

TM SOLDERING SOLUTIONS



TM Soldering Solutions

The Selective Soldering process can be divided into 3 basic steps (fluxing, pre-heat, soldering). When all 3 steps are performed in one machine the total of the 3 steps determines the production rate, usually the fluxing and pre-heat time is approximately 50% of the production rate. By separating the fluxing and pre-heat from the soldering and performing both functions concurrently the production rate can be doubled. The **PHOENIX-FP** fluxer/pre-heater and the matching **PHOENIX-IL** in-line selective soldering machine provide this capability.

The **PHOENIX-FP** in-line fluxer/pre-heat unit is an intelligent dual purpose system that significantly reduces the process time by concurrently applying flux to the specific components to be soldered then pre-heating the board in preparation for soldering.

Standard Features:

- ◆ **Windows™ 11 operating system with the EmberX Software**
- ◆ **Dual Monitors For simultaneous video feed**
- ◆ **Fiducial recognition for automatic position and rotation correction**
- ◆ **HD1080p Camera for high resolution PCB programming**
- ◆ **Topside 6 zone IR Preheater**
- ◆ **Controlled ramp up temperature for soft preheating without inducing thermal stress to sensitive components.**
- ◆ **Offline Programming**
- ◆ **Atomizing flux applicator**
- ◆ **Accepts all conventional Flux chemistries**
- ◆ **SMEMA edge conveyor with program controlled width adjust**
- ◆ **Warranty one year covering the entire machine**



Model **PHOENIX-FP**

In-Line Selective Flux & Preheat

Fluxing Technology: The board is conveyed into the **PHOENIX-FP** on the edge conveyor (SMEMA), located by fiducials in a known position then, flux is applied via X-Y motion under program control. The Spray Fluxer applicator is the standard atomizing unit that provides rapid application of a wide range of flux chemistries. The precision Micro Drop jet applicator is available for no-clean processes. The TM Soldering Solutions flux applicators are unlike any others featuring rugged yet simple construction that outperform other applicators by handling low PH fluxes down to 2.0 and solid content up to 30%.

Heat Transfer Technology: Molten solder naturally migrates towards a heat source. The **PHOENIX-FP** preheat technology delivers "top side" heat to the PCB which promotes barrel fill and the correct formation of fillets on the top side of the solder joint. However, a bottom side heating module is available for thicker boards.

The heat is provided by filtered IR which is divided into separate zones. Each zone can be activated individually to cover the size of the PCB under process without unnecessarily heating up the entire area. The set point and ramp to temperature is controlled and governed with an optical pyrometer. The entire system is closed loop providing for a repeatable and robust process.

Available Options:

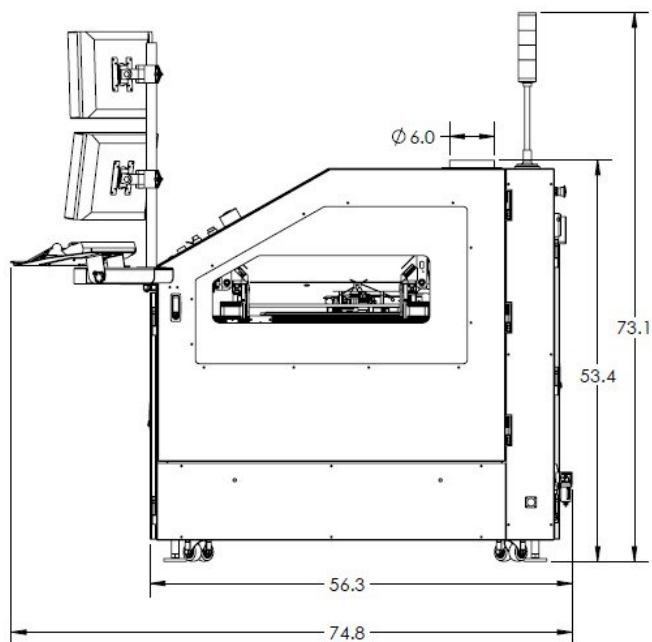
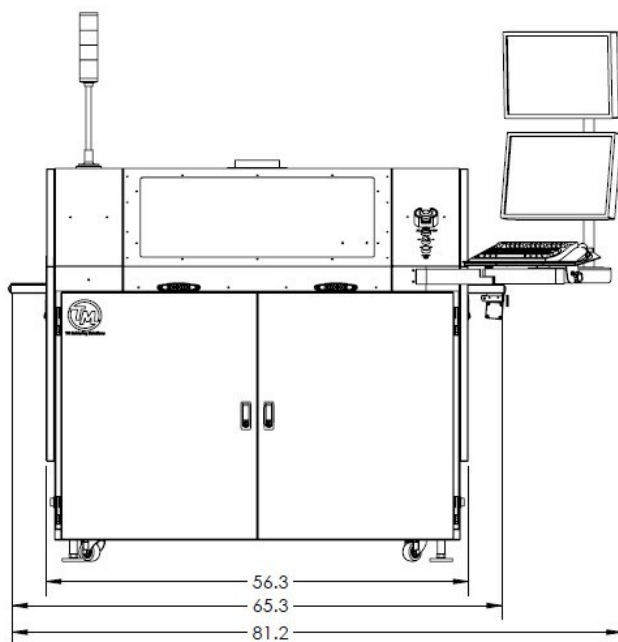
- ◆ **Precision Micro Drop Fluxer**
- ◆ **Bottom side multizone Preheat for thicker boards**



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Made in America



Dimension:

Length:	56.3" 1430mm
Depth:	56.3" 1430mm
Height:	53.4" 1356mm
Weight:	1200 Lbs.

Nitrogen:

Supply:	Customer Supplied
Purity (%):	99.999
Consumption SCFH:	10-15
Min/Max PSI:	60 Min 90 Max

Control:

Computer:	64 Bit
Microsoft™ OS:	Windows 11 Pro
Password Controlled	Optional
Dual Monitors:	UHD 2K
Online Teach Camera:	1080P HD

Fluxer:

Spray Fluxer:	XY controllable
Spray Width:	7-25mm
Precision Micro Drop Fluxer:	Optional
Flux reservoir:	500 ml (16 oz)

Conveyor:

Edge Clearance:	3mm
Min Opening:	2"
Max Opening:	20"
Max Pallet/PCB board:	8 Lbs.
SMEMA Height:	37" to 38"
Board Clearance:	3" below/4" above

Preheat Module:

Heaters:	Infrared
Temperature Range:	0-120°C

Air:

Compressed Air:	Customer Supplied
Min/Max PSI:	90 Min 120 Max

Electrical:

Power:	208-240V Single Phase
Frequency:	50/60 Hz
Breaker:	70 AMP
Full Load AMPS:	Top side PH only 27.27
with Bottom side PH:	60.25

Exhaust:

Exhaust Flange:	1 ea. at 6" Dia.
Exhaust Draw:	Customer supplied
Min Draw Required:	150 m ³ /h (90 SCFM)



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