



SCIENTIFIC  
LABORATORY  
INSTRUMENTS



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## Dual Mode Driver

호모믹서는 일반 균질기로 균질화 하기 어려운  
 마요네이즈, 케첩, 로션과 같이 성질이 서로 다른  
 중점도의 혼합 물질을 13,000 rpm 고속 회전  
 드라이버와 특수 설계된 툴을 이용하여  
 혼합, 분산, 유화, 습윤등의 균질화 작업을 할 수 있습니다.

화장품, 제약, 식품원료 등의 혼합, 분산, 유화등 균질화  
 Homo Mixer / Homo Disper 툴교체 하여 선택 작동  
 정방향 / 역방향 회전 동작으로 유화 / 습윤 작업 동시지원  
 11 Step 으로 구성된 9개의 프로그램을 설정 저장 가능  
 각 스텝 마다 [작동속도]- [동작시간]- [정/역방향] 설정  
 8개 자주사용하는 설정 (Favorite Setting) 저장  
 TFT-LCD 터치스크린과 조그다이얼은 간편한 조작  
 시료교체 및 툴교체가 편리한 높낮이 조절 텔레스코픽 스탠드  
 타이머 : 99분 59초



PHA-04TS  
 텔레스코픽 스탠드

힘들이지 않고  
 스탠드의 높이가  
 조절되어  
 작업전환이  
 편리합니다.



모 델	품 명
JSHM-10M-SET	Digital Homo MixingSystem
세트구성	호모믹서 툴 (PHA-HMTL) 기본 장착 텔레스코픽 스탠드 (PHA-04TS) 포함
PHA-DSTL	교체용 호모디스퍼 툴

Featured Controller

# JIC-CON 5<sup>th</sup> GEN

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Offset
- 10 Step Programmable



## JIC-CON 5<sup>th</sup> GEN Controller Highlights

- 16-bit Digital Microprocessor PID Controller.
- High-fidelity, clear, backlit LCD displays complete settings and operating conditions with high readability.
- UV Coated Water-Proof Polycarbonate Touch Panel.
- Easy-to-use Encoder Type Jog Dial for quick and convenient temperature program and timer setting.
- 0.1 °C control resolution.
- Turn-On and Turn-Off Timer up to 99 hour 59 min.
- Temperature and Timer memory function.
- 10 Step, 999 Cycle Program.
- Temperature and Timer automatically resume after power loss and restoration.
- Pt-100 Ohm Sensor.



### 10 Step Program

Temp. (°C)  
250  
200  
150  
100  
50

Up to 999 Cycles Repeatable

Time  
Max. 99 hr 59 min for each Step

1 Pattern Max. 10 Steps Temperature Program

User can create 10 Steps of varying temperature program and save it in memory for repeated use. Program can be repeated up to a maximum of 999 Cycles.

# Convection Ovens

## JIC-CON 5<sup>th</sup> GEN

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Offset
- 10 Step Programmable



## JSOF-Series Forced Convection Oven

- Max. 250 °C
- 3 Group ZonePID Temperature Control
- 3 Point Calibration / 1Point Offset Calibration
- 10 Step 999 Cycles Programmable
- Delay Timer / Wait Off Timer up to 99 hr 59 min

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

## JIC-CON 5<sup>th</sup> GEN

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Offset

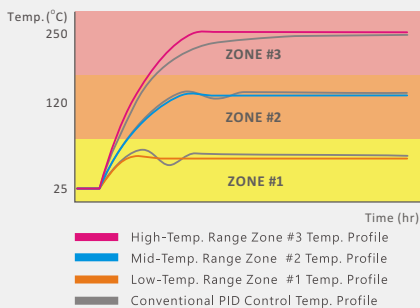


## JSON-Series Gravity Convection Oven

- Max. 250 °C
- 3 Group ZonePID Temperature Control
- 3 Point Calibration / 1Point Offset Calibration
- Delay Timer / Wait Off Timer up to 99 hr 59 min

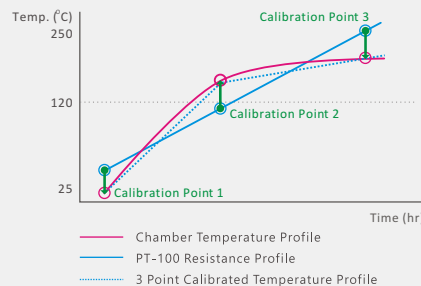
MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSON-050	48 L	amb. + 10 °C ~ 250 °C	+/- 0.3 °C
JSON-100	100 L		+/- 0.3 °C
JSON-150	151 L		+/- 0.5 °C
JSON-250	252 L		+/- 0.5 °C

### 3 Group Zone PID



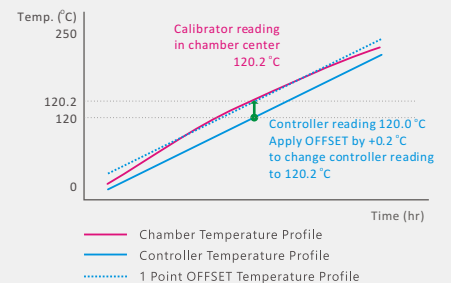
Complete temperature range is divided into three zones (LOW/MIDDLE/HIGH). Each zone has its own individual PID algorithm to provide precise and superior temperature control across the entire range.

### 3 Point Calibration



An excellent calibration tool to calibrate chamber with THREE DIFFERENT TEMPERATURE POINTS, adjusting multiple temperature biases to increase accuracy across the entire temperature range.

### 1 Point Offset



A simple and easy calibration tool that calibrates chamber's temperature at one specific frequently used temperature point.



## JSOF-T Constant Temperature Controller JSOF-P Programmable Controller Upright Convection Oven

Max. 250 °C  
3 Group ZonePID Temperature Control  
3 Point Calibration / 1 Point Offset Calibration  
10 Step 999 Cycles Programmable (Model JSOF-P only)  
Delay Timer / Wait Off Timer up to 99 hr 59 min

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



## JSOF(N)-Economy Series Compact Oven

Max. 250 °C  
Constant Temperature Control  
Delay Timer, Wait Off Timer

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



## JSOF-H Series 350 °C Hi-Temp Oven

Max. 350 °C  
Constant Temperature Control  
Delay Timer, Wait Off Timer

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



## JSVO-Series Vacuum Oven

Max. 250 °C  
 Constant Temperature Control  
 Delay Timer, Wait Off Timer  
 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



## JSCO-Series HEPA Filter Clean Air Oven

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

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



## JSOF-W JSIO-Series Industrial Oven

Max. 250 °C  
 Constant Temperature Control  
 Delay Timer, Wait Off Timer  
 Program Controller 5 PTN 80 SEG [OPTION]

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

Featured Controller

# JIC-CON 5<sup>th</sup> GEN

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Offset
- 10 Step Programmable

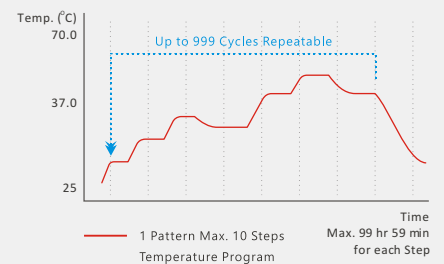
## Controller Highlights

16-bit Digital Microprocessor PID Controller.  
 High-fidelity, clear, backlit LCD displays complete settings and operating conditions with high readability.  
 UV Coated Water-Proof Polycarbonate Touch Panel.  
 Easy-to-use Encoder Type Jog Dial for quick and convenient temperature program and timer setting.

0.1 °C control resolution.  
 Turn-On and Turn-Off Timer up to 99 hour 59 min.  
 Temperature and Timer memory function.  
 10 Step, 999 Cycle Program.  
 Temperature and Timer automatically resume after power loss and restoration.  
 Pt-100 Ohm Sensor.

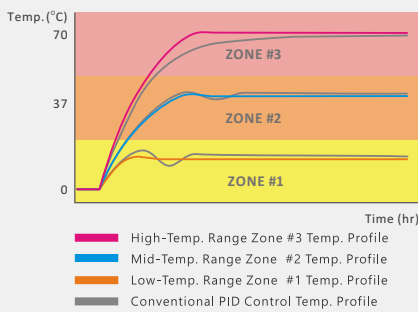


### 10 Step Program



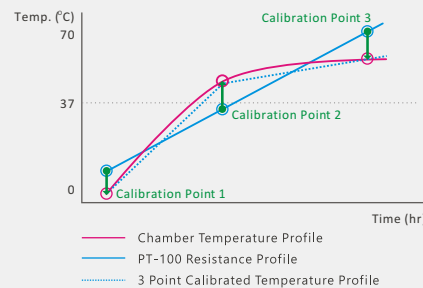
User can create 10 Steps of varying temperature program and save it in memory for repeated use. Program can be repeated up to a maximum of 999 Cycles.

### 3 Group Zone PID



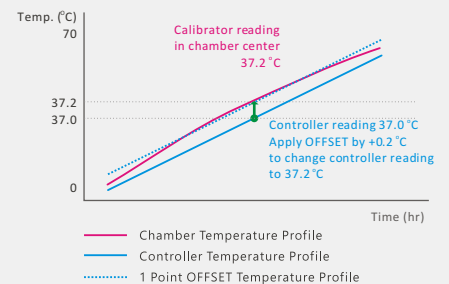
Complete temperature range is divided into three zones (LOW/MIDDLE/HIGH). Each zone has its own individual PID algorithm to provide precise and superior temperature control across the entire range.

