VIKING CORP LIMITED
The leading PCB Equipment Supplier

KSDW-Vertical Continuous Plating Line

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CONTENTS

01 KSDW Introduction and History

About KSDW

KSDW

-Established in 2005, Private enterprise, HQ in Kunshan, China.
-Three production bases in Kunshan, Guangde and Shenzhen.
-2024 Revenues: $107.4 million.
-About 1300 employees

Six Divisions

-Vertical Continuous Plating Equipment Division
-New Energy Film Material Equipment Division
-Vacuum Coating Equipment Division
-Horizontal Equipment Division
–Hardware Continuous Line Division
–Hoist Type Plating Equipment Division

About KSDW

- 2005 — KSDW started VCP R&D
- 2006 — 1st VCP line was successfully developed
- 2014 — KSDW Shenzhen was founded. The 200th VCP was sold.
- 2015 — B series and K series for FPC put into market
- 2016 — RTR VCP line and VCP pulse was successively launched
- 2019 — The building of KSDW Headquarter was capped
- 2021 — KSDW was listed on the Science and Technology innovation board
- 2024 — Vacuum coating equipment division was established.

02 Basic Specification and Capacity

Specification and Capacity

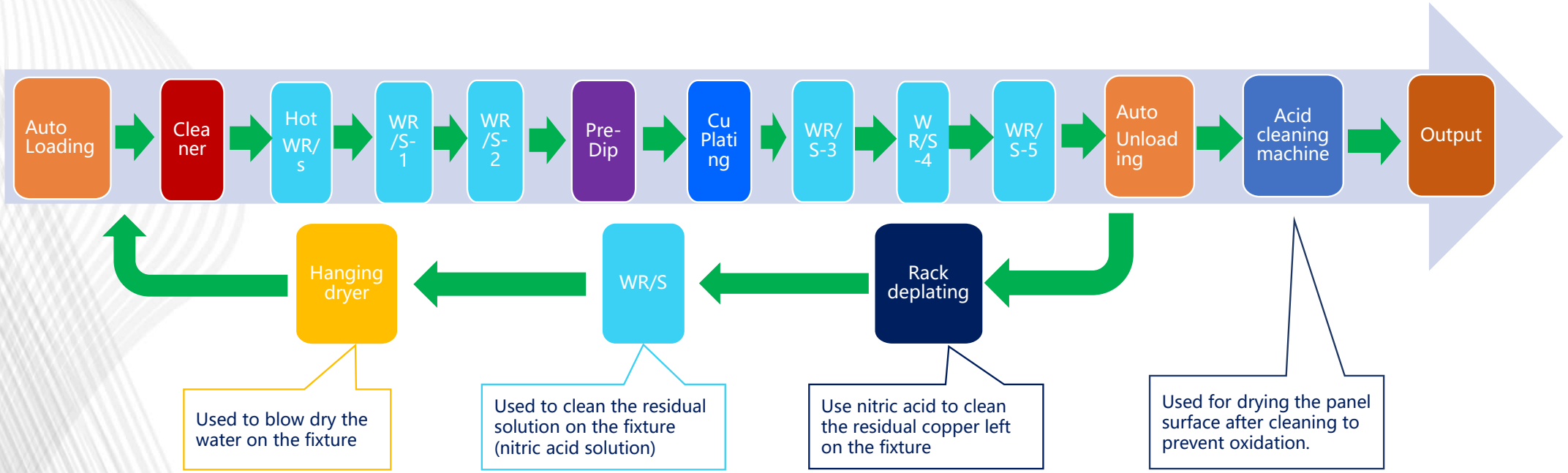
Specification	
Panel Depth:	350 ~ 635mm
Panel Width:	350 ~ 635mm
Panel Thickness:	0.3 ~ 3.2 mm
Current Density:	15 ~ 40ASF (soluble anode) (insoluble anode is optional)
Production Cycle:	Six beats/min. (automatic loading and unloading: robot + suction cup)
Capacity	
Plating uniformity:	COV ≦4% (Non-porous copper plate, standard deviation/average value). Absolute value deviation ≤ ±10% (calculated by subtracting the bottom copper)
Through-hole capability: (cooperate with chemical supplier)	Based on 0.2mm hole, Aspect ratio=5:1, the filling rate at 90%; Aspect ratio=6:1, the filling rate at 85%; Aspect ratio=8:1, the filling rate at 75%.

