm		
Controller		Programmable PID Control 11 Segment 999 Cycle Repeat		
Sensors		Class A Pt-100 Ω Sensor / Electronic Humidity Sensor / Lux Meter / NDIR Diffusion CO ₂ Sensor		
No. of Shelves / Maximum No.		3 / 20	6 / 20	8 / 20
Heater Rating		4.0 kW	6.0 kW	8.0 kW
Refrigeration System		CFC Free Air Cooled Compressor		
Electric Requirement		220 VAC 50/60Hz 1P		
Power Rating		25 Amp	36 Amp	53 Amp
Plug Configuration		30 AMP	50 AMP	60 AMP ELB Mains

Growth CHAMBER

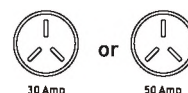
JSPC-Series 3-SIDE ILLUMINATION Wide Range




Specifications

Heating	Forced Air Convection
Cooling	CFC Free Air Cooled Compressor
Humidifier	Water Boiling Humidifier
Temp. Range	+0 °C ~ 60 °C (Light Off JSPC-300C) +10 °C ~ 60 °C (Light On JSPC-300C)
Accuracy	± 0.3 °C at 20.0°C 60% RH
Uniformity	± 1.0 °C at 20.0°C 60% RH
Temp. Sensor	Class A Pt-100 Ω Sensor
Humidity Range	30 ~ 98% RH (Sensor Range) 30 ~ 85% RH (Control Range)
Accuracy	± 3.0 % RH at 20.0°C, 60% RH
Humidity Sensor	Electronic Sensor
Illumination	0 ~ 30,000 Lux by 8-Step Combination
Light Sensor	Lux Meter 1 Lux resolution
CO₂ Range	ambient to 5,000 ppm (~ 20 %)
CO₂ Sensor	Dual Wavelength NDIR Diffusion
Controller	Programmable PID Control 11 Segment 999 Cycle Repeat
Safety	Over-Temperature Cut-Off Over Current Cut-Off Low Water Level Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Tempered Safety Inner Glass Door Double Layer Vacuum Side Wall on Light Bank Including PVC Coated Wire Shelf
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



	Temp. +0 °C ~ 60 °C
	Humidity 30 ~ 85% RH
	Lighting 0 ~ 30,000 Lux
	CO ₂ Conc. amb. ~5000 ppm (%)
	Program Controller
	Timer On / Off 
	Photoperiodic Control 



Performance

- › Forced air circulation of controlled temperature and humidity to achieve excellent thermal uniformity
- › Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- › Temperature control within $\pm 0.1^\circ\text{C}$ resolution
- › Humidity control within $\pm 1.0\%$ RH resolution
- › Lighting control from 0 ~ 30,000 Lux by 8-Step light intensity for photoperiodic Day-Night simulation
- › Lamp-on-Delay System provides gradual increase of light to eliminate sudden light intensity change
- › CO₂ concentration control within ± 1 ppm (1%) resolution

- › 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- › 부드러운 공기 순환식 설계로 균일한 온도 분포
- › $\pm 0.1^\circ\text{C}$ 해상도의 온도제어능력
- › $\pm 1.0\%$ RH 해상도의 상대습도 제어능력
- › 0 ~ 40,000 Lux 의 조도를 8 단계로 제어하는 일광조절기능
각 단계별 램프는 한 개씩 순차적으로 점등되어 급격한 조도의 변화에 의한 식물체의 스트레스를 방지
- › ± 1 ppm (1%) 해상도의 CO₂ 농도 제어능력

Options

Art No.	Descriptions
OHC-100	CO ₂ Control - 5,000 ppm with NDIR CO ₂ Sensor supplied without CO ₂ gas cylinder
OHC-101	2 Stage CO ₂ Gas Regulator
OHC-102	Flow Meter
OHC-103	Metering Valve

Accessories

Art No.	Descriptions
PVC Coated Wire Shelf	
PHS-C13	for JSPC-200,420C W570 x D580 mm
PHS-C05	for JSPC-300C W470 x D480 mm
PHS-C15	for JSPC-960C W570 x D545 mm

Ordering Information

	JSPC-200C	JSPC-300C	JSPC-420C	JSPC-960C
Chamber Volume (Capacity)	200L	300L	432L	864L
Dimensions Inner	600 x 600 x 600	500 x 500 x 1200	600 x 600 x 1200	1200 x 600 x 1200
W x D x H mm Outer	790 x 935 x 1385	690 x 835 x 1985	790 x 935 x 1985	1400 x 920 x 2000
Temperature Range	Light Off : $+0^\circ\text{C} \sim 60^\circ\text{C}$ Light On : $+10^\circ\text{C} \sim 60^\circ\text{C}$ w/o Humidity Control			
Accuracy	$\pm 0.3^\circ\text{C}$ at 20.0°C 60% RH (Light Off)			
Uniformity	$\pm 1.0^\circ\text{C}$ at 20.0°C 60% RH (Light Off)			
Humidity Range	30 - 98% RH (Sensor Range) 30 - 85% RH (Control Range)			
Accuracy	$\pm 3.0\%$ RH at 20.0°C 60% RH			
Uniformity	$\pm 6.0\%$ RH at 20.0°C 60% RH			
Illumination Range / Steps	0 - 30,000 Lux by 8-Step Combination			
Lamp Configuration	10 x 36W FPL	14 x 36W FPL	14 x 36W FPL	20 x 36W FPL
CO ₂ Conc. Range	ambient - 5,000 ppm (ambient ~ 20%)			
Accuracy	± 50 ppm			
Controller	Programmable PID Control 11 Segment 999 Cycle Repeat			
Sensors	Class A Pt-100 Ω Sensor / Electronic Humidity Sensor / Lux Meter / NDIR Diffusion CO ₂ Sensor			
No. of Shelves / Maximum No.	2 / 18	3 / 35	3 / 35	3 / 35
Heater Rating	3.0 kW	3.1 kW	3.5 kW	6.0 kW
Refrigeration System	CFC Free Air Cooled Compressor			
Power Rating	20 Amp	21 Amp	25 Amp	43 Amp
Plug Configuration	30 AMP	30 Amp	30 Amp	50 Amp

Growth CHAMBER

JSCC-SERIES TISSUE CULTURE CHAMBER Day-Night Simulation



Tissue Culture Chamber

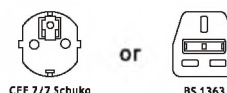
JSCC-Series Plant Tissue Culture Chamber controls temperature and light for photoperiodic day-night simulation to provide controlled climatic condition for crop plants or photosynthetic organisms. Culture conditions such as temperature and light ON/OFF are programmable in 5 pattern memory, up to 80 segments for each pattern, light ON/OFF, temperature range from +0°C to 70°C

-  Temp. +0 °C ~ 70 °C
-  Program Controller
5 Patterns 80 Segments
-  Lighting 0 - 7,000 Lux
-  Photoperiodic Control 
-  [OPTION] RS-232C Serial Computer Interface

Specifications

Heating	Forced Air Convection
Cooling	CFC Free Air Cooled Compressor
Temp. Range	0 °C - 70 °C
Accuracy	± 0.2 °C at 20.0°C (JSCC-150CP)
Uniformity	± 0.5 °C at 20.0°C (JSCC-150CP)
Control	Programmable PID Control 5 Pattern 80 Segments 999 Repeatable
Lighting	ON / OFF Program
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door : Tempered Safety Including PVC Coated Wire Shelf Built-in Caster for easy moving
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



Control Accuracy

- Programmable 16-bit Microprocessor Digital PID control with ±0.1°C resolution
- 5 Patterns memory 80 Segments 999 times repeatable
- Constant Temp. Mode / Program Mode
- Pattern link and Segment skip function
- Automatic STOP timer Max. 99min 59sec / 99hr 59min
- Programmable photoperiodic light control
- Temperature calibration and auto-tuning function
- Class A Pt-100 Ω sensor
- 해상도 ±0.1 °C 정밀한 16-bit 프로그램 PID 컨트롤러
- 5패턴 저장 메모리 80세그먼트, 999회 또는무한 반복운전
- 정치운전 또는 프로그램운전 기능
- 작동 중인 패턴 종료 후 다른 패턴으로 링크하여 연속작동
- 현재 작동 중인 세그먼트 건너 뛰기 기능
- 타이머 내장 99분59초 / 99시간59분
- 일광조절이 가능한 조도 ON/OFF 프로그램기능
- 온도보정, 오토튜닝 기능 내장
- Class A Pt-100 Ω 온도 센서

Performance

- ▶ Durable epoxy powder coated metallic casing
- ▶ Corrosion resistant Stainless Steel 304 chamber
- ▶ Durable Stainless Steel 304 Sheath Heater and copper-aluminum finned evaporator
- ▶ Forced circulation for excellent thermal uniformity
- ▶ Separate heating and cooling compartment prevents contamination and maintenance free
- ▶ Cooling system with hermetically sealed compressor
- ▶ 내구성이 뛰어난 에폭시 분체 도장 본체
- ▶ 내부식성이 뛰어난 Stainless Steel 304 재질의 챔버
- ▶ 내구성과 내부식성이 뛰어난 Stainless Steel 304 재질의 히터와 냉각 효율이 뛰어난 냉각기
- ▶ 부드러운 공기 순환식 설계로 균일한 온도 분포
- ▶ 가열챔버가 후면에 위치하여 액체 흘림으로인한 고장이적음
- ▶ 내구성이 강한 냉각 시스템

Convenience

- ▶ Outer door with adhesive magnetic packing
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Stainless Steel 304 Chamber with seamless round cornered edge allows easy cleaning and prevent leakage
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport

- ▶ 자석 접착방식의 외부 도어 패킹
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 기밀성이 뛰어남
- ▶ 챔버의 코너는 이음새 없이 라운드 처리 되어 있어 세척이 간편하고 오염 방지
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 제상 간격 및 시간을 조절할 수 있는 자동 제상 시스템
- ▶ 바퀴를 장착하여 설치 및 이동이 편리함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ AUDIBLE VISUAL ALARMS
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electric Leakage Breaker

Accessories

Art No.	Descriptions
	Perforated Shelf, Stainless Steel 304
PHS-A06	for JSCC-150, 250CP W470 x D480 mm
PHS-A09	for JSBI-460CP W570 x D580 mm
	PVC Coated Wire Shelf
PHS-C05	for JSCC-150, 250CP W470 x D480 mm
PHS-C13	for JSBI-460CP W570 x D580 mm
PHS-A99	Shelf Support, Set of 4

Ordering Information

	JSCC-150CP	JSCC-250CP	JSCC-460CP
Chamber Volume (Capacity)	150L	250L	432L
Dimensions Inner	500 x 500 x 600	500 x 500 x 1000	600 x 600 x 1200
W x D x H mm Outer	680 x 830 x 1430	680 x 830 x 1830	780 x 930 x 2030
Temperature Range	+0°C ~ 70 °C		
Accuracy at 20.0°C	± 0.2 °C		
Uniformity at 20.0°C	± 0.5 °C		
Illumination FL Lamps	4 x 20W FL	4 x 30W FL	4 x 36W FL
Max. Intensity	6,500 LUX	7,000 Lux	7,000 Lux
Heater Rating	900 Watt	1.0 kW	1.5 kW
Refrigeration System	CFC Free Air Cooled Compressor		
Number of shelves / Maximum No.	2 / 16	3 / 16	3 / 16
Power Rating	8.0 Amp	8.6 Amp	11.5 Amp
Plug Configuration	CEE 7/7 Schuko		

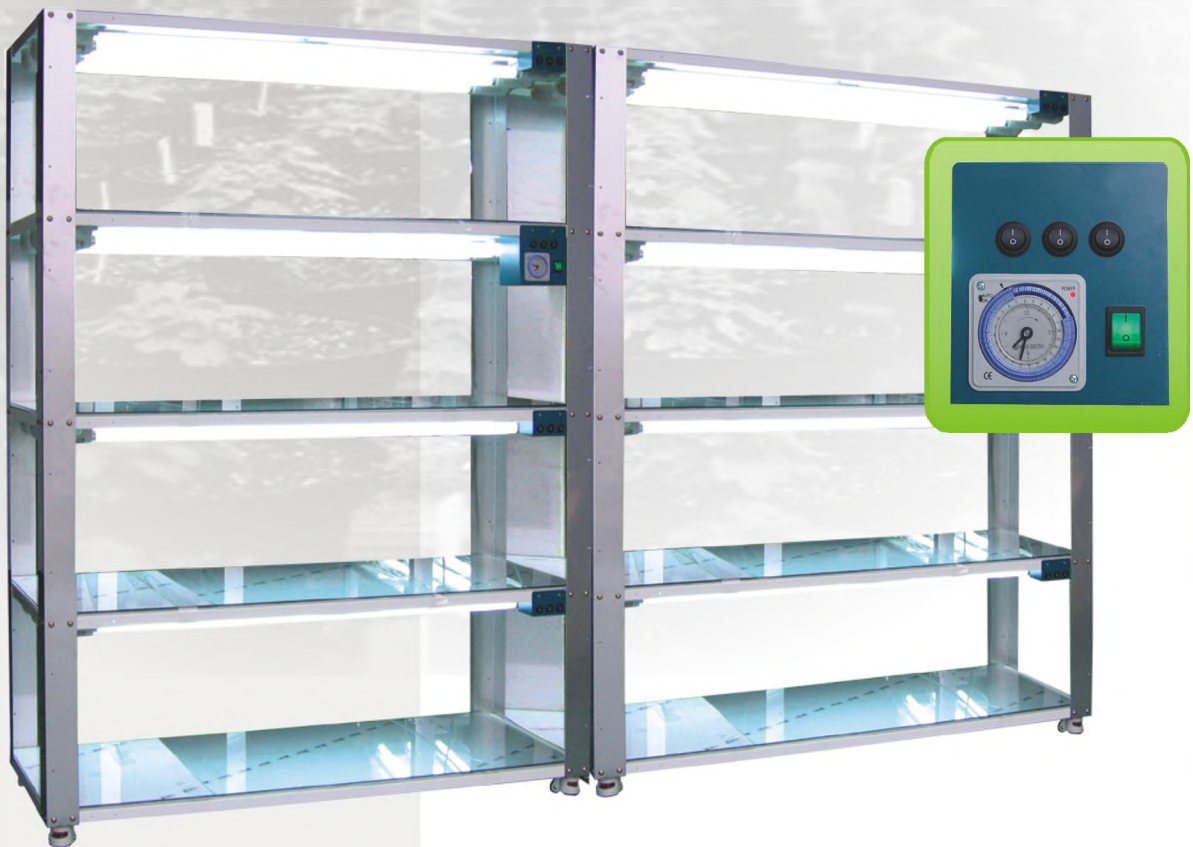
Culture

RACK SYSTEM

JSCR-1200
Plant Culture Rack
Lighting Shelf

Culture Rack

JSCR-Series Culture Rack is a shelf rack system for tissue culture in a climatic controlled room or tissue culture room and provides photoperiodic light control system for day-night simulation.



Lighting 0 - 4,500 Lux



Photoperiodic Control





Specifications

Control	24-Hour timer for day-night simulation of each shelf
Illumination	Fluorescent Lamps
Material	Durable Steel with Epoxy Powder Coating Option : Stainless Steel 304 Option : Lux Meter Built-in casters for easy transport
Electric	220 ± 10% VAC 50/60Hz

Plug Type	 or 
	CEE 7/7 Schuko BS 1363

Ordering Information

		JSCR-1200	JSCR-CUSTOM
No. of Shelves		Four (4)	Custom Design
Dimensions	Shelf Surface	1400 x 600	
W x D x H mm	Outer	1500 x 610 x 2080	
Control	Switching	ON/OFF toggle switch for each shelf On/OFF switch for each FL Lamp	
	Program	24-Hour timer by 10 min. interval	
Illumination	FL Lamps	40 Watt FL Lamp x 3 ea on each shelf	
	Max. Intensity	4,500 Lux	
Material	Frame	Steel /w epoxy powder coating	
	Shelf	Steel /w epoxy powder coating Tempered safety glass plate	

Safety

CABINET

BIOHAZARD LAMINAR FLOW Clean Bench

Biological Safety Cabinet Class II Type A2

Cabinet enclosure designed Class II Type A2 provides personnel, product and environmental protection from hazardous particles such as bacteria, viruses and genetically manipulated materials such as nucleic acids that require Biosafety Level 1, 2 or 3 containments.

Various applications in medical, biomedical, biotechnology, pharmaceutical, cell culture, tissue culture, virology and pathology applications using pathogens, genetic materials, carcinogens, allergens may generates hazardous airborne particles.



Biological Safety
Class II Type A2



HEPA Filter
99.993 % for 0.3 um particles



ULPA Filter
99.999% for 0.12 um particles



9 Step Air Velocity Control
0.3 m/sec - 0.6 m/sec



Cold White
Fluorescent Work Lamp



Germicidal UV Lamp
/w Timer



Vertical Laminar Flow Clean Bench



Vertical Laminar Flow Cabinet enclosure designed to maintain ISO Class 5 (formerly Class 100) clean air. HEPA filtered laminar air down flow over the work area to protect products or samples being handled in the cabinet from dust or biological contaminants such as bacteria, fungus and genetic materials.

Various applications in plant tissue culture, microbial inoculation, media preparation, PCR, electronic or medical parts inspection and assembly where dust particles and contaminants should not be present in the air of working area essentially needed.



Vertical Laminar Flow
ISO Class 5 (Class 100)



HEPA Filter
99.993 % for 0.3 um particles



ULPA Filter
99.999% for 0.12 um particles



9 Step Air Velocity Control
0.3 m/sec - 0.6 m/sec



Cold White
Fluorescent Work Lamp



Germicidal UV Lamp
/w Timer

Safety CABINET

BIOHAZARD LAMINAR FLOW Clean Bench

JSCB-SB Series BSC Cabinet Class II Type A2



MODEL	WIDTH	AIR VELOCITY	PROTECTION
JSCB-900SB	830 mm	0.3 m/sec. ~ 0.6 m/sec.	Personnel Product Environment
JSCB-1200SB	1205 mm		
JSCB-1500SB	1490 mm		
JSCB-1800SB	1790 mm		

Digital LCD Control



Performance

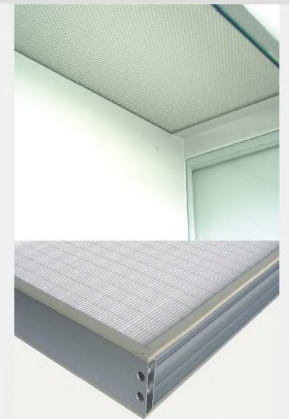
Digital Control

- ▶ Back light LCD display
- ▶ 9 Step Air velocity control
- ▶ UV sterilization timer
- ▶ Total using time counter
- ▶ LCD 디지털 컨트롤러
- ▶ 9 단계 풍속 제어 기능
- ▶ 자외선 살균시간 타이머
- ▶ 총 사용 시간 로그
- ▶ 필터 교체 시기 알람



