Pillarhouse
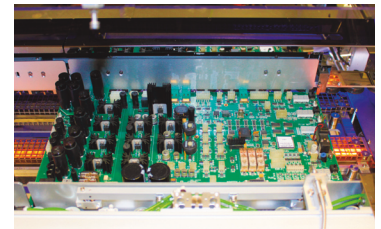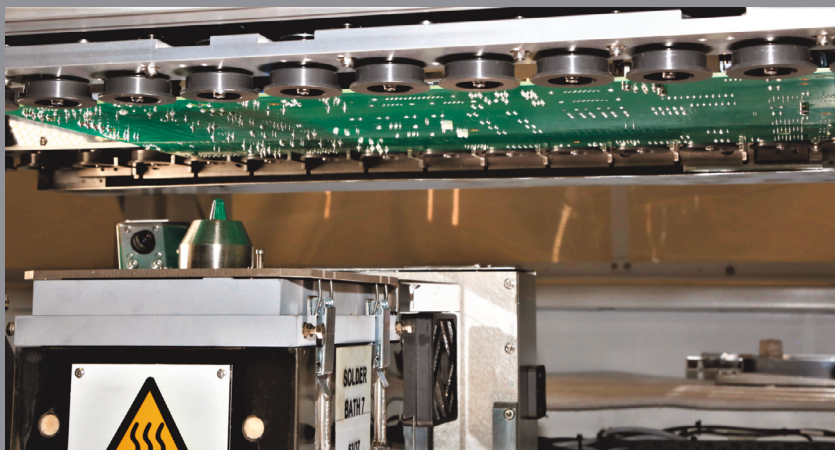INTERNATIONAL

Enhanced, flexible, in-line, modular
selective soldering system

ORISSA SYNCHRODEX PRO

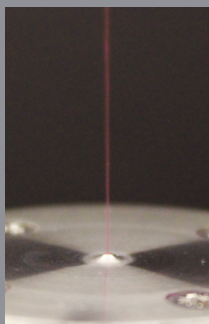## Enhanced, flexible, in-line, modular selective soldering system

Our Synchrodex Pro is a modular system with a range of in-line equipment offering the ultimate in flexibility, with the ability to upgrade to high-speed throughput when multiple modules are placed together.

The standard Synchrodex Pro solder module is supplied with an on-board Drop-Jet flux head and offers optional top side and bottom side slide in/out infra-red pre-heat linked to closed-loop pyrometer control. Pillarhouse can also configure any of our frame sizes to operate as dedicated fluxing and/or I.R./convection heating modules, which, when placed in-line with solder module(s), will significantly increase production throughput.

Our 1600mm solder module offers the ability to process PCBs using either a single or dual-bath operating format. Single bath operation allows for an alternate nozzle process on a single 610mm x 610mm PCB. Dual-bath operation allows for a dual-board, simultaneous, independent nozzle process for increased soldering flexibility on 420mm x 610mm PCBs. Pillarhouse's uniquely flexible approach is facilitated via a software controlled, mechanical three pin stop arrangement on the conveyor section allowing for either single or dual PCB management.

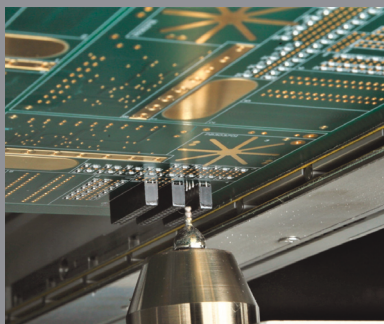Our largest PCB handling capability of 1143mm x 610mm can be achieved when using the XL frame size.