### 3 Point Calibration



An excellent calibration tool to calibrate chamber with THREE DIFFERENT TEMPERATURE POINTS, adjusting multiple temperature biases to increase accuracy across the entire temperature range.

### 1 Point Offset



A simple and easy calibration tool that calibrates chamber's temperature at one specific frequently used temperature point.

# Heated / Refrigerated Incubator

## JIC-CON 5<sup>th</sup> GEN

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Offset
- 10 Step Programmable



JSJI-250DT



## JSJI-Series General Heated Incubator

amb. +5 °C ~ 70 °C

- 3 Group ZonePID Temperature Control
- 3 Point Calibration / 1 Point Offset Calibration
- 10 Step 999 Cycle Programmable
- Delay Timer, Wait Off Timer up to 99hr 59 min

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

## JIC-CON 5<sup>th</sup> GEN

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Offset
- 10 Step Programmable
- 10 Step Light On/Off Control

- JSBI-C Constand Temperature Controller
- JSBI-CP Programmable Controller
- JSBI-CPL Programmable Controller with Lamp



JSBI-050 / 100



JSBI-150



JSBI-250



JSBI-420

## Refrigerated BOD Incubator

+0 °C ~ 70 °C

- 3 Group ZonePID Temperature Control
- 3 Point Calibration / 1 Point Offset Calibration
- 10 Step 999 Cycle Programmable
- 10 Step Light On/Off Control
- Delay Timer, Wait Off Timer up to 99hr 59 min

Fixed Temp.	Programmable	Programmable with Lamp	CAPACITY	TEMPERATURE	ACCURACY
JSBI-050C	JSBI-050CP	JSBI-050CPL	50 L	+ 0 °C ~ 70 °C	+/- 0.2 °C
JSBI-100C	JSBI-100CP	JSBI-100CPL	100 L		
JSBI-150C	JSBI-150CP	JSBI-150CPL	150 L		
JSBI-250C	JSBI-250CP	JSBI-250CPL	250 L		
JSBI-420C	JSBI-420CP	JSBI-420CPL	420 L		

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Offset
- 10 Step Programmable
- 10 Step Light On/Off



# Multi-Chamber Incubator

## JSMI-02 Series 125 Liter x 2 Chamber Incubator

- Dual Chamber Independent Temperature Control
- 3 Group Zone PID Temperature Control
- 3 Point Calibration / 1 Point Offset Calibration
- 10 Step 999 Cycle Programmable
- 10 Step Light On/Off Control
- Delay Timer, Wait Off Timer up to 99 hr 59 min

MODEL	CAPACITY	TEMPERATURE	FEATURE
JSMI-02T	2 x 125 L	amb. + 5 °C ~ 70 °C	Constant
JSMI-02C		+ 0 °C ~ 70 °C	Constant
JSMI-02CP			Program
JSMI-02CPL			Light



## JSMI-04 Series 125 Liter x 4 Chamber Incubator

- Four Chamber Independent Temperature Control
- 3 Group Zone PID Temperature Control
- 3 Point Calibration / 1 Point Offset Calibration
- 10 Step 999 Cycle Programmable
- 10 Step Light On/Off Control
- Delay Timer, Wait Off Timer up to 99 hr 59 min

MODEL	CAPACITY	TEMPERATURE	FEATURE
JSMI-04T	4 x 125 L	amb. + 5°C - 70°C	Heated
JSMI-04C		0 °C - 70 °C	Cooled
JSMI-04CP			Program
JSMI-04CPL			Light



## JSBI-250D Series 250 Liter x 2 Chamber Incubator

- Dual Chamber Independent Temperature Control
- 3 Group Zone PID Temperature Control
- 3 Point Calibration / 1 Point Offset Calibration
- 10 Step 999 Cycle Programmable
- 10 Step Light On/Off Control
- Delay Timer, Wait Off Timer up to 99 hr 59 min

MODEL	CAPACITY	TEMPERATURE	FEATURE
JSBI-250DC	2 x 250 L	0 °C - 70 °C	Cooled
JSBI-250DCP			Program
JSBI-250DCPL			Light

# Incubator / Cold Lab Chamber

## JIC-CON 5<sup>th</sup> GEN

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Offset
- 10 Step Programmable
- 10 Step Light On/Off



## JSBI-840C Double Door BOD Incubator

- One Chamber Double Door
- 3 Group Zone PID Temperature Control
- 3 Point Calibration / 1 Point Offset Calibration
- 10 Step 999 Cycle Programmable
- 10 Step Light On/Off Control
- Delay Timer, Wait Off Timer up to 99hr 59 min

MODEL	CAPACITY	TEMPERATURE	CONTROL
JSBI-840C	840 L	0 °C ~ 70 °C	Constant
JSBI-840CP			Program
JSBI-840CPL			Light



## 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



## JSSC-Series Cold Lab Storage Chamber

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

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

Featured Controller

# JIC-CON 5<sup>th</sup> GEN

## Controller Highlights

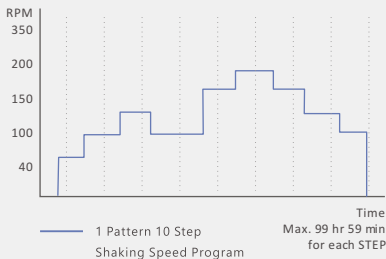
- 16-bit Digital Microprocessor PID Controller.
- High-fidelity, clear, backlit LCD displays complete settings and operating conditions with high readability.
- UV Coated Water-Proof Polycarbonate Touch Panel.
- Easy-to-use Encoder Type Jog Dial for quick and convenient temperature and timesetting.
- 0.1 °C, 1 rpm control resolution.
- Turn-On and Turn-Off Timer up to 99 hour 59 min.
- Temperature, RPM and Timer memory function.
- 10 Step 1 Pattern RPM Program.
- Temperature and Timer automatically resume after power restoration.
- Pt-100 Ohm Sensor.

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Calibration
- 10 Step RPM Program



### RPM Control

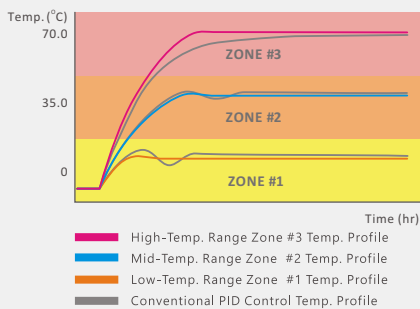
#### 10 Step RPM Program



User can create 10 Steps of varying RPM program and save it in memory for repeated use. Program can be repeated up to a maximum of 999 Cycles.

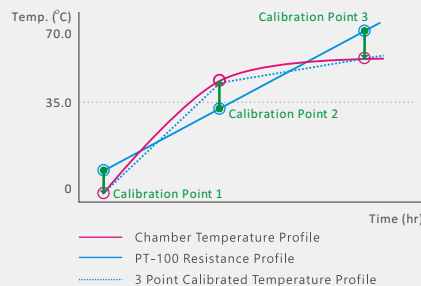
### Temperature Control

#### 3 Group Zone PID



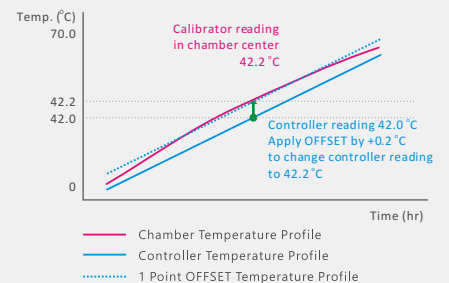
Complete temperature range is divided into three zones (LOW/MIDDLE/HIGH). Each zone has its own individual PID algorithm to provide precise and superior temperature control across the entire range.

#### 3 Point Calibration



An excellent calibration tool to calibrate chamber with THREE DIFFERENT TEMPERATURE POINTS, adjusting multiple temperature biases to increase accuracy across the entire temperature range.

#### 1 Point Offset



A simple and easy calibration tool that calibrates chamber's temperature at one specific frequently used temperature point.

# Tabletop Shaking Incubator



## JSSI-350T Series Programmable Tabletop Shaking Incubator

ambient +5 °C ~ +50 °C  
 Orbital Shaking Speed 10 ~ 300rpm  
 Digital PID Constant Temperature  
 Timer up to 99 hr59 min  
 Programmable Shaking Speed  
 10 Step 3Preset Program PatternMemory

Platform Size W350 x D350 mm  
 Flask Capacity 16 ea x 100 ml  
 9 ea x 500 ml  
 5 ea x 1 L

MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSSI-350T	45 L	amb. + 5°C ~ 50°C	+/- 0.2 °C

### Shaking Platforms

PHF-U350T	Universal Spring Rack
PHF-P350T	Universal Flask Holder Platform
PHF-M35	Silicone Mat

### JIC-CON 5<sup>th</sup> GEN

**3 Group Zone PID**  
**3 Point Calibration**  
**1 Point Offset**  
**10 Step RPM Program**



## JSSI-070C Series Tabletop Shaking Incubator

JSSI-070T ambient +10 °C ~ +70 °C  
 JSSI-070C +10 °C ~ +70 °C

Orbital Shaking Speed 40 ~ 350rpm  
 3 Group ZonePID Temperature Control  
 3 Point Calibration / 1 Point Offset Calibration  
 Timer up to 99 hr59 min  
 10 Step RPM Program

Platform Size W410 x D380 mm  
 Flask Capacity 23 ea x 100 ml  
 9 ea x 500 ml  
 6 ea x 1 L

MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSSI-070T	62 L	amb. + 5°C ~ 70°C	+/- 0.2 °C
JSSI-070C	62 L	+ 10 °C ~ 70 °C	+/- 0.2 °C

### Shaking Platforms

PHF-U40	Universal Spring Rack
PHF-P40	Universal Flask Holder Platform
PHF-M40	Silicone Mat

## JIC-CON 5<sup>th</sup> GEN

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Offset
- 10 Step RPM Program



## JSSI-100 Compact

JSSI-100T : ambient +10 °C ~ +70 °C

JSSI-100C : +10 °C ~ +70 °C

Orbital / Reciprocal Shaking Speed 40 ~ 350rpm

3 Group Zone PID Temperature Control

3 Point Calibration / 1 Point Offset Calibration

Timer up to 99 hr 59 min

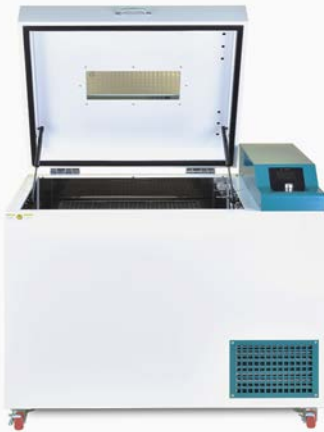
10 Step RPM Program

Platform Size W500x D465 mm

MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSSI-100T	110 L	amb. + 5°C ~ 70°C	+/- 0.2 °C
JSSI-100C	110 L	+ 10°C ~ 70°C	+/- 0.2 °C

## JIC-CON 5<sup>th</sup> GEN

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Offset
- 10 Step RPM Program



## JSSI-300 Floor Standing

JSSI-300T : ambient +10 °C ~ +70 °C

JSSI-300C(L) : +10 °C ~ +70 °C

Orbital / Reciprocal Shaking Speed 40 ~ 350rpm

3 Group Zone PID Temperature Control

3 Point Calibration / 1 Point Offset Calibration

Timer up to 99 hr 59 min

10 Step RPM Program

Platform Size W700x D650 mm

MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSSI-300T	204 L	amb. + 5°C ~ 70°C	+/- 0.2 °C
JSSI-300C	204 L	+ 10°C ~ 70°C	+/- 0.2 °C
JSSI-300CL	204 L	+ 10°C ~ 70°C	+/- 0.2 °C

## JIC-CON 5<sup>th</sup> GEN

- 3 Group Zone PID
- 3 Point Calibration
- 1 Point Offset
- 10 Step RPM Program



## JSSI-200 Front Loading, Stackable

JSSI-200T : ambient +10 °C ~ +70 °C

JSSI-200C(L) : +10 °C ~ +70 °C

Orbital / Reciprocal Shaking Speed 40 ~ 350rpm

3 Group Zone PID Temperature Control

3 Point Calibration / 1 Point Offset Calibration

Timer up to 99 hr 59 min

10 Step RPM Program

Platform Size W500x D465 mm

MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSSI-200T	198 L	amb. + 5°C ~ 70°C	+/- 0.2 °C
JSSI-200C	198 L	+ 10°C ~ 70°C	+/- 0.2 °C
JSSI-200CL	198 L	+ 10°C ~ 70°C	+/- 0.2 °C

# Multi Shaking Incubator



## JSSI-202 Two-Chamber

JSSI-202C : +10°C ~ +70°C

JSSI-202CL : /w Light On/OffControl

Orbital / Reciprocal Shaking Speed 40 ~ 350rpm

3 Group ZonePID Temperature Control

3 Point Calibration / 1Point Offset Calibration

Timer up to 99 hr 59 min

10 Step RPMProgram

Platform Size W700x D650 mm

MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSSI-202C	2 x 324 L	+ 10°C ~ 70°C	+/- 0.5°C
JSSI-202CL	2 x 324 L		+/- 0.5°C

## JSSI-xCML Multi-Stack

+10°C ~ +70°C

Timer On/ Off

Orbital / Reciprocal Shaking Speed 20 ~ 350rpm

JSSI-2CM for Two Shaking Platforms

JSSI-4CM for Four Shaking Platforms

JSSI-2(4) CML for Photoperiodic Illumination Control

Platform Size W700x D650 mm



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSSI-2CM	600 L	+ 10°C ~ 70°C	+/- 0.5°C
JSSI-2CML	600 L		+/- 0.5°C
JSSI-4CM	1080 L		+/- 0.5°C
JSSI-4CML	1080 L		+/- 0.5°C

## JSOS-300 Orbital Shaker



W275 x D345 mm

Timer On / Off

Speed 20 ~ 350 rpm

Orbital Motion

## JSOS-500 Orbital/Reciprocal Shaker



W495 x D495 mm

W700 x D650 mm

Timer On / Off

Speed 20 ~ 350 rpm

Orbital / Reciprocal

Motion

MODEL	DESCRIPTIONS	Platform Size	Flask Capacity	Max. Load	
JSOS-300	Orbital Shaker	W275 x D345 mm	8 ea x 100ml Flask	15 kg	230 VAC 1 ph 50/60 Hz
JSOS-500	Orbital Shaker	W495 x D495 mm	25 ea x 100ml Flask	35 kg	230 VAC 1 ph 50/60 Hz
	Optional Platform	W700 x D650 mm	40 ea x 100ml Flask	35 kg	

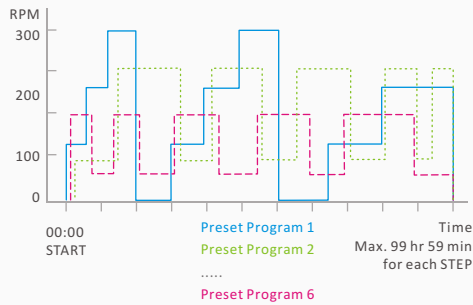
## JSOS-350Q(R)

### 6 Patterns 10 Step Programmable SHAKER

10 ~ 300 rpm

20 mm Stroke Length

350 x 350 mm Platform



### Controller

Advanced MCU processor for precise speed control.  
 6 Preset Patterns 10 Steps for each program with varying rpm.  
 Touch-Sensitive Multi-Functional Capacitive Button compatible to all kinds of latex gloves as well as fingertouch.  
 Easy-to-use Jog Dial for quick and convenient rpm and timer setting. Push to Run and Stop control.  
 High-fidelity clear back light LCD displays complete settings and operating conditions with high readability.  
 Easy to monitor set values, present speed and time.

### Performance

Speed range 10 to 300 rpm  
 20 mm orbital stroke  
 Digital Timer sets up to 99 hr 59 min, increment by 1 min  
 W350 x D350 mm standard shaking platform  
 Powerful driving mechanism with Slow-Start Function  
 Silent BLDC motor provides long shelf life and maintenance free  
 Maximum loading capacity up to 10 kgs



PHF-P35SET  
Universal Platform SET



PHF-P35  
Universal Flask Holder Platform  
[Flask Holder not included]



PHF-U35  
Universal Spring Rack



MODEL	DESCRIPTIONS	Platform Size	Speed Range	Stroke Length	
JSOS-350Q	Orbital Shaker	W350 x D 350 mm	10 ~ 300 rpm	20 mm	220 VAC 1 ph 50/60 Hz
JSOS-350R	Reciprocal Shaker	W350 x D 350 mm	10 ~ 300 rpm	20 mm	220 VAC 1 ph 50/60 Hz
PHF-P35SET	Universal Platform Set <i>includes...</i> PHF-P35 Universal Flask Holder Platform, W370 x D370 mm PHF-M35 Silicone Mat, W350 x D350 mm PHF-S35 Elastic String Band with Stopper x 2 sets				
PHF-P35	Universal Flask Holder Platform, W370 x D370 mm				
PHF-U35	Universal Spring Rack, W350 x D350 mm				

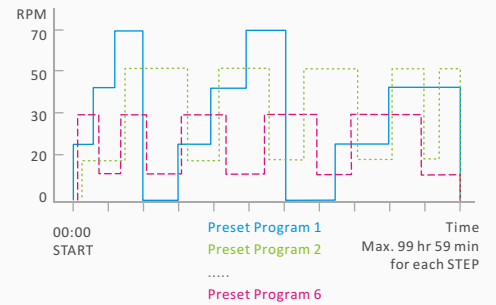
## JSSK-3D

### PROGRAMMABLE 3D ROCKER

10 ~ 70 rpm

9° Tilt Angle Motion

350 x 350 mm Platform



#### Controller

Advanced MCU processor for precise speed control.  
6 Preset Patterns 10 Steps for each program with varying rpm.  
Touch-Sensitive Multi-Functional Capacitive Button compatible to all kinds of latex gloves as well as fingertouch.  
Easy-to-use Jog Dial for quick and convenient rpm and timer setting. Push to Run and Stop control.  
High-fidelity clear back light LCD displays complete settings and operating conditions with high readability.  
Easy to monitor set values, present speed and time.