HEPA Filter

- ▶ Aluminum frame mini-pleated HEPA Filter efficiency 99.993 ~ 99.995% with guard mesh
- ▶ Optional ULPA Filter efficiency 99.999%
- ▶ 알루미늄 프레임 mini-pleated HEPA Filter 99.993% ~ 99.995% 여과효율
- ▶ 필터보호 메쉬 장착
- ▶ 옵션 : ULPA Filter 99.999%



Safety

- ▶ UV Lamp cut-off in case of Fluorescent lamp turned on
- ▶ TOTAL USING TIME LOG
- ▶ HEPA FILTER REPLACEMENT ALARM
- ▶ OVER CURRENT CUT-OFF : Fuse
- ▶ 멸균램프 소등장치
- ▶ 형광등 켜면 멸균등이 자동으로 소등되어 유해 자외선으로부터 사용자 보호
- ▶ 총사용시간적산기록
- ▶ HEPA 필터 교체시기 알람
- ▶ 퓨즈 : 전기누설 시 주전원 차단

Convenience

▶ Working Area

- ▶ Ergonomic arm rest
- ▶ Removable working zone plate for cleaning and decontamination
- ▶ Front service access panel for comfortable maintenance
- ▶ Base stand with caster

- ▶ 인체공학적으로 설계된 팔받침
- ▶ 분리 가능한 SUS 304 작업 바닥판
- ▶ 유지보수가 편리한 서비스 판넬
- ▶ 이동식 캐비닛 스탠드



▶ FL and UV Lamp

- ▶ Cold white fluorescent lamp
- ▶ 253nm Germicidal UV lamp

- ▶ 주광색 형광등 작업 램프
- ▶ 253nm 자외선 멸균램프



▶ Utility

- ▶ Tempered Safety Glass Sash Door
- ▶ Power receptacle
- ▶ Gas and air supply valve

- ▶ 상하 슬라이딩 전면 유리 도어
- ▶ 220V 전원 콘센트
- ▶ 가스 및 에어 공급 밸브



JSCB-SL Series Vertical Laminar Flow Cabinet



MODEL	WIDTH	AIR VELOCITY	PROTECTION
JSCB-900SL	830 mm	0.3 m/sec. ~ 0.6 m/sec.	Product
JSCB-1200SL	1205 mm		
JSCB-1500SL	1490 mm		
JSCB-1800SL	1790 mm		

Biological

SAFETY

JSCB-SB Series Biological Safety Cabinet Class II Type A2



Specifications

Class	Class II Type A2
Air Flow	Vertical Laminar Flow 70% Recirculation 30% Exhaust
Filtration	Aluminum Frame Mini-Pleated HEPA Optional ULPA Filter
Efficiency	HEPA : 99.993% for 0.3um particles ULPA : 99.999% for 0.12um particles
Controller	Microprocessor Control 9 Step Air Velocity Control
Material	Work Platform : Satinless Steel 304 Body : Epoxy Powder Coated Steel
Sterilization	253nm Germicidal UV Lamp with Timer
Safety	Over Current Cut-Off
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



or



CEE 7/7 Schuko

BS 1363

Control Capability

- Integrated Digital microprocessor control system with back-light LCD display
- Fan ON/OFF and 9-step adjustable air velocity
- Fluorescent lamp ON/OFF
- UV lamp ON/OFF
- Adjustable UV sterilization timer
- Elapsed time counter and alarm for HEPA filter replacement
- 통합형 LCD 디스플레이 디지털 콘트롤러
- 블로어 ON/OFF 및 9단계 풍속 제어 기능
- 조명 형광등 ON/OFF
- 자외선 살균 램프 ON/OFF 및 살균시간 타이머
- 총사용시간 로그 및 필터 교체 시기 알람

-  Biological Safety
Class II Type A2
-  HEPA Filter
99.993 % for 0.3 um particles
-  ULPA Filter
99.999% for 0.12 um particles
-  9 Step Air Velocity Control
0.3 m/sec ~ 0.6 m/sec
-  Cold White
Fluorescent Work Lamp
-  Germicidal UV Lamp
/w Timer

Performance

- ▶ Biological Safety Level Class II Type A2 design provides a higher level of personnel, product and cross contamination protection by keep filtrate airborne particles from the air stream
- ▶ Inflow moves from the room air is drawn into the inlet grille at the work access opening and pass through a negative pressure planum to blower creates HEPA filtered down ward laminar air stream over the work area
- ▶ Approximately 70% of the HEPA-filtered air is re-circulated through the cabinet into the work zone, while 30% passes through an exhaust HEPA filter and is discharged into the laboratory room air
- ▶ Aluminum Frame Mini-pleated HEPA filters with nominal filtration efficiency of 99.993% - 99.995% for airborne particles larger than 0.3um
- ▶ Optional ULPA filter had higher filtration efficiency of 99.999% for airborne particles larger than 0.12 um
- ▶ The front door can also be closed fully to keep the cabinet interior clean during non-use period as well as to prevent exposure to UV radiation during sterilization
- ▶ Epoxy powder coated SPCC exterior for durability
- ▶ Silent and vibration free blower fan motor for comfortable working environment
- ▶ Cold white fluorescent lamp working light
- ▶ 253 nm Germicidal UV lamp on working zone
- ▶ Supplied with Base Stand

- ▶ Class II Type A2 설계는 공기 중 존재 하는 Biosafety Level 1, 2, 3 에 해당되는 오염원으로 부터 작업자, 시료, 실험실 공기를 보호하는 목적으로 사용
- ▶ 작업대 입구의 그릴을 통해 흡입된 공기는 블로어를 통해 HEPA 필터에 여과되어 벤치 내부로 vertical lamiar air stream을 형성하고 약 70%의 공기는 재순환되고 약 30%의 공기는 HEPA 필터로 여과되어 실험실 내부로 배출
- ▶ HEPA 필터로 여과된 공기는 캐비닛의 위에서 아래 방향으로 일정한 속도의 기류를 형성하여 실험 샘플의 오염 및 교차오염 실험실 내부 공기의 오염을 방지
- ▶ 알루미늄 프레임 Mini-pleated HEPA Filter 는 0.3um 크기 이상의 입자를 99.993% ~ 99.995% 여과
- ▶ 옵션 : ULPA Filter 는 0.12um 크기 이상의 입자를 99.9999% 여과
- ▶ 전면 유리도어는 사용 전후 완전히 밀폐하여 멸균시 자외선이 외부로 조사 되지 않도록 설계
- ▶ 내구성이 뛰어난 에폭시 분체도장 분체
- ▶ 소음과 진동이 작아 쾌적한 작업환경 제공
- ▶ 주광색 형광등 작업 램프
- ▶ 253nm UV 멸균램프

Options

Art No.	Descriptions
	ULPA Filter Option (Factory Built-in)
OHF-U01	for JSCB-900SB
OHF-U02	for JSCB-1200SB
OHF-U03	for JSCB-1500SB
OHF-U04	for JSCB-1800SB

Ordering Information

	JSCB-900SB	JSCB-1200SB	JSCB-1500SB	JSCB-1800SB
Working Width mm	830 mm (3 ft)	1205 mm (4 ft)	1490 mm (5 ft)	1790 mm (6 ft)
Dimensions Inner	830 x 526 x 585	1205 x 526 x 585	1490 x 526 x 585	1790 x 526 x 585
W x D x H mm Outer	900 x 792 x 1990	1275 x 792 x 1990	1560 x 792 x 1990	1860 x 792 x 1990
HEPA Filter	0.3um Particle Removal 99.993% ~ 99.995%			
ULPA Filter Option	0.3um Particle Removal 99.999%			
Air Circulation	70% Re-circulation / 30% Exhaust			
Controller Display	Back Light Digital LCD			
Speed Control	9 Step Air Velocity Control from 0.3m/sec. - 0.6m/sec.			
Control	FL Lamp ON/OFF, UV Lamp ON/OFF, UV Timer / Total Using Time / Filter Replace Alarm			
Working Lamp	FL 20 W x 2 ea	FL 30 W x 2 ea	FL 30 W x 2 ea	FL 36 W x 2 ea
Germicidal UV Lamp	UV 20 W x 1 ea	UV 30 W x 1 ea	UV 30 W x 1 ea	UV 40 W x 1 ea
Utility	2 x Power Consent, 1 x Gas Cock, 1 x Air Cock			
Power Rating	0.9 Amp	1.6 Amp	1.6 Amp	1.7 Amp
Power Plug	CEE 7/7 Schuko			

Clean BENCH

JSCB-SL Series Vertical Laminar Flow ISO Class 5



Specifications

Class	ISO Class 5 (Class 100)
Air Flow	Vertical Laminar Flow
Filtration	Aluminum Frame Mini-Pleated HEPA Optional ULPA Filter
Efficiency	HEPA : 99.993% for 0.3um particles ULPA : 99.999% for 0.12um particles
Controller	Microprocessor Control 9 Step Air Velocity Control
Material	Work Platform : Satinless Steel 304 Body : Epoxy Powder Coated Steel
Sterilization	253nm Germicidal UV Lamp with Timer
Safety	Over Current Cut-Off
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



or



Control Capability

- Integrated Digital microprocessor control system with back-light LCD display
- Fan ON/OFF and 9-step adjustable air velocity
- Fluorescent lamp ON/OFF
- UV lamp ON/OFF
- Adjustable UV sterilization timer
- Elapsed time counter and alarm for HEPA filter replacement
- 통합형 LCD 디스플레이 디지털 콘트롤러
- 블로어 ON/OFF 및 9단계 풍속 제어 기능
- 조명 형광등 ON/OFF
- 자외선 살균 램프 ON/OFF 및 살균시간 타이머
- 총사용시간 로그 및 필터 교체 시기 알람



Vertical Laminar Flow
ISO Class 5 (Class 100)



