JUKI CUBE.460
Selective Soldering System

Everything you need for lead-free production setting new standards for productivity, flexibility and reliability.

www.jukiamericas.com
Key Features of CUBE.460

**Automatic Solder Wire Feeder Replenishing System** (optional)
A closed loop system will monitor the solder level. The solder wire feeder will automatically feed more solder into the bath as needed.

**Solder Wave Monitoring System** (optional)
This includes an optional RPM sensor to ensure constant, precise flow of the wave.

**Live Process Viewing Camera** (standard)
The process camera gives a real-time view of the soldering process for improved quality control.

**High Performance Bottom-side Pre-heater** (standard)
Fast reacting Quartz IR emitters that offer complete control of the pre-heat process.

(2) **Universal PCB Carriers for up to 460mm x 460mm** (standard)
Universal carriers can be set up for a single PCB or multiple PCB’s for step and repeat.

**Quick Exchange Mini-wave Soldering Nozzle** (standard)
Various types of nozzles including wetted, non-wetted, and specialty nozzles are available.

**Soldering at 0° and 7°** (standard)
Support for 0° and 7° soldering angles means difficult layouts can often be achieved with ultra-narrow clearances.

**Solder Pot Trolley System for Quick Change Between Alloys** (optional)
Going from Pb to Pb free is simple and fast with our specially designed trolley.

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**JUKI CUBE.460**
Entry Level Selective Soldering System

Juki would like to introduce our new, low cost selective soldering system. This unique batch platform offers excellent flexibility for through-hole applications. The lower cost and smaller footprint utilizes the same soldering technology found on Juki’s larger platforms while offering a superior ROI of 6-12 months.

Accessibility to the CUBE.460 is very simple allowing for easy setup and easy maintenance. The solder pot and nozzles are ready for lead-free production. Changing the solder pot for use with a different alloy is made simple with the easy to use trolley system. A wide range of standard nozzles, special nozzles as well as an eight inch chip turbulent wave are available for this machine giving it the same flexibility as the previous JUKI machines.

The flexible programming software is identical whether you are programming on the machine during production or on an off-line programming location. This makes programming easy and simple.

Finally, when you purchase a CUBE.460 you are in good hands with the Juki service and support team which is the largest in the Americas. Here is a list of what comes with the purchase of your machine:

- One week of on-site installation and training
- One year parts and labor warranty
- No charge for attendance at any regularly scheduled training course at Juki facilities
- Free machine software upgrades for life of machine
- Free 24-hour phone support

**CUBE.460 Standard Features:**
- 100 lb. Pb free ready solder pot / 110 lb. tin lead
- Heated Nitrogen at the soldering nozzle
- Large maximum board size up to 460mm x 460mm (18” x 18”)
- 0° or 7° solder angle
- Built shuttle loading system to maintain constant production
- Fast reacting Quartz IR bottom side pre-heater
- Live process viewing camera
- Micro-Dot Drop-Jet fluxing system with 5 liter pressurized flux container
- Off-line programming s/w
- Packaged in a small footprint of 1430mm x 1550mm x 1250mm (56” x 61” x 49”)
- Single nozzle or dual nozzle configuration

**CUBE.460 Options:**
- Additional solder pot for multiple alloys
- Wave height monitor
- Closed loop solder wire replenishing system
- 8” chip wave
- Specialty nozzles
- Top side maintenance/pre-heat
- Electromagnetic solder pot/pump assembly
- Spray Fluxer
- Automatic fiducial correction
- Board warpage control
- Exchangeable solder pot trolley systems to support dual alloys
JUKI CUBE 460 Specifications

Machine Specification — [ ] Standard [ ] Option

Dimensions with shuttle  L 2000mm; W 1550mm; H 1250mm (78.7" x 61" x 49.2")
Weight  Approximately 800 kg (1760 lbs.)
Color  RAL7035; RAL7021
Exhaust opening  Ø 150mm (6")
Extraction rate  400m³
Power requirements  32A*, 208VAC 3 Phase, 50/60Hz, 6kW

System control
Control concept  Machine control PC and PLC
UPS  Optional
PC  Windows® PC; Flat screen monitor; keyboard; mouse
Off-line software  Off-line software for easy programming
Camera  Live process viewing camera
Axis movement  Servo controlled with high performance belts and lead screws
Drive concept  DC Servo motors with encoders; CAN-BUS
Repeatability  ± 0.15mm (± 0.006")

Board size
Dimensions min./max.  20mm x 20mm / 460mm x 460mm (0.79" x 0.79" / 18" x 18")
Soldering angle  0° or 7°
Bottom side clearance  30mm (1.2")
Top side clearance  150mm (6")
Carrier  Universal (2)

Flux System
Flux head  Micro-Dot Drop-Jet
Spray Fluxer
Flux  Alcohol based — less than 5% solids recommended (Micro-Dot Drop-Jet)
Alcohol based — less than 26% solids recommended (Spray Fluxer)
Flux container  5 liters pressurised pot with level indicator
Second flux pot for different flux type available

Pre-heat
Type  Bottom Side — Quartz IR emitters
Power  4 KW
Top side Maintenance/Pre-heater  Built in over the PCB

Solder Pot
Alloy  Tin Lead or Lead free
Volume lead free  45 kg
Volume tin lead  50 kg
Extra mini wave module  Individual functioning nozzles with different sizes for ultimate flexibility
Standard nozzle  Ø4mm – Ø20mm (0.15" – 0.79")
Wetted nozzle  Ø4mm – Ø20mm (0.15" – 0.79")
Warm up time  Approximately 45 minutes
Solder temperature  Maximum 330°C
Solder temperature and height  Program controlled
Solder wire  Motorized feed, 2mm (0.08") diameter, max. weight 5 kg (11 lbs.)
Nitrogen supply  Recommended 10 PPM (99.999%) purity
Minimum 100 PPM (99.99%) purity
Nitrogen consumption  Max. 40 liter/minute Single Nozzle / Max. 80 liter/minute Dual Nozzle
Electro-dynamic solder pump  Alternative to standard rotary drive pump
Wave module – 200mm (7.87")  Option for a 200mm (7.87") wide solder wave module

*Specifications subject to change

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