#### Performance

Speed range 10 to 70 rpm  
9° Tilt Angle 3D motion  
Digital Timer set up to 99hr 59min, increment by 1 min  
W350 x D350mm standard shaking platform  
Powerful driving mechanism with Slow Start Function  
Silent BLDC motor provides long shelf life and maintenance free  
Maximum loading capacity up to 10 kgs

PHF-P53SET  
Universal Platform Set



PHF-U35  
Universal Spring Rack



MODEL	DESCRIPTIONS	Platform Size	Speed Range	Rocking Angle	
JSSK-3D	3D Rocker	W350 x D350 mm	10 - 70 rpm	9° Tilt	220 VAC 1 ph 50/60Hz
	3D Orbital Rocking Motion				
	Digital Fuzzy Control with Capacitive Touch Button and Jog Dial				
	Digital Back Light Graphic LCD Display				
	99 hr 59 min Timer				
	6 Preset Program, 10 Steps for each Program				
PHF-P35SET	Universal Platform Set <i>includes...</i>				
	PHF-P35 Universal Platform, W370 x D370 mm				
	PHF-M35 Silicone Mat, W350 x D350 mm				
	PHF-S35 Elastic String Band with Stopper x 2 sets				
PHF-U35	Universal Spring Rack, W350 x D350 mm				

## JSMS-xxxD(A)

### OVERHEAD STIRRER



#### Digital Fuzzy Control

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



#### Touch Button

Touch-sensitive Multi-Functional Capacitive Button compatible to all kinds 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, backlit LCD displays complete settings and operating conditions with high readability.  
Easy to monitor set values, present stirring speed and timer.



#### Powerful DC Motor

DC Drive 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



	Model	RPM	Torque	Viscosity	
High Speed	JSMS-050D(A)	120 ~ 3000 rpm	85 Ncm	50,000 MPas	Low Viscosity
▼	JSMS-070D(A)	100 ~ 2000 rpm	200 Ncm	70,000 mPas	▲
	JSMS-100D(A)	80 ~ 1200 rpm	300 Ncm	100,000 mPas	
Low Speed	JSMS-150D(A)	50 ~ 800 rpm	450 Ncm	150,000 mPas	High Viscosity

MODEL	DESCRIPTIONS	Speed Range	Max. Torque	Max. Viscosity	
JSMS-050D	Digital Overhead Stirrer	120 ~ 3,000rpm	85 Ncm	50,000 mPas	220 VAC 1 ph 50/60 Hz
JSMS-070D	Digital Overhead Stirrer	100 ~ 2,000rpm	200 Ncm	70,000 mPas	220 VAC 1 ph 50/60 Hz
JSMS-100D	Digital Overhead Stirrer	80 ~ 1,200rpm	300 Ncm	100,000 mPas	220 VAC 1 ph 50/60 Hz
JSMS-150D	Digital Overhead Stirrer	50 ~ 800rpm	450 Ncm	150,000 mPas	220 VAC 1 ph 50/60 Hz
JSMS-050A	Analog Overhead Stirrer	~ 3,000 rpm	85 Ncm	50,000 mPas	220 VAC 1 ph 50/60 Hz
JSMS-070A	Analog Overhead Stirrer	~ 2,000 rpm	200 Ncm	70,000 mPas	220 VAC 1 ph 50/60 Hz
JSMS-100A	Analog Overhead Stirrer	~ 1,200 rpm	300 Ncm	100,000 mPas	220 VAC 1 ph 50/60 Hz
JSMS-150A	Analog Overhead Stirrer	~ 800 rpm	450 Ncm	150,000 mPas	220 VAC 1 ph 50/60 Hz

# Options & Accessories

PV, SVRPM, Time  
Power Indicator



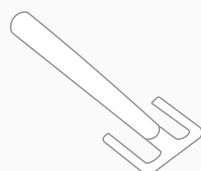
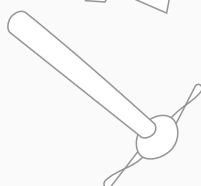
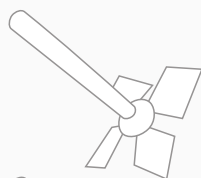
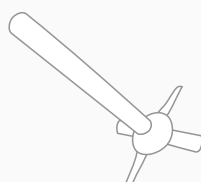
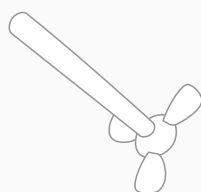
DIGITAL

Capacitive Touch Button



ANALOG

Push Button Jog Dial



## 품 번

PHA-04TS  
PHA-05C

## 품 명

Telescopic Stand, 25 x 37 cm with Silicone Pad  
Clamp, Hold up to 23 mm

## Impellers

PHA-P30850  
PHA-P30860  
PHA-P30880  
PHA-P30810

Propeller, 3 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  50 mm, L500 mm  
Propeller, 3 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  60 mm, L500 mm  
Propeller, 3 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  80 mm, L500 mm  
Propeller, 3 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  100 mm, L500 mm

PHA-P31060  
PHA-P31080  
PHA-P31010

Propeller, 3 Blade, Rod  $\phi$  10 mm, Blade  $\phi$  60 mm, L650 mm  
Propeller, 3 Blade, Rod  $\phi$  10 mm, Blade  $\phi$  80 mm, L650 mm  
Propeller, 3 Blade, Rod  $\phi$  10 mm, Blade  $\phi$  100 mm, L650 mm

PHA-P40870  
PHA-P40890  
PHA-P40810

Propeller, 4 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  70 mm, L500 mm  
Propeller, 4 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  90 mm, L500 mm  
Propeller, 4 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  110 mm, L500 mm

PHA-P41090  
PHA-P41010

Propeller, 4 Blade, Rod  $\phi$  10 mm, Blade  $\phi$  90 mm, L650 mm  
Propeller, 4 Blade, Rod  $\phi$  10 mm, Blade  $\phi$  110 mm, L650 mm

PHA-D40890  
PHA-D40810  
PHA-D41010

Diamond, 4 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  90 mm, L500 mm  
Diamond, 4 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  110 mm, L500 mm  
Diamond, 4 Blade, Rod  $\phi$  10 mm, Blade  $\phi$  110 mm, L650 mm

PHA-C20810  
PHA-C2890F  
PHA-C2812F

Centrifugal, 2 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  100 mm, L500 mm  
Centrifugal, 2 Blade, Rod  $\phi$  10 mm, Blade  $\phi$  90 mm, L500 mm, Teflon Coated  
Centrifugal, 2 Blade, Rod  $\phi$  10 mm, Blade  $\phi$  120 mm, L650 mm, Teflon Coated

PHA-A20870  
PHA-A20890

Anchor, 2 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  70 mm, L500 mm  
Anchor, 2 Blade, Rod  $\phi$  8 mm, Blade  $\phi$  90 mm, L650 mm

PHA-A21090  
PHA-A21014

Anchor, 2 Blade, Rod  $\phi$  10 mm, Blade  $\phi$  90 mm, L650 mm  
Anchor, 2 Blade, Rod  $\phi$  10 mm, Blade  $\phi$  140 mm, L800 mm



## JSHR-270D(A)

### HOMOGENIZER

Max. 27,000 rpm



#### Digital RPM Display

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



#### Universal Motor

High speed and long shelf life  
Universal Motor



#### Aluminum Casting Body

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



#### Dispensing Tools

High quality stainless steel dispersing tool with Teflon bearing  
Dispensing volume : 1 ml to 2500 ml

MODEL	DESCRIPTIONS	Speed Range	Max. Dispensing Volume	
JSHR-270D	Digital Homogenizer	2,000 ~ 27,000 rpm	2.5 Liter H <sub>2</sub> O	220 VAC 1 ph 50/60 Hz
JSHR-270A	Analog Homogenizer	2,000 ~ 27,000 rpm	2.5 Liter H <sub>2</sub> O	220 VAC 1 ph 50/60 Hz
PHA-04S	Telescopic Stand, 25 x 37 cm with Silicone Pad			
PHA-05C	Clamp, Hold up to 23 mm			
PHA-T0680	Dispensing Tool, Rotor $\phi$ 6.1 mm, Stator $\phi$ 8 mm	for 1 ~ 50 ml	liquid volume	
PHA-T0710	Dispensing Tool, Rotor $\phi$ 7.5 mm, Stator $\phi$ 10 mm	for 1 ~ 100 ml	liquid volume	
PHA-T1218	Dispensing Tool, Rotor $\phi$ 12.7 mm, Stator $\phi$ 18 mm	for 10 ~ 1000 ml	liquid volume	
PHA-T1725	Dispensing Tool, Rotor $\phi$ 17.0 mm, Stator $\phi$ 25 mm	for 50 ~ 2500 ml	liquid volume	



PHA-T0680

PHA-T0710

PHA-T1218

PHA-T1725








## JSAT-Series 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 wares such as flask, bottle, pipet, animal cage, plastic ware, broth or agar media for bacterial culture before use or disposal of biohazard wastes such as syringe, cloth, gloves or petri dish after use..