HEPA Filter
99.993 % for 0.3 um particles



ULPA Filter
99.999% for 0.12 um particles



9 Step Air Velocity Control
0.3 m/sec ~ 0.6 m/sec



Cold White
Fluorescent Work Lamp



Germicidal UV Lamp
/w Timer

Performance

- ▶ The contaminated room air intake through pre-filter and blower create HEPA filtered down ward lamiar air stream over the work area which flows towards sash door to protect products or samples in the cabinet being handled from dust or biological contaminants such as bacteria or fungus.
- ▶ Aluminum Frame Mini-pleated HEPA filters with nominal filtration efficiency of 99.993% - 99.995% for airborne particles larger than 0.3um
- ▶ Optional ULPA filter had higher filtration efficiency of 99.999% for airborne particles larger than 0.12 um
- ▶ The front door can also be closed fully to keep the cabinet interior clean during non-use period as well as to prevent exposure to UV radiation during sterilization
- ▶ Epoxy powder coated SPCC exterior for durability
- ▶ Silent and vibration free blower fan motor for comfortable working environment
- ▶ Cold white fluorescent lamp working light
- ▶ 253 nm Germicidal UV lamp on working zone
- ▶ Supplied with Base Stand
- ▶ 프리필터를 통해 흡입된공기는 HEPA 필터에 여과되어 벤치 내부로 vertical lamiar air stream을 형성하여 실험 대상물을 먼지 또는 미생물로 부터의 오염에서 보호하고 전면 도어를 통해 실험실 내부로 배출
- ▶ HEPA 필터로 여과된 공기는 캐비닛의 위에서 아래 방향으로 일정한 속도의 기류를 형성하여 캐비닛 내부에서의 교차오염 방지
- ▶ 알루미늄 프레임 Mini-pleated HEPA Filter 는 0.3um 크기 이상의 입자를 99.993% ~ 99.995% 여과
- ▶ 옵션 : ULPA Filter 는 0.12um 크기 이상의 입자를 99.9999% 여과
- ▶ 전면 유리도어는 사용 전후 완전히 밀폐하여 멸균시 자외선이 외부로 조사 되지 않도록 설계
- ▶ 내구성이 뛰어난 에폭시 분체도장 본체
- ▶ 소음과 진동이 작아 쾌적한 작업환경 제공
- ▶ 주광색 형광등 작업 램프
- ▶ 253nm UV 멸균램프

Options

Art No.	Descriptions
	ULPA Filter Option (Factory Built-in)
OHF-U05	for JSCB-900SL
OHF-U06	for JSCB-1200SL
OHF-U07	for JSCB-1500SL
OHF-U08	for JSCB-1800SL

Ordering Information

	JSCB-900SL	JSCB-1200SL	JSCB-1500SL	JSCB-1800SL
Working Width mm	830 mm (3 ft)	1205 mm (4 ft)	1490 mm (5 ft)	1790 mm (6 ft)
Dimensions Inner	830 x 526 x 585	1205 x 526 x 585	1490 x 526 x 585	1790 x 526 x 585
W x D x H mm Outer	900 x 792 x 1990	1275 x 792 x 1990	1560 x 792 x 1990	1860 x 792 x 1990
HEPA Filter	0.3um Particle Removal 99.993% - 99.995%			
ULPA Filter Option	0.3um Particle Removal 99.999%			
Air Circulation	Vertical Laminar Flow			
Controller Display	Back Light Digital LCD			
Speed Control	9 Step Air Velocity Control from 0.3m/sec. - 0.6m/sec.			
Control	FL Lamp ON/OFF, UV Lamp ON/OFF, UV Timer / Total Using Time / Filter Replace Alarm			
Working Lamp	FL 20 W x 2 ea	FL 30 W x 2 ea	FL 30 W x 2 ea	FL 36 W x 2 ea
Germicidal UV Lamp	UV 20 W x 1 ea	UV 30 W x 1 ea	UV 30 W x 1 ea	UV 40 W x 1 ea
Utility	2 x Power Consent, 1 x Gas Cock, 1 x Air Cock			
Power Rating	0.9 Amp	1.6 Amp	1.6 Amp	1.7 Amp
Power Plug	CEE 7/7 Schuko			

Aspiration

SUCTION PUMP



Bio-Suction Pump

Model JSBS-5000 Bio-Suction is an economical, compact and portable solution for aspirating tissue culture samples, aqueous solutions, buffers, culture media residual suction.

Two stage oil-free piston pump provides a high flow rate and powerful vacuum aspiration. 4000 cc glass autoclaveable collection receiver bottle with over flow protection stopper protects liquid ingested into the pump system which may lead to the valve failing or a diaphragm rupturing. Pump automatically shut down when full and a hydrophobic PTFE inline filter further protects the pump from aerosol ingestion.

Hands free foot pedal switch provides convenient On/ Off operation.

Built-in silencer provides comfortable noise-free operation



Ordering Information

Pumping Capacity	20 liter / min	40 liter / min
Ultimate Vacuum	650 mmHg (-0.08 Mpa ABS)	
Collection Bottle		
Capacity	4000 cc	
Material	Glass Bottle / w Cap	
Utility	Cap with overflow protection cut-off level sensor	
Pump Control	Inlet / Outlet Fitting / w Cap	
Safety	On / Off / Foot Pedal	
Convenience	Φ50 mm Hydrophobic inline PTFE filter protects aerosol ingestion Automatic pump shut off when bottle is full Built-in Silencer Portable carrying handle	
Accessories included	Main body built-in vacuum pump system Collection receiver bottle Φ50 mm inline PTFE filter Foot Pedal Silencer Silicone Tubing	
Dimensions	240 x 370 x 330 mm	250 x 400 x 330 mm
Electrical Requirement	220 VAC 50 / 60 Hz	

Climatic

CHAMBER

TEMPERATURE & HUMIDITY

Environmental Control

JSCH-Series Table Top



JSRH-Series Premium Model



Temperature Range
- 20 °C - 120 °C



Humidity Range
40 % - 95 % RH



Program Controller
LCD Display
10 Patterns 100 Segments



[OPTION] RS-232C or 485
Serial Interface
Multi-Drop up to 31 Instruments



Temperature Range
- 40 °C - 150 °C



Humidity Range
35 % - 98 % RH



Touch Screen
5.6" Color TFT Display
120 Patterns 1200 Segments



RS-232C or 485 Serial Interface
Multi-Drop up to 31 Instruments



Data Storage
SD or MMC Card



Temp. & Humidity
Trend Data Recording

MODEL	CAPACITY	TEMPERATURE	HUMIDITY
JSCH-070CP	70 L	10 °C - 80 °C	60 ~ 90 % RH
JSCH-100CP	100 L		
JSCH-070CPL	70 L	-20 °C - 120 °C	40 ~ 95 % RH
JSCH-100CPL	100 L		

MODEL	CAPACITY	TEMPERATURE	HUMIDITY
JSRH-150CP	150 L	-20 °C - 150 °C	35 - 98 % RH
JSRH-250CP	250 L		
JSRH-500CP	500 L		
JSRH-800CP	800 L		
JSRH-150CPL	150 L	-40 °C - 150 °C	35 - 98 % RH
JSRH-250CPL	250 L		
JSRH-500CPL	500 L		
JSRH-800CPL	800 L		

JSTH-Series Floor Standing



Temperature Range
- 20 °C - 120 °C



Humidity Range
35 % - 98 % RH



Program Controller
LCD Display
10 Patterns 100 Segments



[OPTION] RS-232C or 485
Serial Interface
Multi-Drop up to 31 Instruments

Battery Test Chamber Drug Stability Chamber



Temperature Range
+0 °C - 70 °C



Humidity Range
30 % - 85 % RH



Constant Temperature
Controller



Touch Screen
5.6" Color TFT Display
120 Patterns 1200 Segments



RS-232C or 485 Serial Interface
Multi-Drop up to 31 Instruments



Temp. & Humidity
Trend Data Recording

MODEL	CAPACITY	TEMPERATURE	HUMIDITY
JSTH-150CP	150 L	10 °C - 80 °C	60 - 90 % RH
JSTH-250CP	250 L		
JSTH-500CP	500 L		
JSTH-800CP	800 L		
JSTH-150CPL	150 L	-20 °C - 120 °C	50 - 95 % RH
JSTH-250CPL	250 L		
JSTH-500CPL	500 L		
JSTH-800CPL	800 L		

MODEL	CAPACITY	TEMPERATURE	HUMIDITY
JSBS-150C	150 L	+0 °C - 70 °C	-
JSBS-250C	250 L		
JSBS-420C	420 L		
JSBS-520C	520 L		
JSDS-300C	300 L	+10 °C - 70 °C	30 - 85 % RH
JSDS-420C	420 L		
JSDS-960C	964 L		

Climatic CHAMBER

TEMPERATURE & HUMIDITY Environmental Control

JSC-950 JSRH-Basic Control

JSC-2500 JSRH-Optional Control



5.6" TFT-LCD

- ▶ High Resolution 640 x 480
- ▶ 64 MB internal memory including trend data, set up parameter storage



5.7" TFT-LCD

- ▶ High Resolution 640 x 480
- ▶ SD Memory Card Data in internal memory including trend data, set up parameter saved in SD memory Card



Programming

- ▶ 120 Patterns 1200 Segments up to 999 hour 59 min 59 sec
- ▶ 9 Zone PID Groups



Programming

- ▶ 120 Patterns 1200 Segments up to 999 hour 59 min 59 sec
- ▶ 9 Zone PID Groups



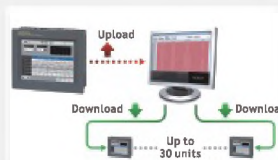
Data Transfer

- ▶ Uploading data, pattern, parameter from memory to PC
- ▶ Data monitoring PC Software



