

MLTS-200:

“Manual Lead Tinning Station”



Made in America

The Issue:

Removing gold plating, replacing RoHS finish with Pb, refurbishing legacy components and tin whisker mitigation are the major reasons to hot solder dip component leads. This applies to both all through hole and Surface mount components. T/H components are relatively easy to process with appropriate fixturing and a robust solder pot. Tinning fine pitch QFPs (FPQFPs) is especially difficult to do in house usually requiring complicated robotics and often resulting in bridging and rework. Sending these very delicate components to a tinning house (sometimes across the country) is very expensive and time consuming.

The Solution:

When creating the LTS-QFP fully automated tinning system for FPQFPs (see data sheet), ACE discovered a unique tinning method using a specially designed “Side Wave” solder nozzle that is heavily purged with nitrogen. The side wave process uses the natural cascade of the solder to scrub the old plating off while wicking away excess solder during the extraction of the forms leads leaving the leaded array bridge free. This process is so robust that even tinning FPQFPs by hand holding the components with a vacuum wand works very well.

ACE has designed the “Side Wave Process” into a low cost but efficient work station (the MLTS).

The MLTS is an ergonomically designed work station for one person to easily handle all forms of component lead tinning. The MLTS can be configured with one or two solder pots with either the “Side Wave” or straight “Immersion” nozzles, and flowing flux station. The solder pots and fluxers are operated through foot switches minimizing the solder pumping and N2 consumption to a minimum.



Standard Features Include:

- Two solder pots (Side Wave or Immersion Nozzle)
- Nitrogen inerted wave
- PID temperature and pump speed controls
- Dynamic flux pot with pump controls and level light
- 3 up foot switch array



The solder, flux stations and controls are easily accessed.

A 3 position footswitch momentarily activates each station.



The MLTS is designed to be efficient yet comfortable for continuous use.

Solder Pot Specifications:

Outside Dimensions:

(not including pump)

Length	9.5"
Depth	4.5"
Height	3.5"

Inside Dimensions:

Length	6"
Depth	4.5"
Height	3.5"

Weight: (dry) 18 lbs.

Solder Capacity: 30 lbs.

Wave Level Accuracy: Digitally controlled height with $\pm .005$ " repeatability

Voltage: 115 VAC

Power Consumption: 1000 watts
(@ 1 PH - 60 Hz)

Temperature Range: 0-400°C

Wave Level Accuracy: Digitally controlled height with $\pm .005$ " repeatability

Active Dip Area (Immersion) 2" x 2" x 2.25 deep

Active Dip Area (Side Wave) 3" across

Options:

All Titanium solder pot for lead free alloys (RoHS)

High Melting Point (HMP) solder pots

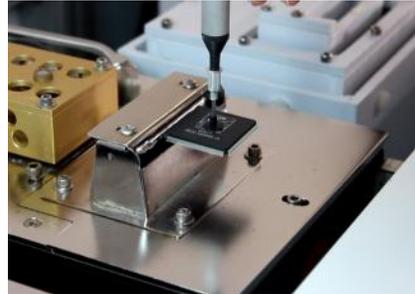
Additional flux pots (for rapid changeover of flux chemistries)

Hot air pre-heating station (for through hole components with ceramic or glass bodies)

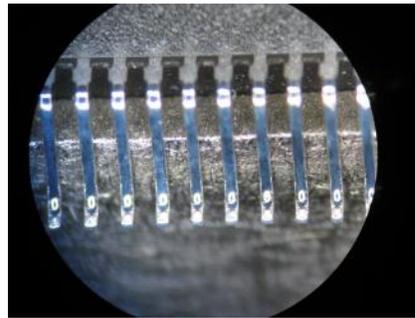
Heated pedestal pre-heater (for QFPs, DIPs, LCCs, SMT chips)



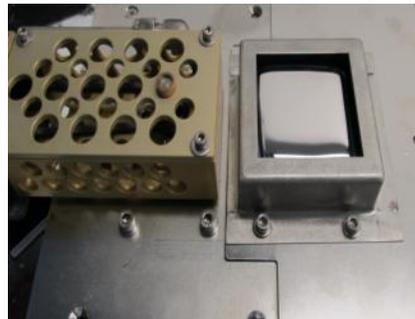
Fluxing fine pitch QFPs with "Side Wave"...



Tinning a fine pitch QFP using the "Side Wave" and N2 inerting "No Bridging"



Tin QFPs down to .05mm lead pitch without bridging....



MLTS lead tinning "Immersion Wave" nozzle and Nitrogen shroud for T/H components....

MLTS Station Specifications:

Weight: (dry)	325 lbs.
Length	44"
Width	26"
Table Height	30"
Power (with 2 pots)	115VAC, 18 amps
N2 consumption (with 2 pots)	25 / 50 c.f.h.