Flow Process

B Series: Rigid Panel/Pattern Plating/Panel Palting/Ni, Au Plating, 0.2-3.2mm

K Series: FPC & thin rigid board, Panel & pattern& via filling, 0.036-1.6mm

R Series: Rolling FPC, panel& pattern & Ni _ Au plating, 0.012-0.1mm

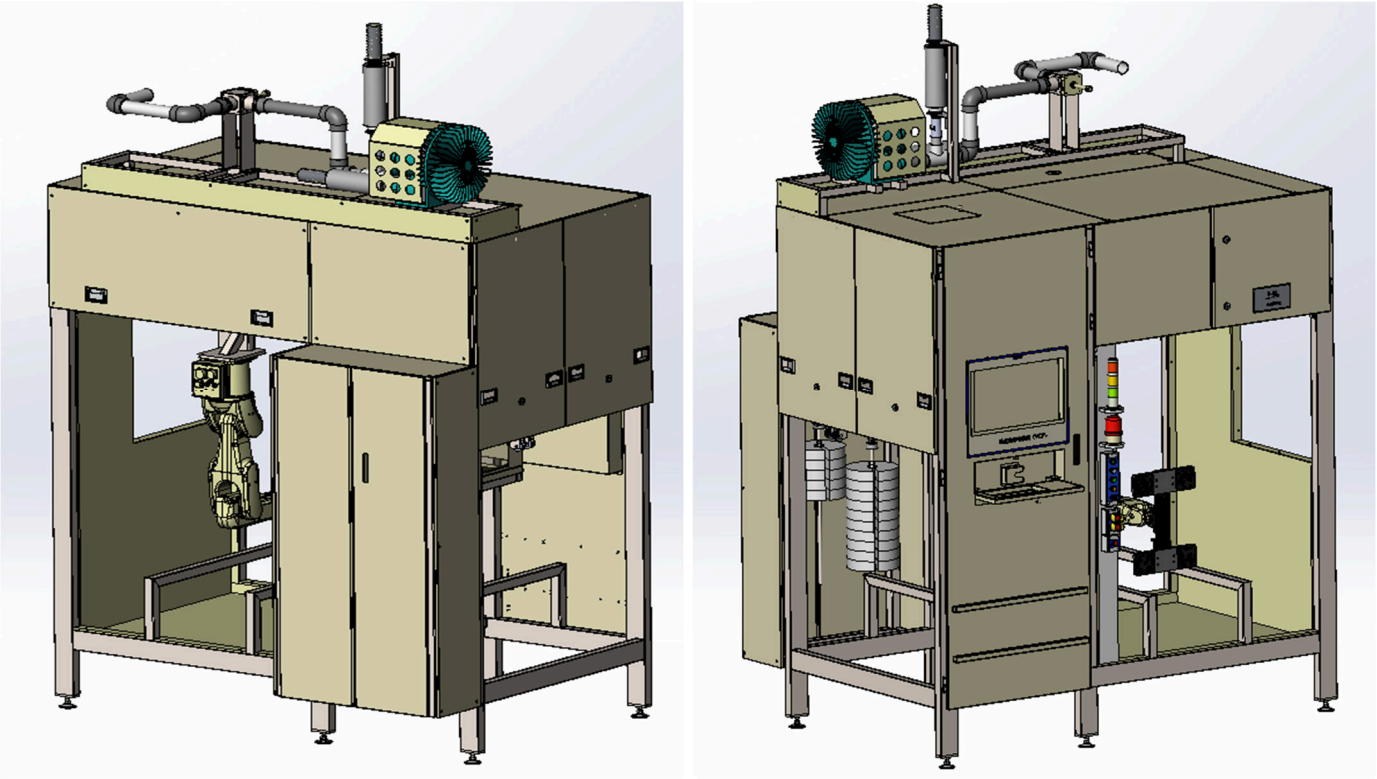


03 VCP Characteristics

Automatic Loading and Unloading

With NACHI robot + PVC suction cup

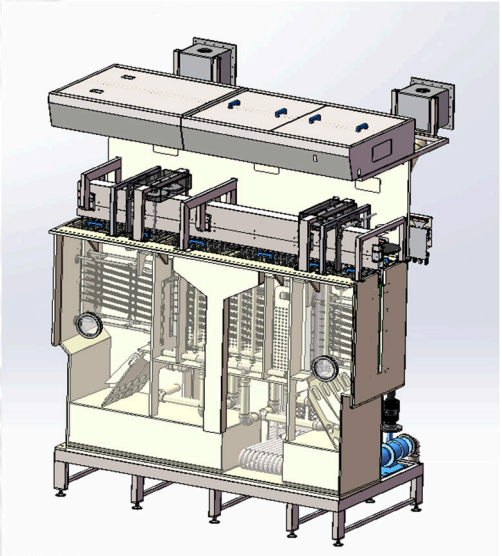
Equipped with Loading machine + Panel positioning conveying module.