The Synchrodex Pro can be configured with any of the currently available Pillarhouse solder technologies, including single point AP-1, patented 1.5mm Micro Nozzle, Jet-Wave and custom multi-dip. Easy, rapid non-contact solder pot changeover is facilitated via the optional heated pot exchange trolley.
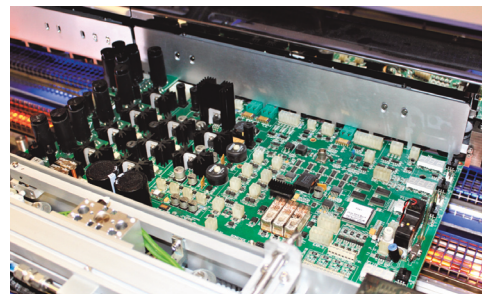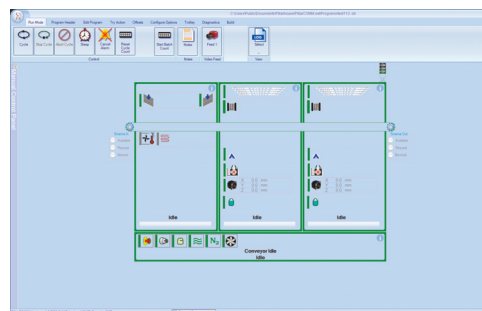

SLIDE IN/OUT BOTTOM SIDE I.R. PRE-HEAT

OPERATION

The Synchrodex Pro is controlled by a PC through our next generation PillarCOMM.NET software - a Windows® based 'Point & Click' interface with PCB image display, as illustrated above.

Additionally, PillarCOMM.NET has an offline package that allows the operator to produce programs independently from the machine using Gerber data.

LARGE 1600MM SYNCHRODEX PRO WITH TWIN/DUAL INDEPENDENT SOLDER BATHS

DROP-JET FLUX HEAD

ULTRASONIC FLUX HEAD

1.5 MM MICRO NOZZLE

Pillarhouse
INTERNATIONAL

1600mm Dual-Bath Soldering Module

STANDARD FEATURES
In-Line Disk Drive Auto Width Adjust Throughfeed Synchronous Movement Conveyor
Conveyor Side Clamping
Integral PC & Machine Mounted TFT Monitor
Auto Motorised Solder Wire Feed & Level Detect
Drop-Jet Fluxer
Heated Inerted Nitrogen System
Internal Fume Extraction
Colour Programming Camera
610mm x 610mm (24" x 24") Board Handling Size in a 1060mm Frame
PillarCOMM.NET Windows® based Software
Offline Programming Software
Thermal Nozzle Calibration System using Integrated Setting Camera (requires manual correction)
Solder Pot Coding
Auto Fiducial Recognition & Correction System
Solder Wave Height Measurement
Mechanical Impellor Style Pump Assembly
Pump RPM Monitoring
Nitrogen Analyser
Auto Nozzle Conditioning System
Process Viewing Camera
Multilevel Password Security System
Light Stack Tower
Flux Level Sensor
Lead-Free Capability
One Set of AP Solder Nozzle Tips (2.5mm, 3mm, 3.5mm, 4mm, 5mm, 6mm, 8mm, 10mm, 12mm) per Solder Bath
Accessory Kit

MONITORING OPTIONS
Flux Flow Monitoring
Nitrogen Purity Monitoring
Nitrogen Mass Flow Meter
Nozzle Nitrogen Purity Monitoring

SYSTEM OPTIONS
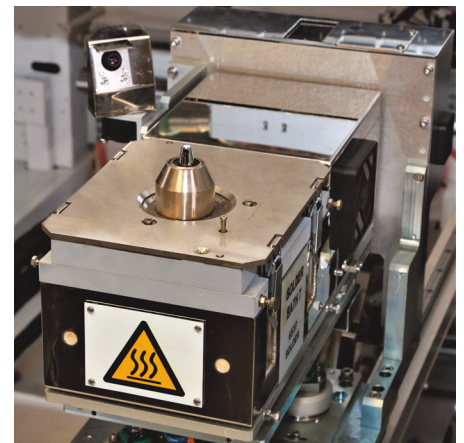High Definition Process Viewing Camera
Top Side I.R. Pre-Heat, with Closed-Loop Control
Motorised Underside I.R. Pre-Heat
Ultrasonic Fluxing
Additional Dual Drop-Jet/Ultrasonic Fluxing
Laser PCB Warp Correction
1.5, 2, 2.5mm Micro Nozzle(s)
Solder Reel Identification
Nitrogen Generator