-  Max. 121 °C 0.12 Mpa

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-  Timer On / Off 

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-  Safety Door Lock

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

### Specifications

<b>Temp. Range</b>	Maximum 123 °C
<b>Accuracy</b>	± 0.5 °C at 121°C / < +2.0°C at 121°C
<b>Pressure</b>	Up to 0.12 Mpa
<b>Control</b>	Fully Automatic PID Control Auto START / STOP Timer
<b>Sensor</b>	Pt-100 Ω Sensor
<b>Safety</b>	Over-Temperature Cut-Off Over-Pressure Cut-Off Over Current Cut-Off
<b>Material</b>	Body : Epoxy Powder Coated Steel Chamber : Stainless Steel 304
<b>Electric</b>	220 +/- 10% VAC 50/60Hz 1-Phase

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

### Control

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  
Pt-100 Ω sensor



# Steam Sterilizer

## Performance

- Vertical loading type chamber with 2 EA service basket
- Maximum sterilization temperature and pressure up to 121°C at 0.12 Mpa
- Automatic sterilization cycle starts just by setting sterilization temperature and time
- Chamber, lid and top plate made with Stainless Steel 304 to protect from corrosion by water and steam
- Special plated heating element is resistant to dry-burn, corrosion and guarantees long life in repeated use

## Convenience

- Vertical opening chamber lid with safety door lock for easy access to chamber
- Steam collection bottle removes most of the steam during operation for comfortable laboratory environment
- Equipped with drain valve for cleaning or refilling 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

## 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 activates AUDIO VISUAL ALARM if the temperature exceeds the set temperature by increase +2°C or the maximum temperature of 123°C by +1°C
- 2) Analog System cuts off the heater if the temperature exceeds the set temperature by 10%

### DUAL OVERPRESSURE CUT-OFF

- 1) The controller opens the pressure valve and activate the AUDIO VISUAL ALARM if the temperature exceeds the set temperature by +2°C or the maximum temperature of 123°C by +1°C
- 2) The mechanical over pressure valve automatically releases pressure in case of exceeding the maximum pressure limit

### ANALOG PRESSURE GAUGE

0 ~ 0.3 Mpa pressure gauge indicating actual pressure

### MANUAL PRESSURE RELEASE VALVE

Electrical Leakage Breaker : Over current cut-off



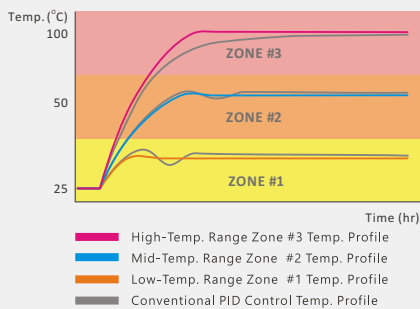
	JSAT-45	JSAT-65	JSAT-85	JSAT-105
Chamber Volume (Capacity)	45 Liter	65 Liter	85 Liter	105 Liter
Dimensions Inner	Dia. 350 x H490	Dia. 350 x H680	Dia. 450 x H535	Dia. 450 x H665
Dia. X H mm Usable	Dia. 350 x H410	Dia. 350 x H620	Dia. 450 x H480	Dia. 450 x H610
W x D x H mm Outer	555 x 670 x 955	555 x 670 x 1105	655 x 780 x 1010	655 x 780 x 1110
Basket x 2 ea	Dia. 330 x H190	Dia. 330 x H280	Dia. 430 x H220	Dia. 430 x H270
Temperature Range	Up to 123°C			
Accuracy	+/- 0.5°C			
Uniformity	+/- 2.0°C			
Heater Capacity	2.0 kW	2.5 kW	3.0 kW	4.0 kW
Power Rating	9.2 amp	11.4 amp	13.6 amp	18.2 amp
Electric	220 VAC 50/60 Hz 1P			
Power Plug	CEE 7/7 Schuko	CEE 7/7 Schuko	CEE 7/7 Schuko	30 AMP

# JWB-CON 5<sup>th</sup> GEN

## Controller Highlights

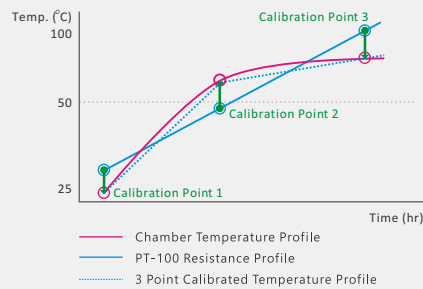
- 16-bit Digital Microprocessor PID Controller.
- High-fidelity, clear, backlit LCD displays complete settings and operating conditions with high readability.
- UV Coated Water-Proof Polycarbonate Touch Panel.
- Easy-to-use Encoder Type Jog Dial for quick and convenient temperature program and timer setting.
- 0.1 °C control resolution.
- Turn-On and Turn-Off Timer up to 99 hour 59 min.
- Temperature and Timer memory function.
- Temperature and Timer automatically resume after power loss and restoration.
- Pt-100 Ohm Sensor.

### 3 Group Zone PID



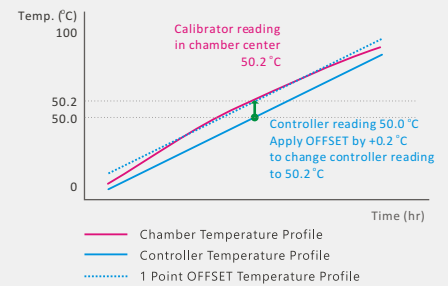
Complete temperature range is divided into three zones (LOW/MIDDLE/HIGH). Each zone has its own individual PID algorithm to provide precise and superior temperature control across the entire range.

### 3 Point Calibration

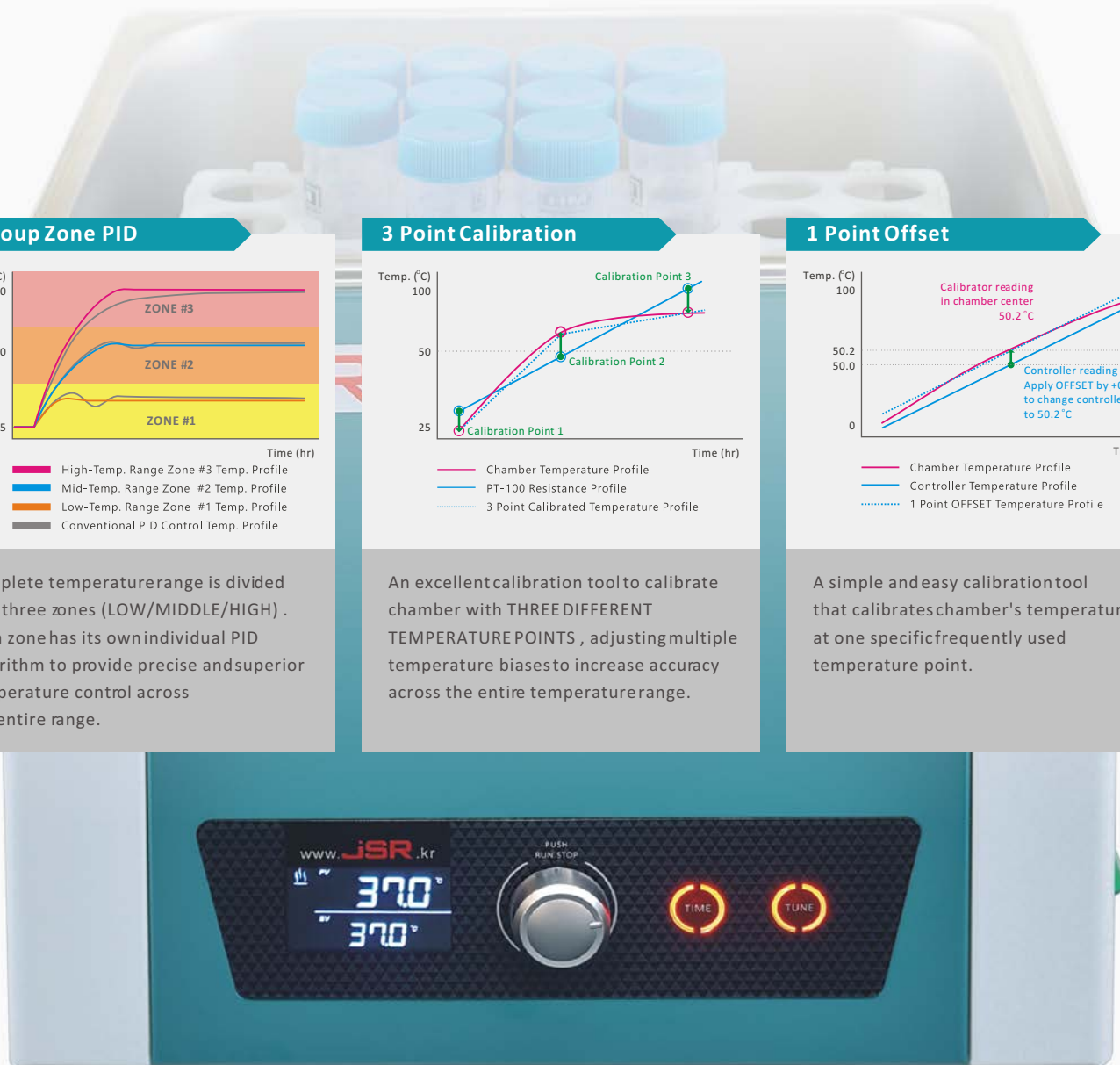


An excellent calibration tool to calibrate chamber with THREE DIFFERENT TEMPERATURE POINTS, adjusting multiple temperature biases to increase accuracy across the entire temperature range.

### 1 Point Offset



A simple and easy calibration tool that calibrates chamber's temperature at one specific frequently used temperature point.