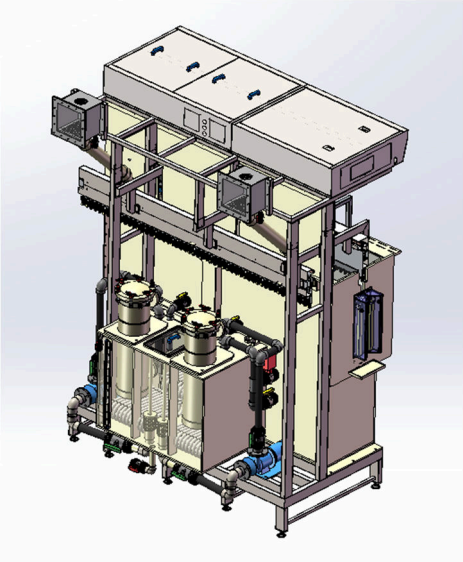


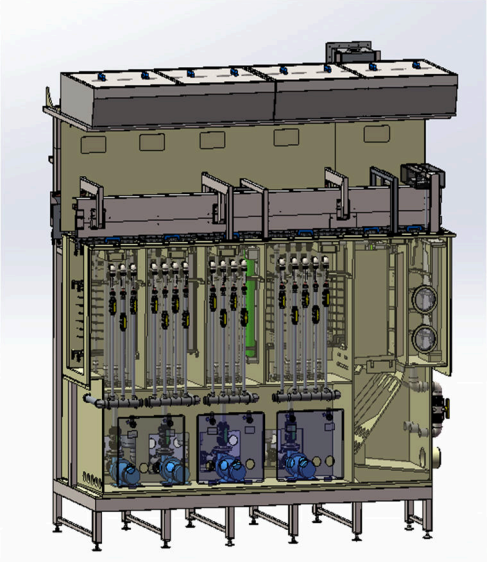
PRE-TREATMENT

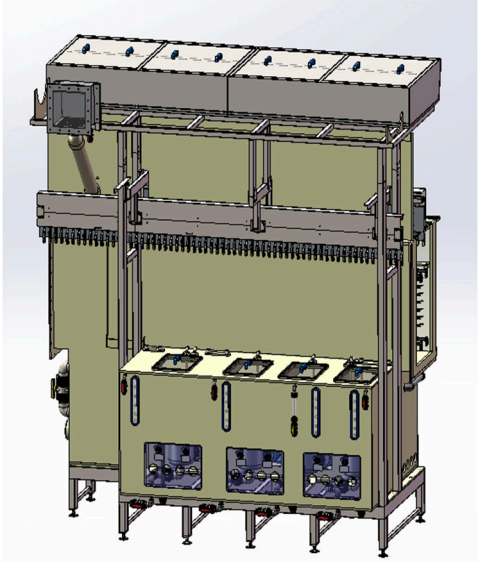
Provide sufficient conditions for PCB before copper plating.

The main process is cleaning (immersion) - hot water Rinse - double water Rinse - pre-dip