AUTOMATIC NOZZLE CONDITIONING SYSTEM

NEXT GENERATION SOLDER BATH AND PUMP

ADDITIONAL SYSTEM OPTION - PillarCARE

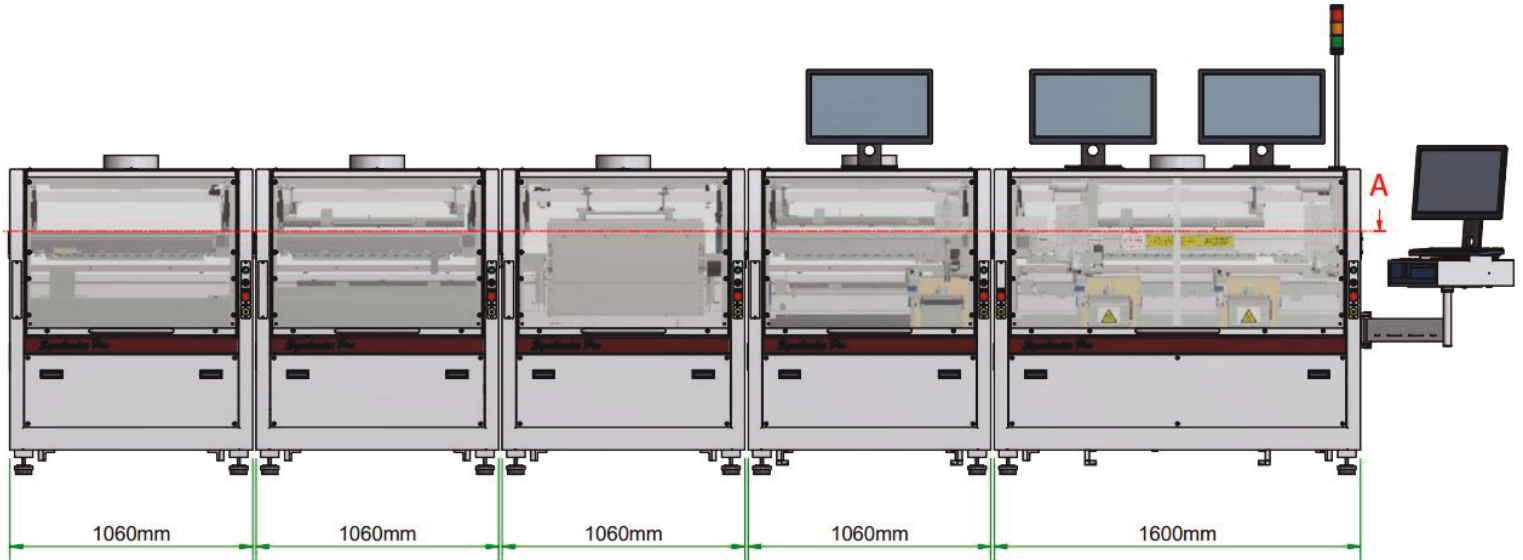Pillarhouse's comprehensive after-sale service and process programme, available for all machines