# Water Bath

JWB-CON 5<sup>th</sup> GEN

## JSWB-xxT Series

DIRECT HEATED  
DIGITAL  
WATER BATH

amb. +5 °C ~ 100 °C  
6, 11, 22, 30 LITER



JWB-CON 5<sup>th</sup> GEN

## JSWB-xxTL Series

INDIRECT HEATED  
DIGITAL  
WATER BATH

amb. +5 °C ~ 70 °C  
6, 11, 22, 30 LITER



### Construction

- Durable epoxy powder coated metallic casing
- Corrosion resistant Seamless Electro-Polished Stainless Steel 304 Bath
- Corrosion resistant Stainless Steel 304 sheath immersion heater for JSWB-xxT
- Corrosion resistant Stainless Steel 304 flat lid
- Ceramic surface heating element for JSWB-xxTL
- Perforated heater cover (bottom plate)

### Convenience

- Easy to clean Electro-Polished seamless SS 304 Bath
- Drain valve for easily emptying bath fluids (JSWB-22T, JSWB-30T only)
- Supplied with stainless steel Flat Lid to help reduce heat losses and evaporation



JSWB-22T(L) Digital Water Bath, 22 liter



JSWB-11T(L) Digital Water Bath, 11 liter

		JSWB-06T(L)	JSWB-11T(L)	JSWB-22T(L)	JSWB-30T(L)
Bath Volume (Capacity)		6 Liter	11 Liter	22 Liter	30 Liter
Dimensions	Inner	300 x 155 x 150	300 x 240 x 150	500 x 300 x 150	500 x 300 x 190
	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
Temperature	Range	amb. +5 °C ~ 100.0 °C (amb. +5 °C ~ 70.0 °C)			
	Accuracy	+/- 0.1 °C			
	Uniformity	+/- 0.5 °C			
Heater Capacity		600 ( 620 ) W	1.0 ( 1.1 ) kW	1.5 ( 1.5 ) kW	2.0 ( 2.0 ) kW
Power Rating		2.7 ( 2.8 ) amp	4.6 ( 4.8 ) amp	6.8 ( 6.8 ) amp	9.2 ( 9.2 ) amp
Electric		220 VAC 50/60 Hz 1P			
Power Plug		CEE 7/7 Schuko	CEE 7/7 Schuko	CEE 7/7 Schuko	CEE 7/7 Schuko



## 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	+/- 0.2 °C
JSIB-22T	22 L		
JSIB-50T	50 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	



## 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		



## JSOB-Series Digital Oil Bath

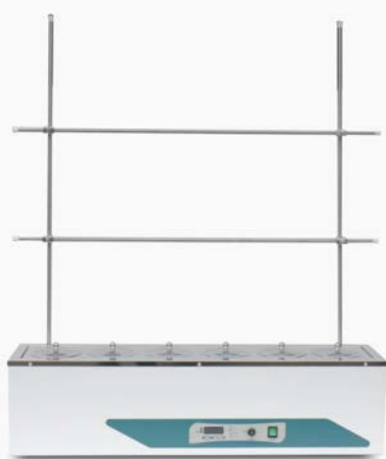
amb. +10°C ~ 250°C

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		



## JSEB-Series Extraction COD Bath

amb. +5°C ~ 99.9°C

Constant Temperature

Timer On / Off

6 to 10 Multi-Extraction Ports



MODEL	CAPACITY	TEMPERATURE	ACCURACY
JSEB-60T	6 Ports	amb. +5°C ~ 99.9°C	+/- 0.5°C
JSEB-62T	2 x 3 Port s		
JSEB-82T	2 x 4 Port s		
JSEB-102T	2 x 5 Port s		



## JSCT-Series Ultra-Low Cold Trap

Minimum Temperature

-35 °C ~ - 85 °C

On/Off Temperature Control



MODEL	CAPACITY	MINIMUM TEMPERATURE
JSCT-35C	7.2 L	- 35°C
JSCT-55ULT		- 55 °C
JSCT-85ULT		- 85 °C

# Controller Highlights

## JSC-4CP Programmable Controller



- High precision DigitalPID Microprocessor controls temperature, humidity, lighting and CO<sub>2</sub> concentration in one integrated unit with easy to use 4-line back-light LCD display interface
- Constant temperature, humidity, lighting and CO<sub>2</sub> conc. operation with automatic OFF timer
- Programmable operation capability of various climatic conditions of temperature, humidity, lighting and CO<sub>2</sub> conc. with time duration up to 11 Segments with 999 cycles or unlimited repeating operation
- Calibration and auto-tuning function
- Pt-100 Ω temperature sensor
- Precision electronic humidity sensor
- Built-in LUX Meter in chamber to measure light intensity
- Most accurate NDIR-Diffusion (Infra Red) CO<sub>2</sub> Sensor
- Automatic defrost cycle



JSPG-1500C

# Performance & Convenience

## Light Bank System

- Light Bank System with LED 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, height adjustable shelf
- Internal LUX meter sensor
- Built-in humidifier and automatic water supply
- Low water level sensor and alarm



## Infrared CO<sub>2</sub> Sensor

- High precision Dual wavelength NDIR Diffusion sensor to measure and control CO<sub>2</sub> concentration
- JSPC-200C2
- JSPC-300C2
- JSPC-420C2
- JSPC-960C2





## Maintenance

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

# 3-Side Illumination

## JSPC-Series 30,000 Lux 3-Side Illumination Plant Growth Chamber



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



JSPC-420C



JSPC-420C2



JSPC-960C

MODEL	CAPACITY	TEMPERATURE	HUMIDITY	LIGHTING	CO <sub>2</sub> conc.	TEMP ACCURACY	RH ACCURACY
JSPC-300C(C2)	300 L						
JSPC-420C(C2)	432 L	+0 °C ~ +60 °C	30 ~ 85%RH	0 ~ 30,000 Lux	amb. ~ 5000 ppm	+/- 0.3 °C	+/- 3.0% RH
JSPC-960C(C2)	864 L						

Select Model JSPC-xxxC2 for CO<sub>2</sub> concentration control

## JSGC-Series 40,000 Lux Top Illumination Plant Growth Chamber



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

MODEL	CAPACITY	TEMPERATURE	HUMIDITY	LIGHTING	CO <sub>2</sub> conc.	TEMP ACCURACY	RH ACCURACY
JSGC-420C(C2)	432 L						
JSGC-960C(C2)	972 L	+0 °C ~ +60 °C	30 ~ 85% RH	0 ~ 40,000 Lux	amb. ~ 5000 ppm	+/- 0.3 °C	+/- 3.0% RH
JSGC-1500C(C2)	1512 L						

Select Model JSGC-xxxxC2 for CO<sub>2</sub> concentration control

## JSPG-Series 50,000 Lux 3-D Illumination Plant Growth Chamber



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






MODEL	CAPACITY	TEMPERATURE	HUMIDITY	LIGHTING	CO <sub>2</sub> conc.	TEMP ACCURACY	RH ACCURACY
JSPG-1500C(C2)	1512 L	+0 °C ~ +60 °C	30 ~ 85% RH	0 ~ 50,000 Lux	amb. ~ 5000 ppm	+/- 0.3 °C	+/- 3.0% RH

Select Model JSPG-1500C2 for CO<sub>2</sub> concentration control

# Tissue Culture Chamber




## JSCC-Series Tissue Culture Chamber



-  Temp. +0 °C ~ 70 °C
-  Program Controller  
1 Pattern 10 Segments
-  Lighting 0 ~ 7,000 Lux
-  Day/Night Light Program 

MODEL	CAPACITY	TEMPERATURE	LIGHTING	TEMP ACCURACY
JSCC-150CP	150 L	+0 °C ~ 70 °C	0 ~ 6,500 Lux	+/- 0.2 °C
JSCC-250CP	250 L		0 ~ 7,000 Lux	
JSCC-460CP	432 L		0 ~ 7,000 Lux	

## JSCR-Series Culture Rack

-  Lighting 0 ~ 4,500 Lux
-  Day/Night Light Program 



MODEL	JSCR-1200
No. of Shelves	Four (4)
Dimensions	
Shelf Surface	W1400 x D600 mm
Outer	W1500 x D610 x H2020 mm
Max. Intensity	4,500 Lux
Control	ON/OFF Switch for each lamp ON/OFF Switch for each Shelf
Photoperiodic Timer	24-hr analog timer by 10 min. interval
Lamp Options	<b>LED White, 4x 15 W / shelf</b> <b>LED Red</b> <b>LED Green</b> <b>LED Blue</b>

## JSCB-xxxxSB BIOLOGICAL SAFETY CABINET CLASS II TYPE A2

HEPA Filter 99.993 % for > 0.3 um  
ULPA Filter 99.999 % for > 0.12 um

Cabinet enclosure designed Class II Type A2 provides personnel, product and environment protection from hazardous particles such as bacteria, viruses, genetically manipulated materials and nucleic acids that require containment at Biosafety Level 1, 2 or 3. Various applications in medical, biomedical, biotechnology, pharmaceutical, cell culture, tissue culture, virology and pathology, using pathogens, genetic materials, carcinogens, allergens may generate hazardous airborne particles.