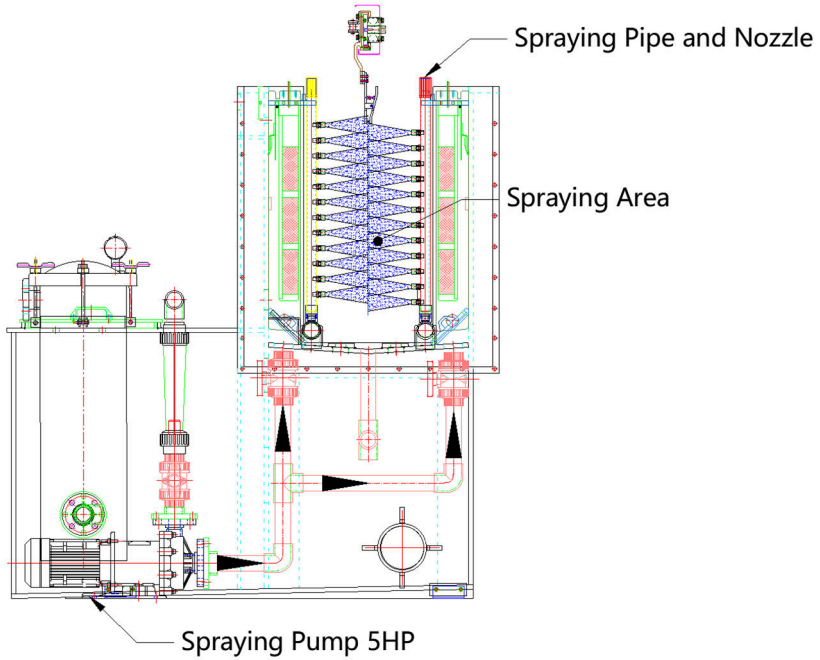


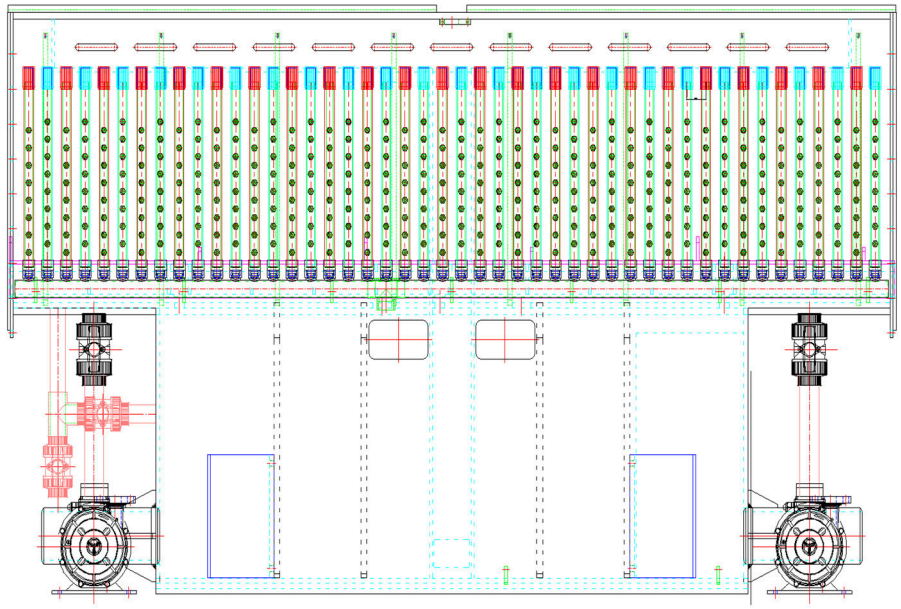




Water Rinse

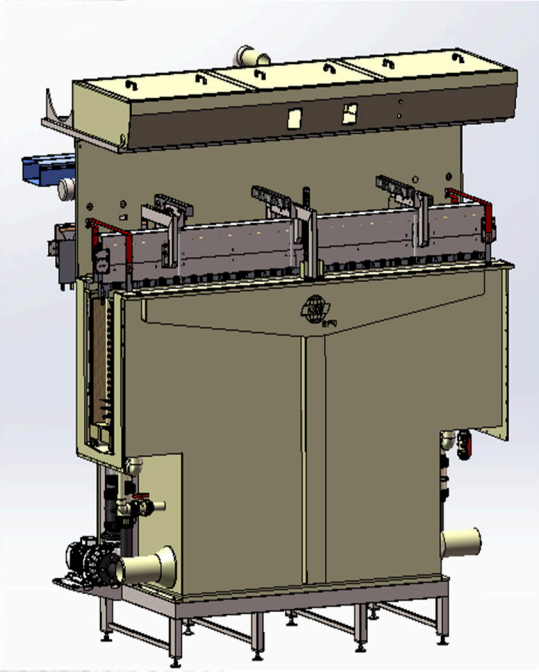
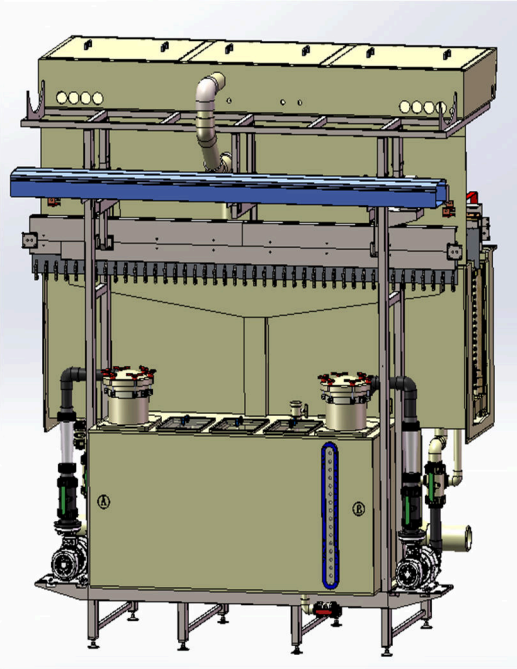
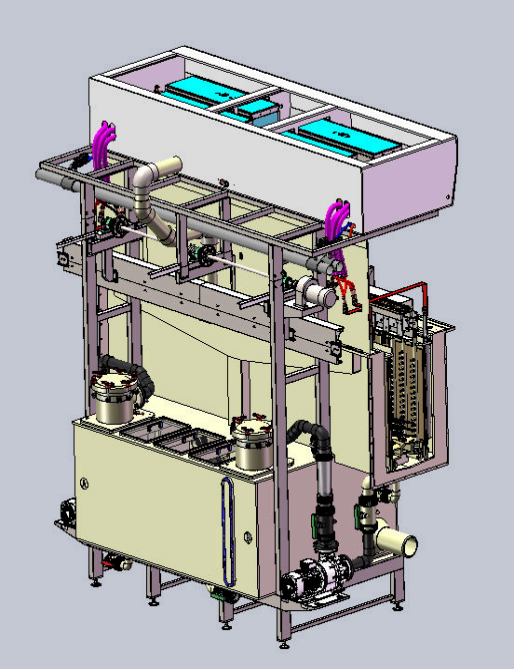
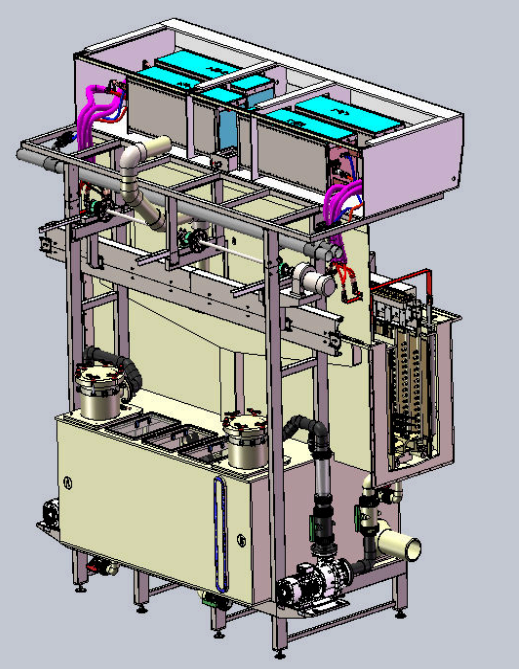
Side spray circulation design, the spray direction is perpendicular to the board surface, the nozzles are staggered to provide uniform coverage.