Pillarhouse... Expect innovation
www.pillarhouse.co.uk

Pillarhouse
INTERNATIONAL

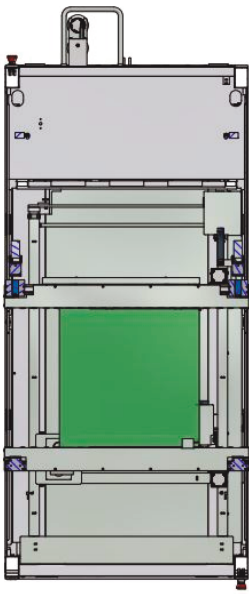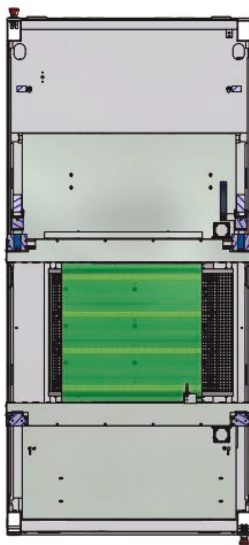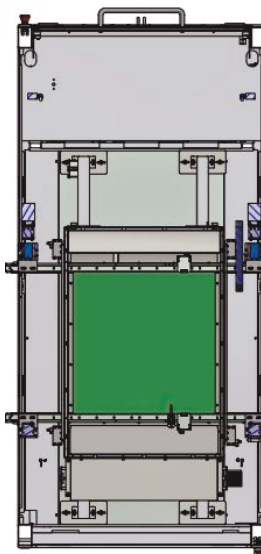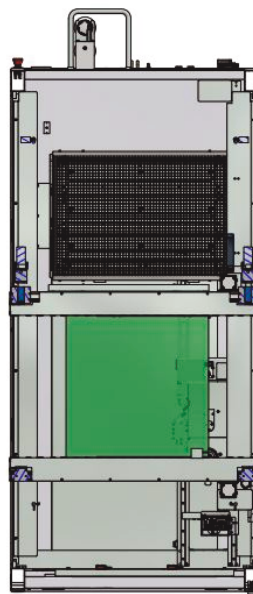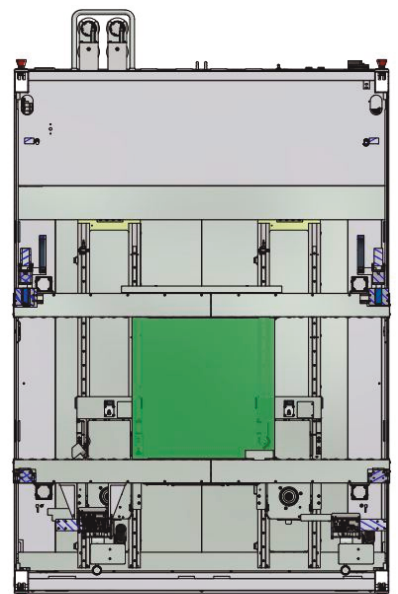| 1060mm	1060mm	1060mm	1060mm	1600mm
Fluxer Module	I.R. Pre-Heater Module	Convection Heater Module (High-Speed Stacker Convection Heater Module also available)	Single-Bath Soldering Module	Dual-Bath Soldering Module (Single-Point and Twin-Point Modules available)

SECTION A-A | SECTION A-A | SECTION A-A | SECTION A-A | SECTION A-A

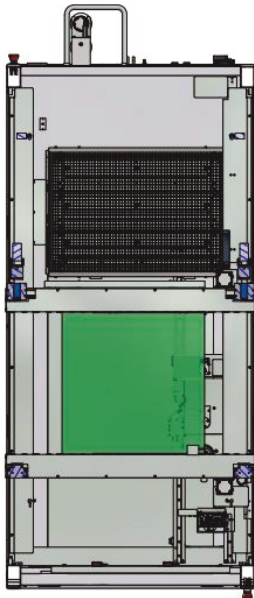# SOLDER MODULES

Single-Bath Soldering Module

Size: 1060mm wide
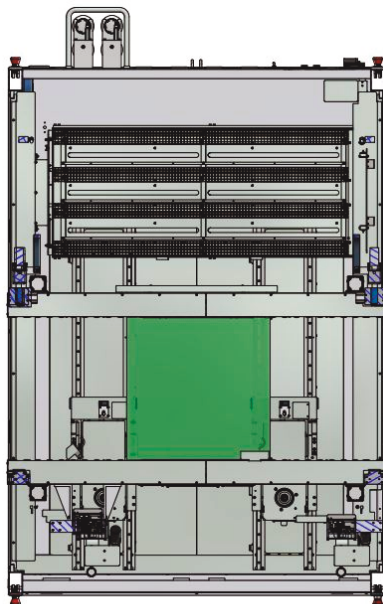Board Size Capability: 610mm x 610mm (24" x 24")
Standard Features: Drop-Jet flux head
Refer to Pillarhouse Synchrodex Pro Quotation
Document for details of all available machine options.

