

Laboratory Industrial OVENS



JSR

[주] 제이에스리서치
JS Research Inc.

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

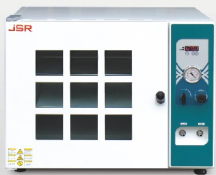


- ▶ Max. 250 °C
- ▶ Constant Temperature
- ▶ Timer On / Off



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 ~ 350 °C	± 0.2 °C
JSOF-100H	96 L		± 0.3 °C
JSOF-150H	150 L		± 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 ~ 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
- ▶ 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 ~ 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
			± 0.5 °C

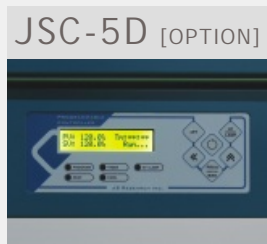
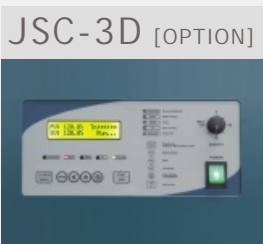
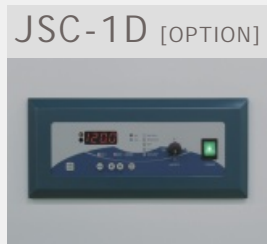
Ovens

FEATURE

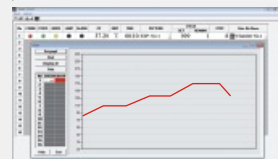
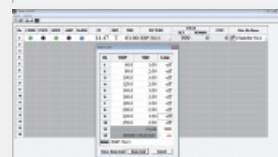
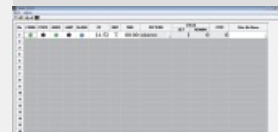
PRECISION CONTROL HIGH PERFORMANCE Standards & Options

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



▶ 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

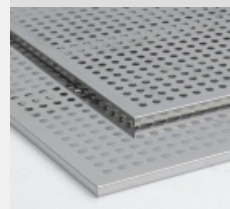
최고온도알람기능 : 작동한계 온도 +1°C 초과시 히터 차단

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

Hi-Temp

SPECIAL OVENS

BEYOND
THE LIMIT

350 °C High Temperature



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



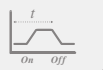
Max 350 °C



Constant Temperature Controller



Timer On / Off



[OPTION] RS-232C Serial Computer Interface



[OPTION] Program Controller with PC Control Software

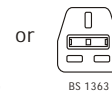
Specifications

Heating	Forced Air Convection
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.



CEE 7/7 Schuko



BS 1363



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
- 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

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 sidewall 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 뛰어남
- ▶ 가열챔버가 측면에 별도로 위치하여 액체 흘림으로 인한 오염과 고장이 적음
- ▶ 50mm 미네랄울과 25mm 세라믹울을 이중 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 W270 x D270 mm
PHS-A04	for JSOF-100H W370 x D370 mm
PHS-A20	for JSOF-150H W470 x D470 mm
	Wire Shelf, Stainless Steel 304
PHS-B01	for JSOF-030H W270 x D270 mm
PHS-B04	for JSOF-100H W370 x D370 mm
PHS-B14	for JSOF-150H W470 x 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