Copper Plating

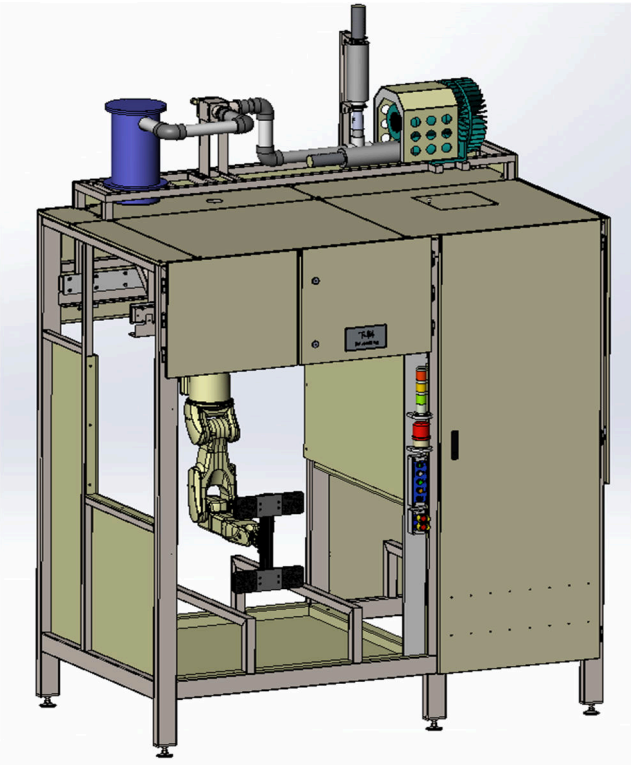
Meet customers' requirements for copper thickness in holes and circuits, and ensure excellent conductivity.