SECTION A-A

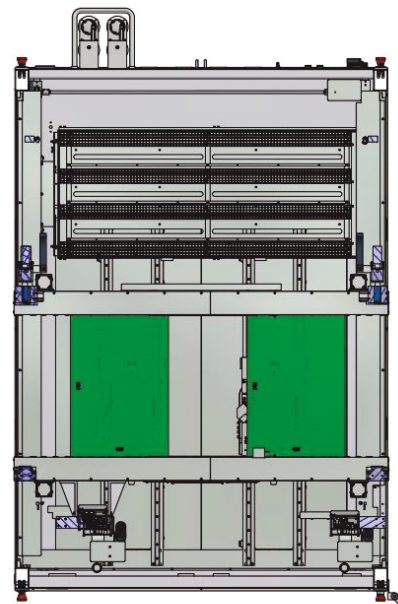## Single-Point Process Dual-Bath Soldering Module

SECTION A-A

Size: 1600mm wide
Board Size Capability: 610mm x 610mm (24" x 24") when using alternate nozzle tip sizes at different positions on a single PCB.
Standard Features: Twin Independent Solder Baths
Refer to Pillarhouse Synchrodex Pro Quotation
Document for details of all available machine options.

Twin-Point Process Dual-Bath Soldering Module

SECTION A-A

Size: 1600mm wide
Board Size Capability: 420mm x 610mm (16.5" x 24") when soldering two different PCBs simultaneously.
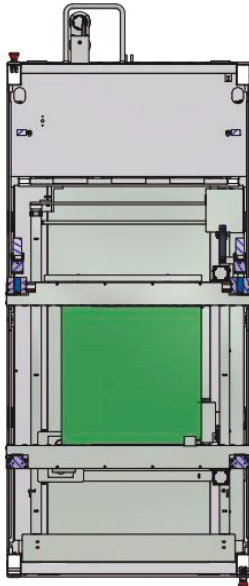Standard Features: Twin Independent Solder Baths
Refer to Pillarhouse Synchrodex Pro Quotation
Document for details of all available machine options.

Pillarhouse
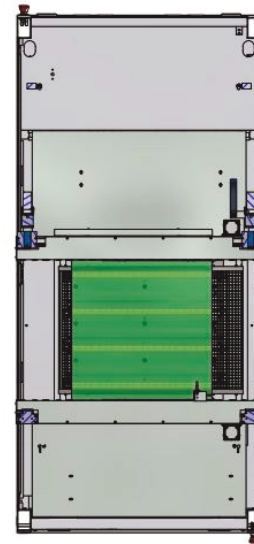INTERNATIONAL

SECTION A-A

Fluxer Module

Size: 1060mm wide
Board Size Capability: 610mm x 610mm (24" x 24")
Standard Features: Drop-Jet flux head
Refer to Pillarhouse Synchrodex Pro Quotation
Document for details of all available machine options.
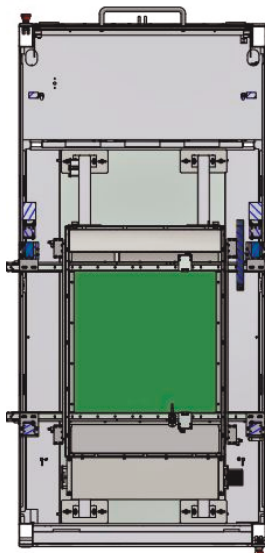
SECTION A-A

I.R. Pre-Heater Module

Size: 1060mm wide
Board Size Capability: 610mm x 610mm (24" x 24")
Standard Features: Bottom side I.R. Pre-Heater
Refer to Pillarhouse Synchrodex Pro Quotation
Document for details of all available machine options.

SECTION A-A
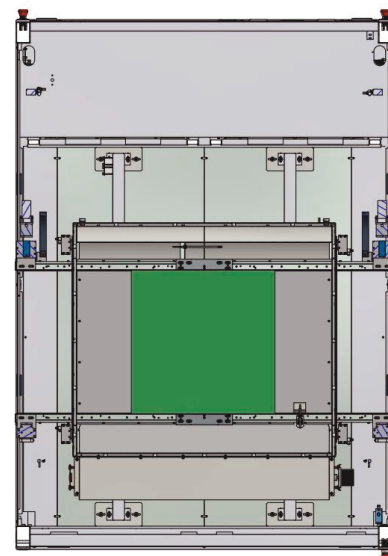
Convection Heater Module

Size: 1060mm wide
Board Size Capability: 610mm x 610mm (24" x 24")
Standard Features: Enclosed Convection Pre-Heater
Refer to Pillarhouse Synchrodex Pro Quotation
Document for details of all available machine options.