Monitoring

- ▶ Displays real time trend graph
- ▶ Displays recorded trend graph
- ▶ Records data into memory



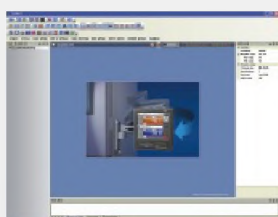
Pattern Editing

- ▶ Saved pattern can be recalled as graphical interface
- ▶ Easy uploading and downloading parameters and patterns



Easy-to-Use

- ▶ User interface allows easy pattern program editing
- ▶ Displays graphical pattern



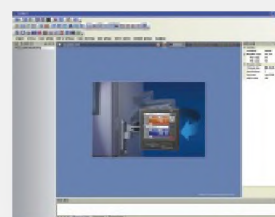
PC Software

- ▶ Control and Monitoring software
- ▶ RS-232C or RS-485 Multi-Drop Communication



Pattern Editing

- ▶ Saved pattern can be recalled as graphical interface
- ▶ Easy uploading and downloading parameters and patterns



PC Software

- ▶ Control and Monitoring software
- ▶ SD Memory Card Data Handling
- ▶ RS-232C or RS-485 Multi-Drop Communication

Convenience

Optional Accessories

▶ Access Port



- ▶ Φ 50 mm with screw cap to connect cables in the chamber
- ▶ Φ 50 mm의 액세스 포트 편리하게 챔버 내부로 각종 케이블을 연결

▶ Chart Recorder



- ▶ Temperature and humidity trend monitoring and data storage
- ▶ 온습도 데이터 기록과 보관을 위한 6채널 차트 레코더

▶ Easy Maintenance



- ▶ Easy to access maintenance system
- ▶ 유지보수를 위한 편리한 점검구

▶ Chamber Light



- ▶ Helps convenient monitoring of chamber during operation (JSRH-models only)
- ▶ 작동 중 챔버의 내부를 손쉽게 관찰 하기 위한 조명등 (JSRH-모델)

▶ Water Tank



- ▶ Built-in water tank for humidifier (JSRH-models only)
- ▶ 가습을 위한 내장형 급수탱크 (JSRH-모델)

▶ Glass Window Heater



- ▶ Removes fog and frost to keep clear view (JSRH-models only)
- ▶ 김서림을 방지하는 열선 투시창 (JSRH-모델)

Climatic CHAMBER

TEMPERATURE & HUMIDITY

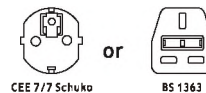
JSCH-Table Top Series







Specifications

Temp. Range	- 20 °C - 120 °C (+10 °C - 80 °C)
Accuracy	± 0.2 °C at 20°C (JSCH-070)
Uniformity	± 0.6 °C at 20°C (JSCH-070)
Humidity Range	40 % - 95 % RH
Accuracy	± 0.3 % at 60 % (JSCH-070)
Uniformity	± 1.0 % at 60 % (JSCH-070)
Control	Graphic LCD Programmable Control 10 Patterns 100 Segments RS-232C or RS-485 Multi-Drop [OPTION]
Sensor	Temperature Class A Pt-100 Ω Sensor Humidity Electronic Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



	Temp. - 20 °C - 120 °C
	Humidity 40 % - 95 % RH
	Program Controller 10 Patterns 100 Segments
	RS-232C or 485 Serial Interface Multi-Drop up to 9 Instruments

Control Accuracy

- ▶ Graphic LCD Programmable PID Controller
 - ▶ 10 Patterns memory 100 Segments 999 times repeatable
 - ▶ RS-232C or RS-485 Multi-Drop serial communication up to 9 instruments and PC software [OPTION]
 - ▶ Maximum 6 zone PID group for different temperature and humidity range for better control accuracy
 - ▶ Temperature calibration and auto-tuning function
 - ▶ Class A Pt-100 Ω sensor and electronic humidity sensor
- ▶ 해상도 ± 0.1 °C, 0.1% RH의 정밀한 PID 컨트롤러
 - ▶ 10패턴 저장 메모리 100세그먼트, 999회 또는무한 반복운전
 - ▶ RS-232C, RS-485 다중 통신 지원으로 9대 까지 PC 제어 지원
 - ▶ 작동되는 온습도 구간별로 6개의 zone PID 제어
 - ▶ 온도보정, 오토튜닝 기능 내장
 - ▶ Class A Pt-100 Ω 온도 센서, 전자습도센서

Performance

- ▶ Ideal for ambient range temperature and humidity test
 - ▶ Optimized control system for ambient conditions allows long term stability and reliability test at constant temperature and humidity condition
- ▶ 좁은 온도와 습도 범위에서 최상의 제어 능력을 발휘하도록 설계되어 일반적인 조건의 테스트에 적합
 - ▶ 최적화된 온습도 제어능력으로 고정된 온도와 습도에서 장기간의 안정성, 신뢰성 테스트에 적합

Convenience

- ▶ Outer door with double gasket and compression door lock
 - ▶ Φ 50mm access port for easy connection of cables
 - ▶ Built-in water tank for humidifier
- ▶ 이중 도어패킹과 밀착력이 뛰어난 원터치 압착 도어 잠금 장치
 - ▶ Φ 50 mm의 액세스 포트는 편리하게 챔버 내부로 케이블 연결
 - ▶ 전면에 가습용 물통을 내장하여 물 공급 및 보충이 편리함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ LOW WATER LEVEL ALARM
- ▶ OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Accessories

Art No.	Descriptions
	Perforated Shelf, Stainless Steel 304
PHS-A21	for JSCH-070 W370 x D330 mm
PHS-A22	for JSCH-100 W470 x D345 mm

Ordering Information

	JSCH-070CP	JSCH-100CP
Control Range	10 °C - 80 °C (without humidity)	60 % - 90 % RH
	JSCH-070CPL	JSCH-100CPL
Control Range	- 20 °C - 120 °C (without humidity)	40 % - 95 % RH
Chamber Volume (Capacity)	70 L	100 L
Temperature Accuracy at 20.0°C	± 0.2 °C	± 0.3 °C
Uniformity at 20.0°C	± 0.6 °C	± 0.8 °C
Humidity Accuracy at 60.0 %	± 0.3 %	± 0.4 %
Uniformity at 60.0 %	± 1.0 %	± 1.2 %
Dimensions Inner	400 x 350 x 500	500 x 365 x 550
W x D x H mm Outer	650 x 885 x 1070	750 x 900 x 1120
No. of Shelves / Maximum No.	2 / 20	3 / 24
Cable Port	Φ 50 mm	
Water Supply	Built-in Water Tank	
Heater Capacity	1.6 kW	2.0 kW
Refrigeration System	CFC Free Air Cooled Compressor	
Power Rating	10.8 Amp	12.7 Amp
Power Plug	CEE 7/7 Schuko	CEE 7/7 Schuko

Climatic CHAMBER

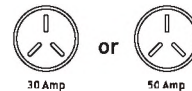
TEMPERATURE & HUMIDITY JSRH-Series Premium



Specifications

Temp. Range	- 40 °C (- 20 °C) - 150 °C
Accuracy	± 0.3 °C at 20°C (JSRH-250)
Uniformity	± 0.7 °C at 20°C (JSRH-250)
Humidity Range	35 % - 98 % RH
Accuracy	± 0.4 % at 60 % (JSRH-250)
Uniformity	± 1.5 % at 60 % (JSRH-250)
Control	5.7" Touch Screen TFT-LCD Programmable Control 120 Patterns 1200 Segments RS-232C or RS-485 Multi-Drop SD Memory Card Trend Data Recording
Sensor	Temperature Class A Pt-100 Ω Sensor Humidity Electronic Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304
Electric	JSRH-150, JSRH-250 220 ± 10% VAC 50/60Hz 1-Phase JSRH-500, JSRH-800 220 ± 10% VAC 50/60Hz 1-Phase or 380 ± 10% VAC 50/60Hz 3-Phase 4-Wire

Plug config.



	Temp. - 40 °C - 150 °C
	Humidity 35 % - 98 % RH
	Program Controller 120 Patterns 1200 Segments
	Touch Screen 5.7" Color TFT Display
	RS-232C or 485 Serial Interface Multi-Drop up to 31 Instruments
	Data Storage SD or MMC Card
	Temp. & Humidity Trend Data Recording

Control Accuracy

- ▶ 5.7" TFT-LCD Touch Screen Programmable PID Controller
 - ▶ 120 Patterns memory 1200 Segments 999 times repeatable
 - ▶ RS-232C or RS-485 Multi-Drop serial communication up to 31 instruments and PC software
 - ▶ SD memory card to save parameter, patterns and trend data logging
 - ▶ Maximum 9 zone PID group for different temperature and humidity range for better control accuracy
 - ▶ Temperature calibration and auto-tuning function
 - ▶ Class A Pt-100 Ω sensor and electronic humidity sensor
- ▶ 해상도 ±0.1 °C, 0.1% RH의 정밀한 18-bit PID 컨트롤러
 - ▶ 120패턴 저장 메모리 1200세그먼트, 999회 또는무한 반복운전
 - ▶ RS-232C, RS-485 다중 통신 지원으로 31대 까지 PC 제어 지원
 - ▶ 디지털 레코더 기능. SD 메모리카드에 각종 파라미터, 패턴, 온습도 데이터 저장
 - ▶ 작동되는 온습도 구간별로 9개의 zone PID 제어
 - ▶ 온도보정, 오토튜닝 기능 내장
 - ▶ Class A Pt-100 Ω 온도 센서, 전자습도센서

Performance

- ▶ Wide range of temperature and humidity control
 - ▶ High performance control system allows long term stability and reliability test at different temperature and humidity
- ▶ 광범위한 온도와 습도 제어능력으로 다양한 조건에서 시험을 수행하는데 적합
 - ▶ 고성능 온습도 제어능력으로 다양한 온도와 습도의 변화를 요구하는 장기간의 안정성, 신뢰성 테스트에 적합