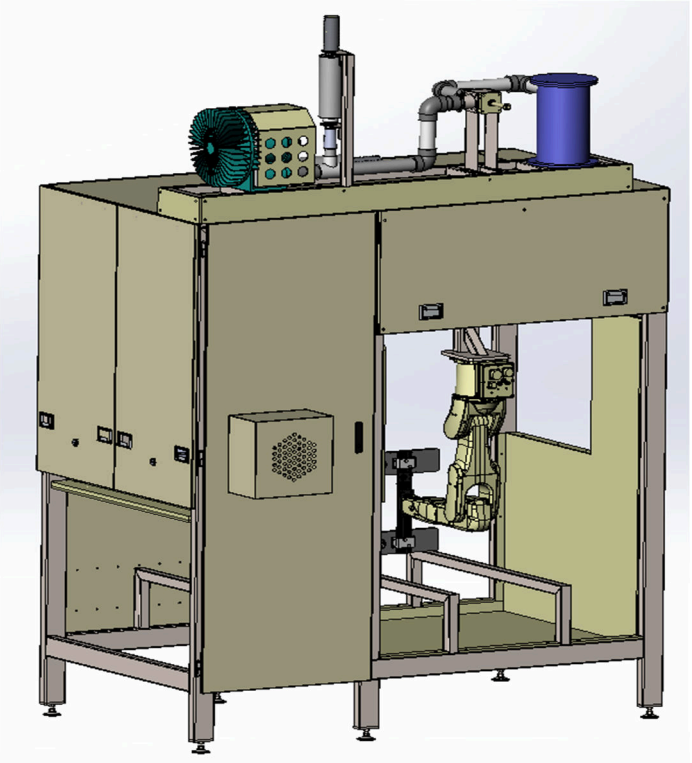





POST-TREATMENT

With NACHI robot + PVC suction cup

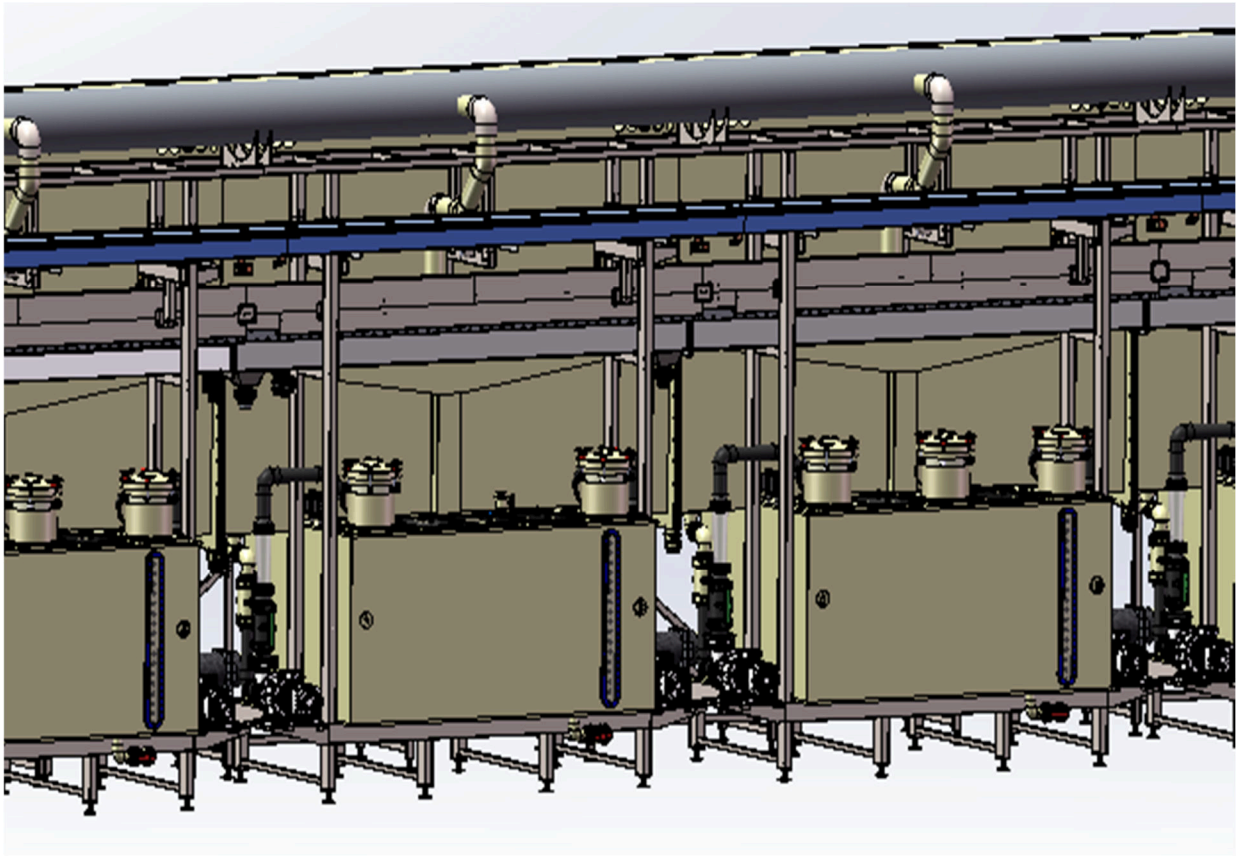
Equipped with Acid Rinse Cleaning machine + Unloading