SECTION A-A

Double Convection Heater

Size: 1600mm wide
Board Size Capability: 1150mm x 610mm (45" x 24")
Standard Features: Enclosed Convection Pre-Heater
Refer to Pillarhouse Synchrodex Pro Quotation
Document for details of all available machine options.
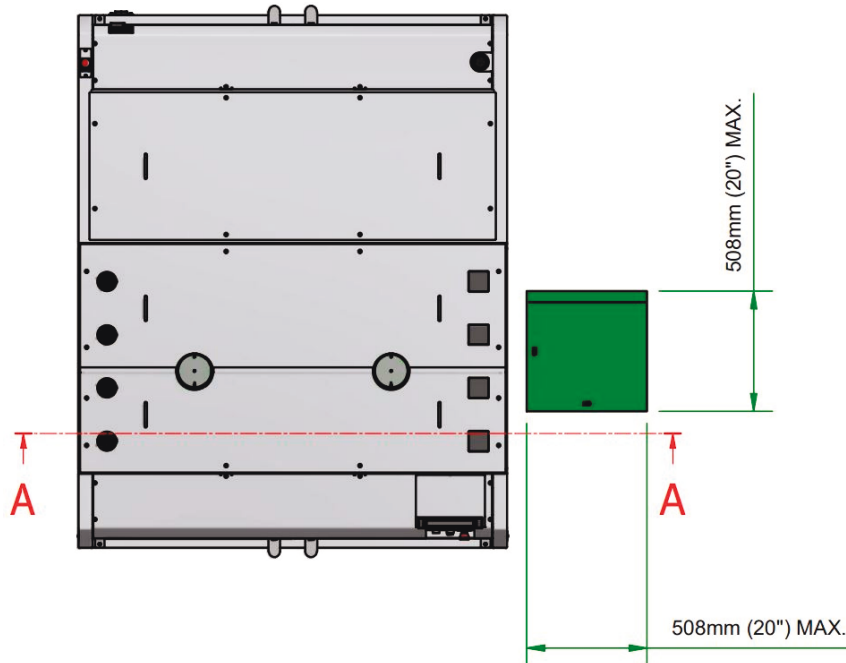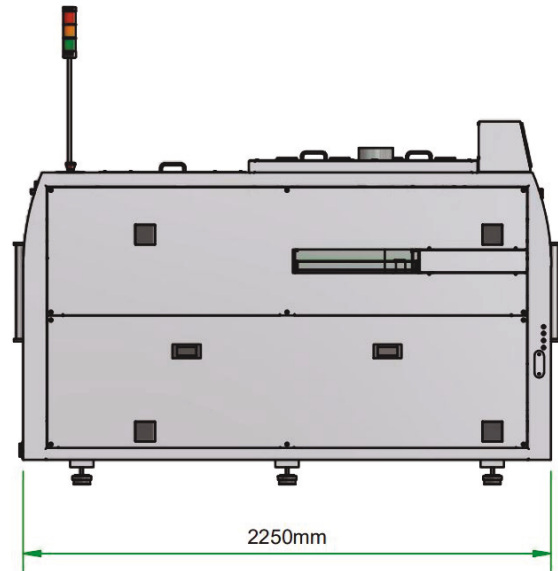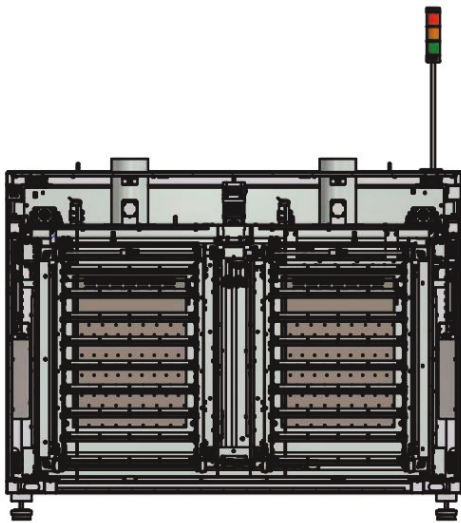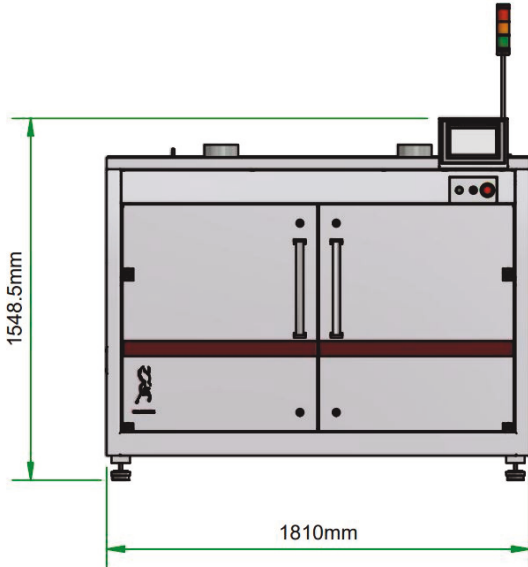
High-Speed Stacker Convection Heater