Ordering Information

	JSRH-150CP	JSRH-250CP	JSRH-500CP	JSRH-800CP
Control Range	- 20 °C ~ 150 °C (without humidity) 35 % ~ 98 % RH			
	JSRH-150CPL	JSRH-250CPL	JSRH-500CPL	JSRH-800CPL
Control Range	- 40 °C ~ 150 °C (without humidity) 35 % ~ 98 % RH			
Chamber Volume (Capacity)	150 L	252 L	448 L	800 L
Temperature Accuracy at 20.0°C	± 0.2 °C	± 0.3 °C	± 0.3 °C	± 0.4 °C
Uniformity at 20.0°C	± 0.7 °C	± 0.7 °C	± 1.0 °C	± 1.2 °C
Humidity Accuracy at 60.0 %	± 0.3 %	± 0.4 %	± 0.4 %	± 0.8 %
Uniformity at 60.0 %	± 1.0 %	± 1.5 %	± 1.8 %	± 2.5 %
Dimensions Inner	500 x 500 x 600	600 x 600 x 700	800 x 700 x 800	1000 x 800 x 1000
W x D x H mm Outer	1030 x 905 x 1505	1130 x 1005 x 1655	1380 x 1135 x 1805	1530 x 1235 x 2035
No. of Shelves / Maximum No.	2 / 20	3 / 24	3 / 24	4 / 24
Cable Port	Φ 50 mm			
Water Tank	Built-in Water Tank			
Heater Capacity	4.5 kW	4.8 kW	5.5 kW	6.0 (7.0) kW
Refrigeration System	CFC Free Air Cooled Compressor			
Power Rating	25.0 (31.7) Amp	26.4 (33.1) Amp	30.0 (37.5) Amp	36.8 (40.1) Amp
Power Plug	30 AMP	30 AMP	50 AMP	50 AMP

Specifications in () for CPL series

Convenience

- ▶ Outer door with double gasket and compression door lock
 - ▶ Φ 50mm access port for easy connection of cables
 - ▶ Triple layered sight glass window with heater
 - ▶ Chamber light helps convenient monitoring of chamber during operation
 - ▶ Built-in water tank for humidifier
- ▶ 이중 도어패킹과 밀착력이 뛰어난 원터치 압착 도어 잠금 장치
 - ▶ Φ 50 mm의 액세스 포트는 편리하게 챔버 내부로 케이블 연결
 - ▶ 김서림을 방지하는 삼중 유리 열선 투시창
 - ▶ 작동 중 챔버의 내부를 손쉽게 관찰 하기 위한 조명등
 - ▶ 전면에 가습용 물통을 내장하여 물 공급 및 보충이 편리함

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ LOW WATER LEVEL ALARM
- ▶ OVER CURRENT CUT-OFF : Electrical Leakage Breaker





Accessories

Art No.	Descriptions
OEC-006	JSC-2500 Touch Screen Controller Option
OER-010	6-Channel Chart Recorder
	Perforated Shelf, Stainless Steel 304
PHS-A06	for JSRH-150 W470 x D480 mm
PHS-A09	for JSRH-250 W570 x D580 mm
PHS-A19	for JSRH-500 W770 x D680 mm
PHS-A16	for JSRH-800 W970 x D780 mm

Climatic CHAMBER

TEMPERATURE & HUMIDITY JSTH-Series

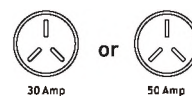


-  Temp. - 20 °C - 120 °C
-  Humidity 50 % - 95 % RH
-  Program Controller
10 Patterns 100 Segments
-  RS-232C or 485 Serial Interface
Multi-Drop up to 9 Instruments

Specifications

- Temp. Range** - 20 °C - 120 °C (+10 °C - 80 °C)
- Accuracy** ± 0.2 °C at 20°C (JSTH-150)
- Uniformity** ± 0.7 °C at 20°C (JSTH-150)
- Humidity Range** 50 % - 95 % RH
- Accuracy** ± 0.3 % at 60 % (JSTH-150)
- Uniformity** ± 1.0 % at 60 % (JSTH-150)
- Control** Graphic LCD Programmable Control
10 Patterns 100 Segments
RS-232C or RS-485 Multi-Drop [OPTION]
- Sensor** Temperature Class A Pt-100 Ω Sensor
Humidity Electronic Sensor
- Safety** Over-Temperature Cut-Off
Over Current Cut-Off
- Material** Body : Epoxy Powder Coated Steel
Chamber : Stainless Steel 304
- Electric** JSTH-150, JSTH-250
220 ± 10% VAC 50/60Hz 1-Phase
JSTH-500, JSTH-800
220 ± 10% VAC 50/60Hz 1-Phase
or 380 ± 10% VAC 50/60Hz 3-Phase 4-Wire

Plug config.



Control Accuracy

- ▶ Graphic LCD Programmable PID Controller
- ▶ 10 Patterns memory 100 Segments 999 times repeatable
- ▶ RS-232C or RS-485 Multi-Drop serial communication up to 9 instruments and PC software [OPTION]
- ▶ Maximum 6 zone PID group for different temperature and humidity range for better control accuracy
- ▶ Temperature calibration and auto-tuning function
- ▶ Class A Pt-100 Ω sensor and electronic humidity sensor

- ▶ 해상도 ± 0.1 °C, 0.1% RH의 정밀한 PID 콘트롤러
- ▶ 10패턴 저장 메모리 100세그먼트, 999회 또는무한 반복운전
- ▶ RS-232C, RS-485 다중 통신 지원으로 9대 까지 PC 제어 지원
- ▶ 작동되는 온습도 구간별로 6개의 zone PID 제어
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서, 전자습도센서

Performance

- ▶ Ideal for ambient range temperature and humidity test
- ▶ Optimized control system for ambient conditions allows long term stability and reliability test at constant temperature and humidity condition
- ▶ 좁은 온도와 습도 범위에서 최상의 제어 능력을 발휘하도록 설계되어 일반적인 조건의 테스트에 적합
- ▶ 최적화된 온습도 제어능력으로 고정된 온도와 습도에서의 장기간의 안정성, 신뢰성 테스트에 적합

Convenience

- ▶ Outer door with double gasket and compression door lock
- ▶ Φ 50mm access port for easy connection of cables
- ▶ Triple layered sight glass window
- ▶ 이중 도어패킹과 밀착력이 뛰어난 원터치 압착 도어 잠금 장치
- ▶ Φ 50 mm의 액세스 포트는 편리하게 챔버 내부로 케이블 연결
- ▶ 삼중 유리 투시창

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ LOW WATER LEVEL ALARM
- ▶ OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Accessories

Art No.	Descriptions
OER-010	6-Channel Chart Recorder
	Perforated Shelf, Stainless Steel 304
PHS-A06	for JSTH-150 W470 x D480 mm
PHS-A09	for JSTH-250 W570 x D580 mm
PHS-A19	for JSTH-500 W770 x D680 mm
PHS-A16	for JSTH-800 W970 x D780 mm

Ordering Information

	JSTH-150CP	JSTH-250CP	JSTH-500CP	JSTH-800CP
Control Range	+ 10 °C ~ 80 °C (without humidity) 60% ~ 90% RH			
	JSTH-150CPL	JSTH-250CPL	JSTH-500CPL	JSTH-800CPL
Control Range	- 20 °C ~ 120 °C (without humidity) 50% ~ 95% RH			
Chamber Volume (Capacity)	150 L	252 L	448 L	800 L
Temperature Accuracy at 20.0°C	± 0.2 °C	± 0.3 °C	± 0.3 °C	± 0.4 °C
Uniformity at 20.0°C	± 0.7 °C	± 0.7 °C	± 1.0 °C	± 1.2 °C
Humidity Accuracy at 60.0 %	± 0.3 %	± 0.4 %	± 0.4 %	± 0.8 %
Uniformity at 60.0 %	± 1.0 %	± 1.5 %	± 1.8 %	± 2.5 %
Dimensions Inner	500 x 500 x 600	600 x 600 x 700	800 x 700 x 800	1000 x 800 x 1000
W x D x H mm Outer	1030 x 905 x 1505	1130 x 1005 x 1655	1380 x 1135 x 1805	1530 x 1235 x 2035
No. of Shelves / Maximum No.	2 / 20	3 / 24	3 / 24	4 / 24
Cable Port	Φ 50 mm			
Water Tank	External Supply			
Heater Capacity	4.5 kW	4.8 kW	5.5 kW	6.0 kW
Refrigeration System	CFC Free Air Cooled Compressor			
Power Rating	24.1 (24.8) Amp	25.7 (26.1) Amp	29.3 (30.5) Amp	32.1 (35.2) Amp
Power Plug	30 AMP	30 AMP	30 AMP	50 AMP

Specifications in () for CPL series

Stability CHAMBER

TEMPERATURE HUMIDITY CONTROL

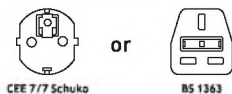


Battery Charge/Discharge Test Chamber 이차전지 충방전 테스트 챔버

JSBS-Series Temperature Chamber designed for Secondary or Rechargeable Battery Charge/Discharge test with cable port, sliding battery rack system.
Capacity : 150 L, 250 L, 420 L, 520 L

Temp. Range	+ 0 °C ~ 70 °C
Accuracy	± 0.2 °C at 20.0°C (JSBS-520C)
Uniformity	± 0.5 °C at 20.0°C (JSBS-520C)
Control	Microprocessor PID Control Auto START / STOP Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Door with Tempered Safety Glass Window Inner Glass Door Cable Port Sliding Battery Rack System Built-in Caster for easy transport
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



Control Accuracy

- ▶ ±0.1 °C and ±1% RH resolution Digital PID Controller
- ▶ Temperature, humidity calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor, Electronic humidity sensor
- ▶ 정밀한 PID 컨트롤러는 온도와 습도를 ±0.1 °C, ±1% RH 제어
- ▶ 온도, 습도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서, 전자식 습도센서



Temperature & Humidity Drug Stability Chamber 의약품 안정성 테스트 챔버

JSDS-Series Temperature & Humidity Chamber designed for Drug Stability Test for pharmaceutical industry meets the requirement of ICH Guideline Q1A (Stability Testing).