Stripping and Hanging Module

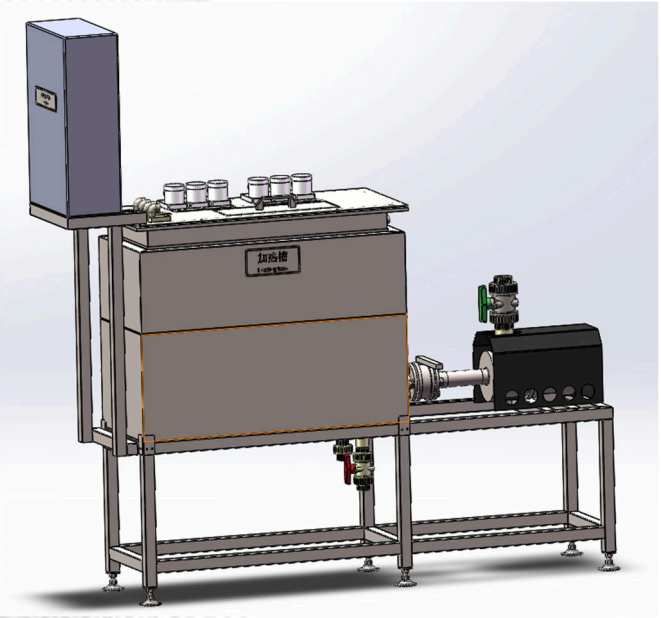
Removal of copper residue on electroplating fixtures



Tank Design

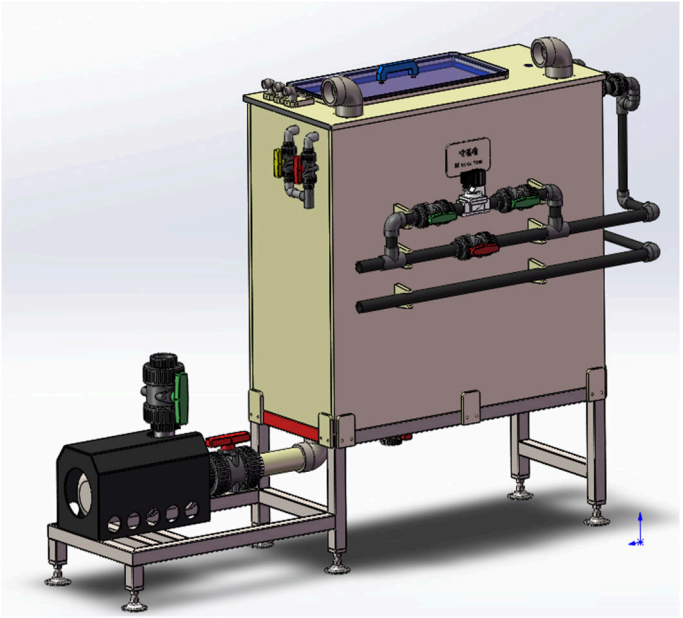
Hot water tank:

Provide a suitable heat source to ensure the working temperature of each tank.



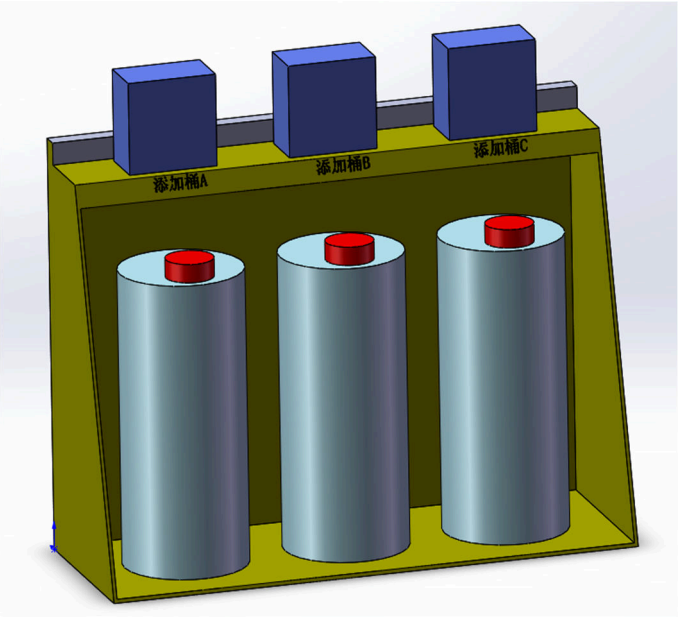
Normal temperature tank:

