Technical Specifications

Etching Capabilities:

- 3mil lines (76 μ) and spaces with 1oz. copper
- 2mil lines (51 μ) and spaces with .5oz. copper

Cupric Etchant Parameters for High Quality Etch:

- Temperature: 130° F (54° C)
- Acid normality - 1N
- Specific Gravity: 32 to 36 Be’ (1.28 to 1.330)
- Spray Pressure: 30 - 40 psi (2.0 to 2.7 bar)
- Expected etch rate: approx. 1mils/min (25 μ /min)

Estimated Conveyor Speed For 1 Ounce (35μ) Copper At 1 mils (25.4 microns) Per Minute:

- Standard Length XLI Series – 23 ipm (0.58 meters/min.)
STANDARD CONFIGURATION

Station 1 – Load (18 in. 457mm)
  o Vent Connection
Station 2 – Etch (57 in. 1448mm)
  o 38 in. 965mm Effective
  o Specific Gravity Control Auto Baume
    (set point ±0.5 Be to ± 0.006)
  o Chemical Dosing
  o ORP monitor
  o Pump out
  o 1.5 gpm (5.68 lit./min) cone nozzles
  o Upper/Lower Pressure Gauges
Station 3 – Isolation (12 in. 305mm)
  o Drag out control (Rollers)
  o Fresh Air inlet
Station 4 – Rinse (43.3 in. 1100mm)
  o Three Stage Cascade
  o Flow meter to sump/fresh
Station 5 – Unload (18 in. 457mm)

System Total Length: 148.3in., 3767mm

Notes:
  o Ultra-Thin conveyor Standard
  o 75 ft. (22.8m) Wiring Harness
  o Adjustable Conveyor Speed Range: 14 -140 ipm
  o Product Thickness – 0.004(0.1mm)- 0.250(6.35mm)
  o Maximum Operating Temperature: 130°F, 54.4°C

SYSTEM OPTIONS

  o Containment Pan
  o Ion Exchange
  o Specific Gravity Controller (IX) with Visual Baume
    (Set point ±0.15 Be to ± 0.002)
  o Acid Controller
  o ORP Controller & Regeneration
  o Optional Rinses
  o Inline Filters (600 micron)
  o Dryer
  o HDI – Intermittent Spray & EAM
  o Flextrak Package (below .004 in., 0.1mm)
  o Ventilation Demister
  o Cooling System (Chiller)
  o Extended Load & Unloads
  o Available Conveyor Widths
    • 20, 30, 40 and 60 Inch(508, 762, 1016, 1524mm)
  o Power Options
    • 208/3/60, 230/3/60, 460/3/60, 400/3/50
  o Other options available upon request

Customer Notes And Additional Details: (ex. voltage, width, etc)
**Etching Capabilities:** *

- 3mil lines(76μ) and spaces with 1oz. copper
- 2 mil lines(51μ) and spaces with .5oz. copper

**Ferric Etchant Parameters for High Quality Etch:**

- Temperature: 130° F (54° C)
- Acid – 0.5% w/w or less
- Specific Gravity: 42 Be’ (1.408)
- Spray Pressure: 30 - 40 psi (2.0 to 2.7 bar)
- Expected etch rate: approx. 0.5 to 1mils/min

**Estimated Conveyor Speed for 10 mil 304SS, double sided etch @ .08 mils/Per Minute:**

- Standard Length XLI Series – 5 ipm (12.8 cm/min.)

*(depending on alloy)*
STANDARD CONFIGURATION

Station 1 – Load (18 in. 457mm)
  o Vent Connection
Station 2 – Etch (57 in. 1448mm)
  o 38 in. 965mm Effective
  o Specific Gravity Control Auto Baume
     (set point ±0.5 Be to ± 0.006)
  o ORP monitor
  o Pump out
  o 1.5 gpm (5.68 lit./min) cone nozzles
  o Upper/Lower Pressure Gauges
Station 3 – Isolation (12 in. 305mm)
  o Drag out control (Rollers)
  o Fresh Air inlet
Station 4 – Rinse (43.3 in. 1100mm)
  o Three Stage Cascade
  o Flow meter to sump/fresh
Station 5 – Unload (18 in. 457mm)

System Total Length: 148.3 in., 3767mm

Notes:
  o Ultra-Thin conveyor Standard
  o 75 ft. (22.8m) Wiring Harness
  o Adjustable Conveyor Speed Range: 14 -140 ipm
  o Product Thickness – 0.004(0.1mm)- 0.250(6.35mm)
  o Maximum Operating Temperature: 130°F, 54.4°C

SYSTEM OPTIONS

  o Containment Pan
  o Ion Exchange
  o Specific Gravity Controller (IX) with Visual Baume
     (Set point ±0.15 Be to ± 0.002)
  o ORP Controller & Regeneration
  o Optional Rinses
  o Inline Filters (600 micron)
  o Dryer
  o HDI – Intermittent Spray & EAM
  o Flextrak Package (below .004 in., .1mm)
  o Ventilation Demister
  o Cooling System (Chiller)
  o Extended Load & Unloads
  o Available Conveyor Widths
     • 20, 30, 40 and 60 Inch(508, 762, 1016, 1524mm)
  o Power Options
     • 208/3/60, 230/3/60, 460/3/60, 400/3/50
  o Other options available upon request

Customer Notes And Additional Details: (ex. voltage, width, etc)