Temp. Range	+10 °C ~ 70 °C
Humidity Range	30 % ~ 85 % RH
Control	Microprocessor PID Constant Temp. & Humidity RS-232C or RS-485 [OPTION]
Sensor	Temperature Class A Pt-100 Ω Sensor Humidity Electronic Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off Low Water Level Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304 Inner Glass Door Side Glass Window Including PVC Coated Wire Shelf Built-in Caster for easy transport
Electric	220 ± 10% VAC 50/60Hz 1-Phase

Plug config.



Optional Controller

- ▶ **JSC-950** 5.6" TFT-LCD Touch Screen Temp. and Humidity Controller
 - > 120 Patterns 1200 Segment Program Memory
 - > RS-232C or 485 Serial Port with Monitoring and Control Software
 - > Realtime monitoring, graph rendering and data storage
 - > 64 MB internal memory to collect 60 days temp. and humidity data
- ▶ **JSC-2500** 5.7" TFT-LCD Touch Screen Temp. and Humidity Controller
 - > 120 Patterns 1200 Segment Program Memory
 - > RS-232C or 485 Serial Port with Monitoring and Control Software
 - > Realtime monitoring, graph rendering and data storage
 - > SD memory card to collect temp. and humidity data and parameter

Battery Stability Chamber

- ▶ Ideal for cellular phone or mobile instrument's Secondary or Storage Battery charge/discharge test in a constant temperature environment
- ▶ Double layered tempered safety glass window on door for easy observation of cells under testing
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Φ100 mm cable access port for easy connection of wire
- ▶ Customized sliding battery rack system

- ▶ 모바일 기기의 이차 전지 또는 충전지의 충방전 및 내구성을 향상상태에서 테스트 하는데 적합
- ▶ 이중 강화유리 도어 투시창으로 도어를 열지않고 샘플 관찰
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 챔버의 기밀성이 뛰어나
- ▶ Φ50 mm 액세스 포트는 편리하게 챔버 내부로 케이블 연결
- ▶ 용도에 따른 주문형 슬라이딩 Battery 랙 시스템



Drug Stability Chamber

- ▶ Temperature and humidity control chamber for drug stability test meets ICH Guideline Q1A (Stability Test)
- ▶ Inner glass door with high density silicone packing and air-tight door lock
- ▶ Side glass window and light system allows easy observation of samples under long term testing
- ▶ Removable and height adjustable shelf by 25mm spacing
- ▶ Auto-defrost system, user settable interval and time
- ▶ Built-in casters for easy transport

- ▶ 의약품 안정성 챔버는 ICH Guideline Q1A(안정성테스트)에 적합하도록 설계
- ▶ 내부 유리 도어와 고밀도 실리콘 패킹, 밀착식 도어락은 기밀성이 뛰어나
- ▶ 이중 강화유리 측면 투시창으로 도어를 열지 않고 장시간 테스트가 요구되는 샘플을 확인
- ▶ 25mm 간격으로 높이 조절 가능한 선반
- ▶ 제상 간격 및 시간을 조절할 수 있는 자동 제상 시스템
- ▶ 바퀴를 장착하여 설치 및 이동이 편리함

Accessories

Art No.	Descriptions
OEC-006	JSC-2500 Touch Screen Controller Option
OEC-007	JSC-950 Touch Screen Controller Option
OER-010	6-Channel Chart Recorder
PVC Coated Wire Shelf	
PHS-C05	for JSDS-300C W470 x D480 mm
PHS-C13	for JSDS-420C W570 x D580 mm
PHS-C15	for JSDS-960C W570 x D545 mm

Ordering Information

	JSBS-520C	JSDS-300C	JSDS-420C	JSDS-960C
Chamber Volume (Capacity)	520 L	300 L	432 L	964 L
Dimensions Inner	650 x 850 x 1000	500 x 500 x 1200	600 x 600 x 1200	1200 x 600 x 1200
W x D x H mm Outer	850 x 1155 x 1760	690 x 835 x 1985	790 x 935 x 1985	1390 x 935 x 1985
Temperature Range	+0°C ~ 70°C		+10°C ~ 70°C	
Accuracy	± 0.2 °C at 25.0°C		± 0.3 °C at 20.0°C 60% RH	
Uniformity	± 0.5 °C at 25.0°C		± 1.0 °C at 20.0°C 60% RH	
Humidity Range	-		30 ~ 85% RH	
Accuracy	-		± 3.0 % RH at 20.0°C 60% RH	
Uniformity	-		± 6.0 % RH at 20.0°C 60% RH	
Chamber Observation Light	-	3 x 36W FPL	3 x 36W FPL On/Off Switch	4 x 36W FPL
Controller	Digital PID Controller		Digital PID Control	
Sensors	Class A Pt-100 Ω Sensor		Class A Pt-100 Ω Sensor / Electronic Humidity Sensor	
Construction	Glass window W400 x H500 mm Inner Glass Door		Two side observation window Double layer vacuum sealed Inner Glass Door	
No. of Shelves / Maximum No.	Sliding Rack	3 / 35	3 / 35	6 / 70
Heater Rating	1.5 kW	3.1 kW	3.5 kW	6.0 kW
Refrigeration System			CFC Free Air Cooled Compressor	
Power Rating	20 Amp	21 Amp	25 Amp	43 Amp
Plug Configuration	CEE 7/7 Schuko	30 Amp	30 Amp	50 Amp

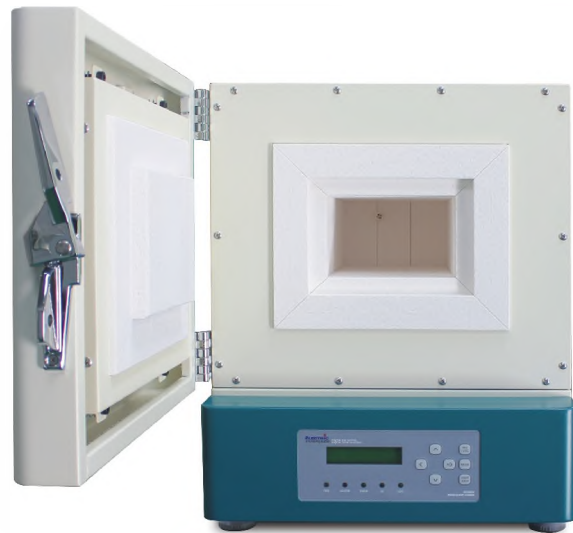
Electric MUFFLE FURNACE

MELTING
ASHING
up to 1200 °C



Electric Muffle Furnace

Ideal for experiments and process needs high temperature up to 1200 °C such as chemical analysis, annealing loss determination, materials testing and ashing processes.



Specifications

Heating	KANTHALA-1
Temp. Range	Max. 1,200 °C
Accuracy	± 3.0 °C at 500°C (JSMF-30T)
Uniformity	± 3.0 °C at 500°C (JSMF-30T)
Control	Programmable PID Control 3 Pattern Memory 9 ramps and 9 dwells segments
Sensor	CA-Type Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Epoxy Powder Coated Steel Chamber : Ceramic Fiber
Electric	220 ± 10% VAC 50/60Hz 1-Phase 380 ± 10% VAC 50/60Hz 3-Phase 4-Wire

Plug config.



CEE 7/7 Schuko

or



BS 1363

or



30 Amp



Max 1200 °C



Program Controller
3 Patterns Memory

Control Accuracy

- ▶ Programmable Digital PID control with $\pm 1.0^\circ\text{C}$ resolution
- ▶ 3 Patterns memory, 9 ramps and 9 dwell segments
max. 999 times repeat for each pattern
- ▶ Constant Temp. Mode / Program Mode
- ▶ Pattern link and Segment skip function
- ▶ Automatic STOP timer Max. 99min 59sec
- ▶ Temperature calibration and auto-tuning function

- ▶ 해상도 $\pm 1^\circ\text{C}$ 정밀한 프로그램 PID 컨트롤러
- ▶ 3 패턴 저장 메모리 온도상승구간 9개, 온도유지구간 9개,
999회 또는무한 반복운전
- ▶ 정치운전 또는 프로그램운전 기능
- ▶ 작동 중인 패턴 종료 후 다른 패턴으로 링크하여 연속작동
- ▶ 현재 작동 중인 세그먼트 건너 뛰기 기능
- ▶ 타이머 내장 99분59초
- ▶ 온도보정, 오토튜닝 기능 내장

Performance

- ▶ Heavy-duty vacuum molded ceramic-fiber insulation designed to support heavy loads and extreme heat
- ▶ Door inner liner is filled with molded ceramic-fiber for long service life
- ▶ Embedded or exposed Kanthal-A1 heating elements offer maximum heat transfer and thermal uniformity long service life, protection from harmful materials and mechanical shock
- ▶ Maximum temperature up to 1200°C

- ▶ 진공성형된 세라믹 챔버는 단열성이 뛰어나고 열과 충격에 강함
- ▶ 도어 내부는 진공성형된 세라믹 라이너로 단열
- ▶ 내장형 (또는노출형) KANTHAL A-1 히터는 가열성능이 뛰어남
- ▶ 최고 온도 1200°C