JSCB-1200SB Biological Safety Cabinet  
Class II Type A2, 1200 mm (4 ft)



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



Durable  
LED Work Lamp



Germicidal UV Lamp  
/w Timer



## JSCB-CON 5<sup>th</sup> GEN



# Class II Type A2

## Model

JSCB-900SB

JSCB-1200SB

JSCB-1500SB

JSCB-1800SB

## Dimension Data

Working Width	830 mm (3ft)	1205 mm (4ft)	1490 mm (5ft)	1790 mm (6ft)
Inner Dims. (WxDxH)mm	830 x 550x 585	1205 x 550x 585	1490 x 550x 585	1790 x 550x 585
Outer Dims. (WxDxH)mm	900 x 800x 1290	1275 x 800x 1290	1560 x 800x 1290	1860 x 800x 1290
including Stand (WxDxH) mm	900 x 800x 1970	1275 x 800x 1970	1560 x 800x 1970	1860 x 800x 1970

## Performance Data

Safety Class	BSC Class II Type A2			
Air Flow Type	70% Re-circulation / 30% Exhaust			
Down Flow	0.3 m/sec.			
In-Flow	0.5 m/sec.			
Filtration Efficiency(nominal)	HEPA Filter 99.993 ~ 99.995 % for particles > 0.3 um ULPA Filter 99.999 % for particles > 0.12 um			
Noise Level	< 65 dB			
Work Light (LED Lamp)	11 watt x 2 ea	15 watt x 2 ea	20 watt x 2 ea	20 watt x 2 ea
Germicidal UV Lamp 253.7 nm	20 watt	30 watt	30 watt	40 watt
UV Intensity	7.5 W	13.4 W	13.4 W	19.8 W

## Controller

Digital Microprocessor Control System with Graphic LCD Display  
Soft Touch Capacitive Button with Indication Light  
10-Step Air Velocity Control  
Fan ON/OFF, Working Lamp ON/OFF, UV Lamp ON/OFF  
Adjustable UV Sterilization Timer  
Total HEPA Filter usage time  
HEPA Filter Replacement Alarm

## Material Data

Working Plate	Removable, Stainless Steel 304 (AISI304)
Body	SPCC /w Epoxy Powder Coating
Front Sash Door	5.0 mm Thick Tempered Safety Glass

## Safety Data

Over Current Protection  
Automatic UV Lamp Cut-Off on Door Open  
HEPA Filter Replacement Alarm

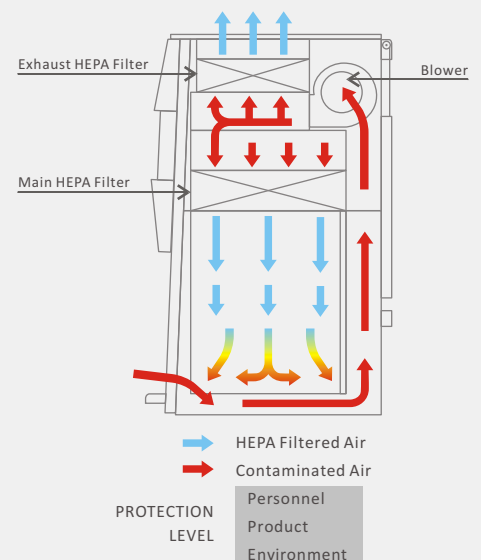
## Utility Accessories

Power Receptacle for 220V European Plug x 2 ea  
Gas Cock x 1 ea, Air Cock x 1 ea

## Electrical Data

Power Requirement	220 +/- 10% VAC   50/60 Hz   1 Phase			
Power Consumption	200 W 0.9 amp	350 W 1.6 amp	350 W 1.6 amp	375 W 1.7 amp
Plug Configuration	CEE 7/7 Schuko or BS 1363			

## BSC Cabinet Class II Type A2



## JSCB-xxxxSL VERTICAL LAMINAR FLOW SAFETY CABINET ISO CLASS 5 (CLASS 100)

HEPA Filter 99.993 % for > 0.3  $\mu$ m  
ULPA Filter 99.999 % for > 0.12  $\mu$ m

Vertical Laminar Flow Cabinet provides ISO Class 5 (formerly Class 100) clean air. HEPA filtered laminar air flows down over the work area to protect products or samples from dust or biological contaminants such as bacteria, fungi, and genetic materials.

Various applications, such as plant tissue culture, microbial inoculation, media preparation, PCR, electronic or medical parts inspection and assembly require a clean air environment. In these applications, dust particles and contaminants must be absent from the working area.



JSCB-1200SL Vertical Laminar Flow Safety Cabinet



Vertical Laminar Flow  
ISO Class 5 (Class 100)



HEPA Filter  
99.993 % for 0.3  $\mu$ m particles



ULPA Filter  
99.999% for 0.12  $\mu$ m particles



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



Durable  
LED Work Lamp



Germicidal UV Lamp  
/w Timer



JSBS-5000  
Bio-Suction Pump

MODEL	JSBS-5000
Bottle Volume	4000 cc
Pump Displacement	40 liter / min
Max. Vacuum	650 mmHg

# Vertical Laminar Flow

## Model

JSCB-900SL

JSCB-1200SL

JSCB-1500SL

JSCB-1800SL

## Dimension Data

Working Width	830 mm (3ft)	1205 mm (4ft)	1490 mm (5ft)	1790 mm (5ft)
Inner Dims. (WxDxH)mm	830 x 550x 585	1205 x 550x 585	1490 x 550x 585	1790 x 550x 585
Outer Dims. (WxDxH)mm	900 x 800x 1290	1275 x 800x 1290	1560 x 800x 1290	1860 x 800x 1290
including Stand (WxDxH) mm	900 x 800x 1970	1275 x 800x 1970	1560 x 800x 1970	1860 x 800x 1970

## Performance Data

Safety Class	Biosafety Level 1 for Product Protection Only			
Air Flow Type	Vertical Laminar Flow			
Down-Flow	0.3 m/sec.			
Filtration Efficiency(nominal)	HEPA Filter 99.993 ~ 99.995 % for particles > 0.3 um ULPA Filter 99.999 % for particles > 0.12 um			
Noise Level	< 65 dB			
Work Light (LED Lamp)	11 watt x 2 ea	15 watt x 2 ea	20 watt x 2 ea	20 watt x 2 ea
Germicidal UV Lamp 253.7 nm	20 watt	30 watt	30 watt	40 watt
UV Intensity	7.5 W	13.4 W	13.4 W	19.8 W

## Controller

Digital Microprocessor Control System with Graphic LCD Display  
Soft Touch Capacitive Button with Indication Light  
10-Step Air Velocity Control  
Fan ON/OFF, Working Lamp ON/OFF, UV Lamp ON/OFF  
Adjustable UV Sterilization Timer  
Total HEPA Filter usage time  
HEPA Filter Replacement Alarm

## Material Data

Working Plate	Removable, Stainless Steel 304 (AISI304)
Body	SPCC /w Epoxy Powder Coating
Front Sash Door	5.0 mm Thick Tempered Safety Glass

## Safety Data

Over Current Protection  
Automatic UV Lamp Cut-Off on Door Open  
HEPA Filter Replacement Alarm

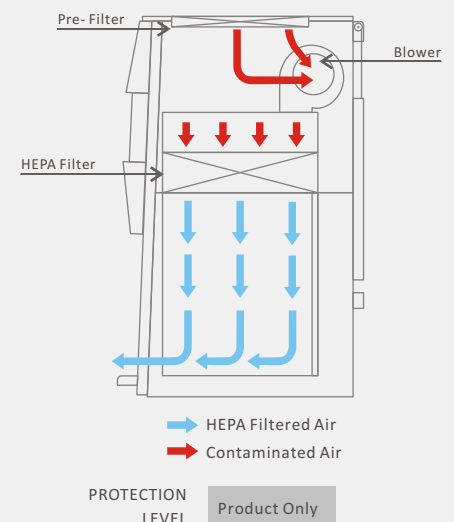
## Utility Accessories

Power Receptacle for 220V European Plug x 2 ea  
Gas Cock x 1 ea, Air Cock x 1 ea

## Electrical Data

Power Requirement	220 +/- 10% VAC   50/60 Hz   1 Phase			
Power Consumption	200 W 0.9 amp	350 W 1.6 amp	350 W 1.6 amp	375 W 1.7 amp
Plug Configuration	CEE 7/7 Schuko or BS 1363			

## Vertical Laminar Flow



## JSCF-M8 MICRO CENTRIFUGE

MAX 6,200 rpm  
RCF 1,800 x g

JSCF-M8 Micro Centrifuge is designed for quickspin down applications up to 6,200rpm / RCF1,800 x g tool-free interchangeable rotors and adaptors for 0.2 ml and 0.5 ml tubes.



Rotor for 4 PCR Strips



2.0ml Tube Rotor  
with 0.2ml, 0.5ml Tube Adaptors

### Performance

- Max. 6,200 rpm / RCF 1,800 x g
- Fixed Angle Rotor for 1.5ml or 2.0ml x 8holes
- Fixed Angle PCR Rotor for 0.2 ml x 32 tubes, or 4 PCR Strips

### Convenience

- Tool free one-touch rotor replacement
- Multiple use for 1.5 / 2.0ml and 0.2ml tubes
- Spring hinged lifting lid

### Construction

- Silent DC motor
- Clear polycarbonate dome lid
- ABS plastic body with low gravitational centered design
- Rubber bottom base

### Safety

- Two way safety door switch

MODEL	DESCRIPTIONS
JSCF-M8	Micro Centrifuge 6,200rpm 220 VAC 1 ph 50/60 Hz
	includes ...
	PHC-R08 Fixed Angle Rotor, 8 x 1.5 / 2.0ml tubes
	PHC-R32 Fixed Angle Rotor, 32 x 0.2ml tubes or 4 Lines x PCR Strips
	PHC-A02 Tube Adapter, 8 x 0.2ml
	PHC-A05 Tube Adapter, 8 x 0.5ml
Optional Accessories	
PHC-R08	PHC-R08 Fixed Angle Rotor, 8 x 1.5 / 2.0ml tubes
PHC-R32	PHC-R32 Fixed Angle Rotor, 32 x 0.2ml tubes or 4 Lines x PCR Strips
PHC-A02	PHC-A02 Tube Adapter, 8 x 0.2ml
PHC-A05	PHC-A05 Tube Adapter, 8 x 0.5ml