Size: 1810 mm wide
Board Size Capability: 508 mm x 508mm (20" x 20")
Standard Features: Enclosed Convection Pre-Heater,
programmable duration time, maximum of 160 degrees Celsius internal
temperature, processes a maximum of 16 PCBs.

PCBs enter Convection Heater, travel down, across and up before exiting.

Refer to Pillarhouse Synchrodex Pro Quotation Document for details of all
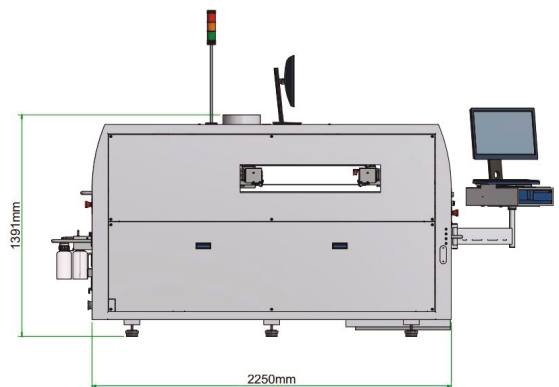available machine options.

1548.5mm

1810mm

2250mm

508mm (20") MAX.

508mm (20") MAX.

A

A

ORISSA SYNCHRODEX PRO

SPECIFICATIONS

Height:	1391mm/55" - excluding light stack and monitor
Width:	1060mm/42" or 1600mm/63" (depending on frame size)
Depth:	2250mm/88"
Board size:	Min. – 102mm x 102mm/4" x 4"
	Max. (standard variants) – 420mm x 610mm/16.5" x 24" and 610mm x 610mm/24"x 24"
	(optional sizes) – 1143mm x 610mm/45" x 24"
Edge clearance:	Above/below 3mm
Height clearance:	Above 45mm/below 40mm nominal
Extraction: Fan:	236mm dia.
Rating:	940m³/hr/553CFM
Solder:	Most commonly used solder types - includes lead-free
Solder pot capacity:	11kg/24lb (standard) - 20kg/44lb (large)
Nozzles/Applicators:	Micro Nozzle - 1.5mm to 2.5mm
	AP style - 2.5mm to 16mm dia.
	Extended AP style - 2.5mm to 16mm dia.
	Jet-Tip style - 6mm to 25mm dia.
	Jet-Wave nozzle - up to 40mm width
	75mm and 150mm Wave nozzle
	Special dedicated nozzles available upon request
Flux:	Low maintenance Drop-Jet system. Low solids (below 8%), no clean flux, pressurised and inerted system, optional ultrasonic system available
X, Y & Z axes resolution:	0.15mm
Repeatability:	+/- 0.05mm
Nitrogen supply pressure:	5 bar/72 psi
Nitrogen usage:	30-100 litres/min./1.06-3.53 CFM- solder nozzle configuration dependent
Nitrogen purity:	99.995% or better
Air supply pressure:	5 bar/72 psi
Air usage:	10 litres/min./0.35 CFM
Power supplies:	Three-phase + neutral + PE
Voltage:	230 V phase to neutral/400V phase to phase
Frequency:	50/60Hz
Power:	Machine configuration dependent
Transport:	Conveyor (IPC-SMEMA-9851 compliant)
Programming:	PillarCOMM.NET software - Windows® based 'Point & Click' interface

SYNCHRODEX PRO
1060mm MASTER SOLDER

1060mm

1391mm

2250mm