

# SHAKING INCUBATORS



**JSR**

[주] 제이에스리서치  
JS Research Inc.

# 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	W430 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	W430 x D380 mm
holds maximum      50 ~ 100 ml	8 ea	25 ea                      41 ea	
polycarbonate      200 ~ 300 ml	6 ea	16 ea                      25 ea	
flask holder              500 ml	5 ea	16 ea                      25 ea	
1000 ml	3 ea	9 ea                        16 ea	
2L / 3L / 5L	2 ea	5 ea                        9 / 9 / 5 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	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



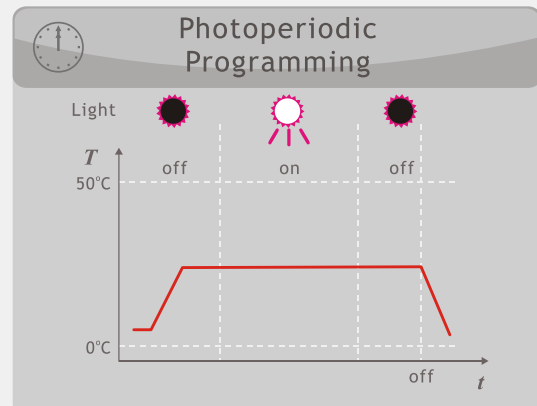
- ▶ Integrated Digital PID Controller
- ▶ Temperature control with  $\pm 0.1^\circ\text{C}$
- ▶ Shaking speed control within  $\pm 1$  rpm
- ▶ Automatic STOP timer  
Max. 99min 59sec / 99hr 59min / 99day 23hr
- ▶ Dual digital LED displays  
TEMP, RPM and remaining TIME
- ▶ Temperature calibration
- ▶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

- ▶ 온도, 속도, 타이머 통합제어 PID 컨트롤러
- ▶ 온도제어 정밀도 :  $\pm 0.1^\circ\text{C}$
- ▶ 교반속도 제어 정밀도 :  $\pm 1$  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

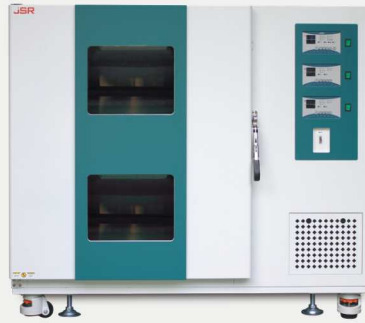
### ▶ 센서단락알람

### ▶ 누전차단기 : 전기누설 시 주전원 차단

# Shaking INCUBATOR

JSSI-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.



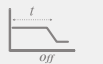
2 or 4 Multi-Stack Shaker



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.



or



CEE 7/7 Schuko

BS 1363

## 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 ±0.1 °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 Outer	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	± 0.5 °C at 25 °C		± 0.5 °C at 25 °C	
Uniformity	± 2.0 °C at 25 °C		± 3.0 °C at 25 °C	
Shaking Motion	Orbital or Reciprocal			
Speed /Stroke	20 ~ 350 rpm / 20mm			
Illumination	none	36 Watt FPL x 4 ea	none	36 Watt FPL x 8 ea
Working Lamp	25 Watt Bulb	none	25 Watt Bulb	none
Heater Capacity	1.5 kW		2.0 kW	
Refrigeration System	CFC Free Air Cooled Compressor			
Power Rating	11.4 Amp		15.0 Amp	
Power Plug	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