# Vortex Mixer, 3,300 rpm



Interchangeable attachments



Functional Design



3 Way Switch



Aluminum Casting Body



Powerful Shade Motor

## JSVX-7R

### VORTEX MIXER

MAX 3,300 rpm

including

3" Rubber Platform

Pop-Off Cup Head

Remove Applicator



Model	Description
JSVX-7R1	Vortex Mixer, Orbital, 4mm Stroke, 3,300 rpm 220 VAC 1 ph 50 Hz
JSVX-7R2	Vortex Mixer, Orbital, 4mm Stroke, 3,300 rpm 220 VAC 1 ph 60 Hz



표준구성품 [ Standard Accessories ] *supplied with the main package as a standard*



PHA-01V

3 inch Rubber Platform Head



PHA-02V

Pop-Off Cup Head



PHA-03V

Head Remove Applicator

옵션구성품 [ Optional Accessories ]



PHA-04V

for Microtube



PHA-05V

for Microtube and 15ml Tube



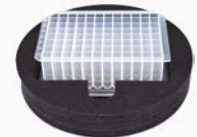
PHA-06V

for Microtube and 50ml Tube



PHA-10V

for Microplate



PHA-07V

for Microtube



PHA-08V

for 15ml Tube



PHA-09V

for 50ml Tube



PHA-13V

Silicone Base Pad to hold Vortex Mixer

Model	Description
PHA-01V	3 inch Rubber Platform Head
PHA-02V	Pop-Off Cup Head
PHA-03V	Head Remove Applicator
PHA-04V	Microtube Holder
PHA-05V	Microtube + 15ml Tube Holder
PHA-06V	Microtube + 50ml Tube Holder

Model	Description
PHA-07V	Microtube Holder
PHA-08V	15 ml Tube Holder
PHA-09V	50 ml Tube Holder
PHA-10V	Microplate Holder
PHA-13V	Silicone Base Pad

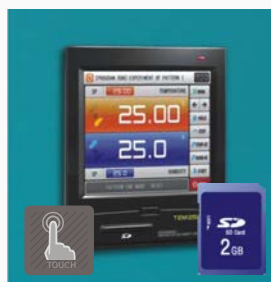
## JSC-1500 JSRH-Basic Controller

## JSC-2500 JSRH-Optional Controller



### 5.6" TFT-LCD

High Resolution 640 x 480  
64 MB internal memory  
SD/SDHC Card (FAT32)  
stores trend data,  
set up parameters



### 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 999hour 59 min 59 secondary  
9 Zone PID Groups



### Programming

120 Patterns 1200 Segments  
up to 999hour 59 min 59 secondary  
9 Zone PID Groups



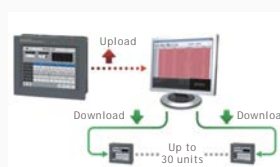
### Data Transfer

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



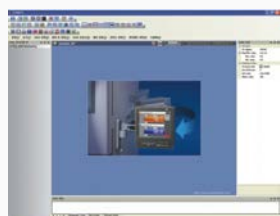
### Pattern Editing

Saved patterns can be recalled  
with graphical interface  
Easy upload and download of  
parameters and patterns



### Easy-to-Use

User interface allows easy  
pattern 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






# Temperature & Humidity Chamber

## JSRH-Series

- 20 °C ~ 150 °C / 35 % ~ 98 % RH  
 - 40 °C ~ 150 °C / 35 % ~ 98 % RH



## Premium Climatic Chamber

-  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







MODEL	CAPACITY	TEMPERATURE	HUMIDITY
JSRH-150CP	150 L	-20 °C ~ 150 °C	35 ~ 98 % RH
JSRH-250CP	252 L		
JSRH-500CP	448 L		
JSRH-800CP	800 L		
JSRH-150CPL	150 L	-40 °C ~ 150 °C	35 ~ 98 % RH
JSRH-250CPL	252 L		
JSRH-500CPL	448 L		
JSRH-800CPL	800 L		

## JSTH-Series

10 °C ~ 80 °C / 60 % ~ 90 % RH  
 - 20 °C ~ 120 °C / 50 % ~ 95 % RH



## Economic Climatic Chamber

-  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







MODEL	CAPACITY	TEMPERATURE	HUMIDITY
JSTH-150CP	150 L	10 °C ~ 80 °C	60 ~ 90 % RH
JSTH-250CP	252 L		
JSTH-500CP	448 L		
JSTH-800CP	800 L		
JSTH-150CPL	150 L	-20 °C ~ 120 °C	50 ~ 95 % RH
JSTH-250CPL	252 L		
JSTH-500CPL	448 L		
JSTH-800CPL	800 L		

## JSCH-Series

10 °C ~ 80 °C / 60 % ~ 90 % RH  
 - 20 °C ~ 120 °C / 40 % ~ 95 % RH



## Tabletop Climatic Chamber

-  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



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		






## Battery Test Chamber



MODEL	CAPACITY	TEMPERATURE
JSBS-520C	552 L	0 °C ~ 70 °C

## JSDS - Drug Stability Chamber



-  Temperature Range  
+0 °C ~ 70 °C
-  Humidity Range  
30 % ~ 85 % RH
-  Program Controller  
LCD Display  
10 Patterns 100 Segments
-  RS-232C or 485 Serial Interface  
Multi-Drop up to 31 Instruments
-  Touch Screen  
5.6" Color TFT Display  
120 Patterns 1200 Segments



MODEL	CAPACITY	TEMPERATURE	HUMIDITY
JSDS-300C	300 L	+10 °C ~ 70 °C	30 ~ 85 % RH
JSDS-420C	420 L		
JSDS-960C	964 L		

# Electric Muffle Furnace



## Specifications

<b>Heating</b>	KANTHAL A-1
<b>Temp. Range</b>	Max. 1,200 °C
<b>Accuracy</b>	± 3.0 °C at 500°C (JSMF-30T)
<b>Uniformity</b>	± 3.0 °C at 500°C (JSMF-30T)
<b>Control</b>	Programmable PID Control 3 Pattern Memory 9 ramps and 9 dwells segments
<b>Sensor</b>	CA-Type Sensor
<b>Safety</b>	Over-Temperature Cut-Off Over Current Cut-Off
<b>Material</b>	Body : Epoxy Powder Coated Steel Chamber : Ceramic Fiber
<b>Electric</b>	220 +/- 10% VAC 50/60Hz 1-Phase

Plug config.



Max 1200 °C



Program Controller  
3 Patterns Memory



JSMF-xxxT  
Max. 1,000 °C



JSMF-xxxH  
Max. 1,100 °C



JSMF-xxxHT  
Max. 1,200 °C



MODEL	JSMF-30T	JSMF-45T	JSMF-120T	JSMF-140T	JSMF-270T
Temperature Max. / Operating	1,000 / 800 °C				
MODEL	JSMF-30H	JSMF-45H	JSMF-120H	JSMF-140H	JSMF-270H
Temperature Max. / Operating	1,100 / 1,000 °C				
MODEL	JSMF-30HT	JSMF-45HT	JSMF-120HT	JSMF-140HT	JSMF-270HT
Temperature Max. / Operating	1,200 / 1,100 °C				
Accuracy at 500 °C	+/- 3.0 °C	+/- 4.0 °C	+/- 5.0 °C	+/- 6.0 °C	+/- 7.0 °C
Uniformity at 500 °C	+/- 3.0 °C	+/- 4.0 °C	+/- 5.0 °C	+/- 6.0 °C	+/- 7.0 °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

## JSBL-01T, 02T, 04T MULTI-BATH HEATING BLOCK



amb. +10 ~ 180 °C, +/- 0.1 °C Resolution  
1 min. to 99 hr 59 min Timer



## JSDB-01T DRY BATH HEATING BLOCK



amb. +10 ~ 150 °C, +/- 0.1 °C Resolution  
1 min. to 99 hr 59 min Timer



MODEL	DESCRIPTIONS
JSBL-01T	Dry Bath HeatingBlock 1 BLOCK
JSBL-02T	Dry Bath HeatingBlock 2 BLOCK
JSBL-04T	Dry Bath HeatingBlock 4 BLOCK
<b>Accessories</b>	<b>Aluminum Blocks</b>
PHA-02B	0.2ml PCR Tubes, 48 holes
PHA-05B	0.2ml PCR Tubes, 24 holes
PHA-15B	1.5/2.0ml Tubes, 20 holes
PHA-16B	Dia. 16mm Tubes, 12 holes
PHA-24B	Dia. 24mm Tubes, 6 holes

MODEL	DESCRIPTIONS
JSDB-01T-PK	Dry Bath HeatingBlock PACKAGE PHB-20 Microtube Block 1.2/2.0ml x 48holes
JSDB-01T	Dry Bath HeatingBlock Main Unit Only
<b>Accessories</b>	<b>Aluminum Blocks</b>
PHB-02	0.2ml Tubes, Dia.6 x 96 holes (H16mm)
PHB-05	0.5ml Tubes, Dia.7.7 x 63 holes (H29.5mm)
PHB-20	1.5/2.0ml Tubes, Dia.11 x 48 holes (H36mm)
PHB-15	15ml Tubes, Dia.16 x 15 holes (H47mm)
PHB-50	50ml Tubes, Dia.28.7 x 8 holes (H47mm)
PHB-1248	TubeDia.12 x 48holes (H35mm)
PHB-1330	TubeDia.13 x 30holes (H47mm)
PHB-1530	TubeDia.15 x 30holes (H47mm)
PHB-1624	TubeDia.16.5 x 24holes (H47mm)
PHB-1824	TubeDia.18 x 24holes (H47mm)
PHB-100	Block Extraction Knob



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