reduce the heat generated by the copper tank rectifier during operation



Auto dosing tank

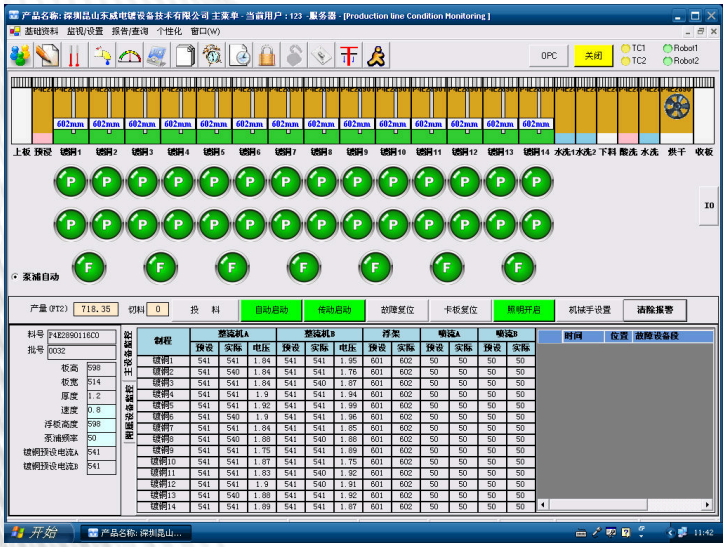
Provide brightener to the copper tank, add quantitatively with auto dosing pump

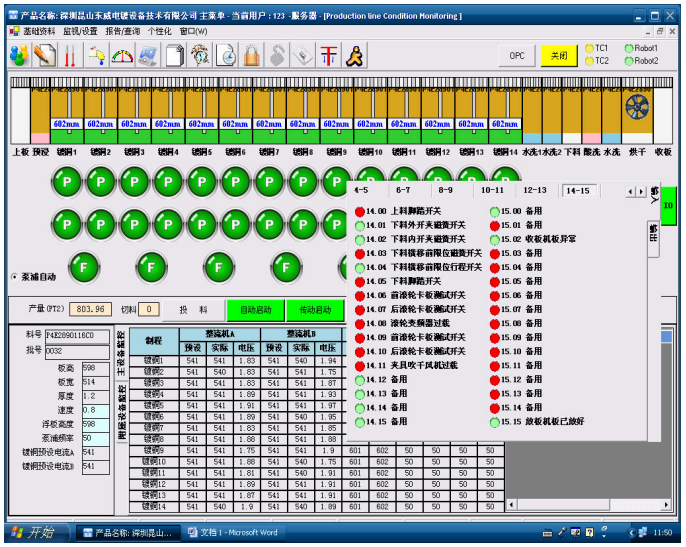


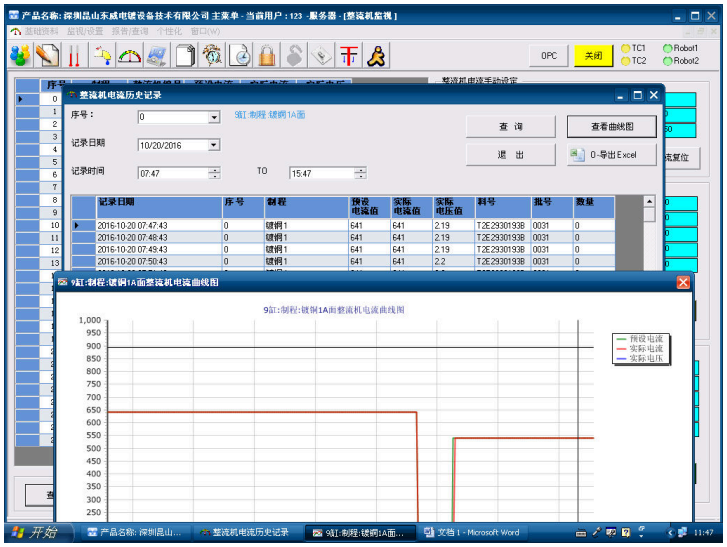
Human-machine interface and DMS system

Real-time monitoring of production data and timely adjustment of equipment parameters;

Record the set current, actual current, actual voltage, set frequency, actual frequency and production material number, batch number every minute and generate a curve chart.







04 Cooperation Cases

Cooperation Cases

Viking and KSDW have in-depth cooperation in Europe/India/USA and other regions to provide customers with high-quality equipment and services.

Thank You!

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