Convenience

- ▶ Opening size adjustable ventilation damper
- ▶ Optional ceramic shelf

- ▶ 세라믹 재질의 배기구
- ▶ 세라믹 선반 [옵션]

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Accessories

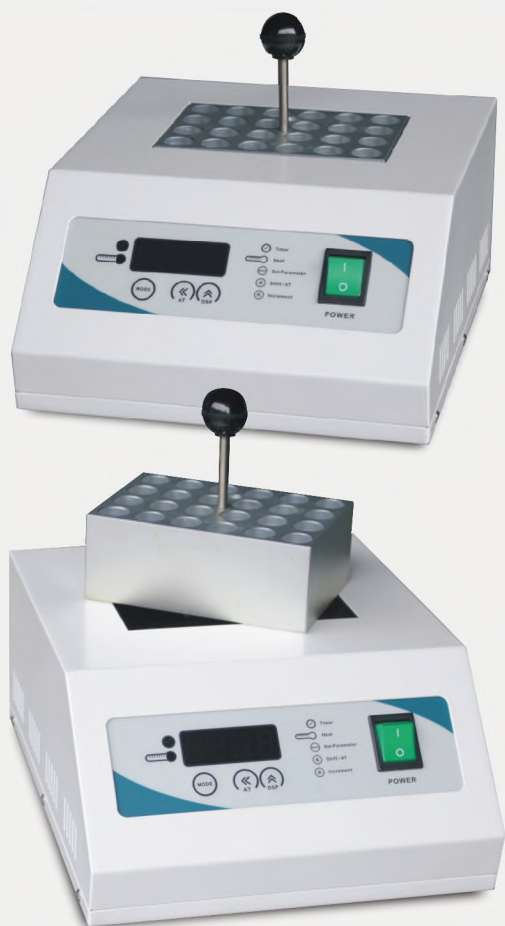
Art No.	Descriptions
	Ceramic Shelf
PHS-E01	for JSMF-30T(H, HT)
PHS-E02	for JSMF-45T(H, HT)
PHS-E03	for JSMF-120T(H, HT)
PHS-E04	for JSMF-140T(H, HT)
PHS-E05	for JSMF-270T(H, HT)

Ordering Information

	JSMF-30T	JSMF-45T	JSMF-120T	JSMF-140T	JSMF-270T
Temperature Maximum / General Operating			1,000 / 800 °C		
	JSMF-30H	JSMF-45H	JSMF-120H	JSMF-140H	JSMF-270H
			1,100 / 1,000 °C		
	JSMF-30HT	JSMF-45HT	JSMF-120HT	JSMF-140HT	JSMF-270HT
			1,200 / 1,100 °C		
Accuracy at 500°C	$\pm 3.0^\circ\text{C}$	$\pm 4.0^\circ\text{C}$	$\pm 5.0^\circ\text{C}$	$\pm 6.0^\circ\text{C}$	$\pm 7.0^\circ\text{C}$
Uniformity at 500°C	$\pm 3.0^\circ\text{C}$	$\pm 4.0^\circ\text{C}$	$\pm 5.0^\circ\text{C}$	$\pm 6.0^\circ\text{C}$	$\pm 7.0^\circ\text{C}$
Heat-up Time to 800°C	30 min	30 min	30 min	30 min	35 min
Chamber Volume (Capacity)	2.9 L	4.5 L	12.0 L	14.0 L	27.0 L
Dimensions Inner	130 x 250 x 90	150 x 300 x 100	200 x 300 x 200	250 x 350 x 160	300 x 300 x 300
W x D x H mm Outer	435 x 480 x 560	465 x 535 x 580	525 x 565 x 690	575 x 605 x 650	625 x 605 x 790
Heater Capacity	1.4 kW	1.6 kW	3.3 kW	4.0 kW	4.6 kW
Power Rating	6.5 Amp	7.4 Amp	15.2 Amp	18.3 Amp	20.2 Amp
Power Plug	CEE 7/7 Schuko	CEE 7/7 Schuko	30 AMP	30 AMP	30 AMP

Heating BLOCK

MODULAR
ALUMINUM BLOCKS
Max. 180 °C



Heating Block

JSBL-Series Dry Block Heater provides precise and constant temperature control source in the laboratory by heating interchangeable modular aluminum block.

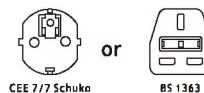
Ideal for microbiology and clinical laboratories for incubation, enzyme assay, inactivation, boiling, wet washing, extraction, sample concentration and many other applications.

The anodized modular aluminum blocks accommodate PCR tubes, eppendorf tubes, microcentrifuge tubes. Heating Block hold 1, 2, 4 interchangeable modular blocks to accommodate a variety of vessels.

Specifications






Heating	Heat transduction through aluminum block
Temp. Range	ambient + 10 °C ~ 180 °C
Accuracy	± 0.5 °C at 60°C
Uniformity	± 3.0 °C at 60°C
Controller	Microprocessor PID Control Wait ON / OFF Timer
Sensor	Class A Pt-100 Ω Sensor
Safety	Over-Temperature Cut-Off Over Current Cut-Off
Material	Body : Steel with Epoxy Powder Coating Bath : Stainless Steel 304 Block : Anodized Aluminum
Electric	220 ± 10% VAC 50/60Hz

Plug Config.



CEE 7/7 Schuko

BS 1363

-  Interchangeable Blocks
-  Max 180 °C
-  Constant Temperature Controller
-  Timer On / Off 

Control Accuracy

- ▶ $\pm 0.1^\circ\text{C}$ Digital PID Controller with automatic START/STOP timer max. 99min 59sec / 99hr 59min / 99 day 23hr
- ▶ Temperature calibration, auto-tuning function
- ▶ Class A Pt-100 Ω sensor

- ▶ 정밀한 PID 컨트롤러는 온도를 $\pm 0.1^\circ\text{C}$ 단위로 제어
- ▶ 예약 / 정지 타이머 내장 99분59 초/99시간59분/99일23시간
- ▶ 온도보정, 오토튜닝 기능 내장
- ▶ Class A Pt-100 Ω 온도 센서

Performance

- ▶ Heater under the bottom transduce heat trough aluminum block and to maintain uniform temperature
- ▶ Class A Pt-100 Ω sensor embedded into the modular block to measure accurate temperature of the aluminum block
- ▶ 챔버 외부 바닥면 에서 알미늄 블럭을 가열하여 효율적으로 열을 전도하여 블럭 전체의 온도가 균일
- ▶ Class A Pt-100 Ω 온도센서가 블럭의 온도를 직접 측정, 제어하여 온도 편차가 적음

Convenience

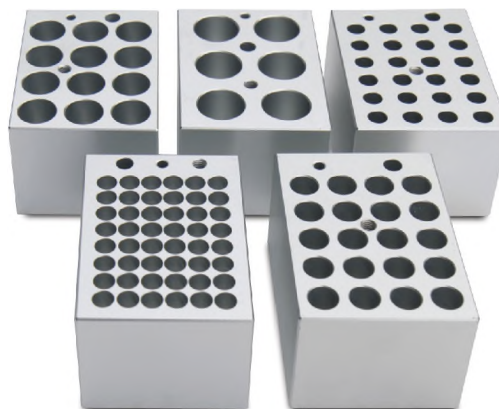
- ▶ Corrosion resistant Stainless Steel 304 (ASTM 304) solid bath interior
- ▶ Wide range of interchangeable modular blocks as accessories for all applications
- ▶ Block extraction tool is supplied with , allowing blocks to be removed easily
- ▶ Aluminum block with additional thermometer hole to measure and compare actual temperature of block
- ▶ 내부식성이 강한 Stainless Steel (SUS304) 베스
- ▶ 다양한 종류의 튜브를 사용할 수 있는 알미늄 블럭
- ▶ 블럭을 손쉽게 교환할 수 있는 손잡이 포함
- ▶ 블럭에 추가의 온도계 구멍이 있어 실제 블럭의 온도를 간편하게 확인할 수 있음

Safety

- ▶ DUAL OVER TEMP. CUT-OFF
- ▶ MAX TEMP CUT-OFF
- ▶ SENSOR DISCONNECTION ALARM
- ▶ OVER CURRENT CUT-OFF : Electrical Leakage Breaker

Accessories

Art No.	Descriptions
	Modular Aluminum Block
PHA-02B	48 x 0.2ml PCR Tubes or Strip
PHA-05B	24 x 0.2ml PCR Tubes or Strip
PHA-15B	20 x 1.5ml Tubes
PHA-16B	12 x Φ 16mm Tubes
PHA-24B	6 x Φ 24mm Tubes



Ordering Information

	JSBL-01T	JSBL-02T	JSBL-04T
Modular Block Capacity	1 Block	2 Blocks	4 Blocks
Dimensions Inner	90 x 65 x 50	130 x 90 x 50	130 x 180 x 50
W x D x H mm Outer	180 x 245 x 110	220 x 270 x 110	220 x 360 x 50
Single Block Dims.		90 x 65 x 50	
Temperature Range	ambient +5 $^\circ\text{C}$ to 180 $^\circ\text{C}$		
Accuracy at 60 $^\circ\text{C}$	$\pm 0.5^\circ\text{C}$		
Uniformity at 60 $^\circ\text{C}$	$\pm 3.0^\circ\text{C}$		
Heat up time to 60 $^\circ\text{C}$	8 min.	10 min.	14 min.
Heater Capacity	150 Watt	200 Watt	400 Watt
Power Rating	0.7 Amp	0.9 Amp	1.8 Amp
Power Plug	CEE 7/7 Schuko		

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37

Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Саранск (8342)22-96-24
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97

Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
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