



# OFFLINE PCBA CLEANER AQ-650

## Description

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- Two layer cleaning baskets : 610mm(L) × 560mm(W) × 100mm(H) 2 layer
- Equipped with France Made Dosatron automatic proportion pump
- Independent chemical liquid adding pump
- Unique nozzle design realize no dead angle cleaning
- Automatic fast drying system
- Precision recycle filtering device enhance chemical liquid service life
- High standards of cleanliness meet IPC-610D standard
- PLC + touch screen control , full English interface

AQ-650 is mainly developed for the cleaning of PCBA in the electronics manufacturing industry. It uses the industry's most advanced cleaning process "water-based liquid" for cleaning,

achieving 99% cleaning and environmental protection. The machine consists of a cleaning system, a rinsing system, a drying system, a filtration system.

## Features

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1. Visualization of the whole process: Cleaning room equipped with visual window cleaning process be clear at a glance.
2. Large cleaning baskets: 610mm(L) × 560mm(W) × 100mm(H) 2 layer , Meet larger PCBA sizes and higher cleaning production.
3. The most scientific nozzle design: Increasing nozzles from left to right, Enhance the cleaning efficiency, Distribution nozzles up and down, Completely solve the blind clean area.
4. Nozzle pressure adjustable design: Solve the small size of PCBA in the cleaning process by spray under high pressure collision, splash problem.
5. With standard diluents slot heating system: Greatly promoted cleaning efficiency. Shorten cleaning time.

6.Touch screen interface: According to different PCBA model set with different process parameters, Quick edit and variety of different process parameters can be stored program, including, solvent temperature, cleaning time, rinse times/ time, rinse temperature, dry time, drying temperature, conductivity monitoring parameters, etc... According to different permissions, operator, management authority.

7. High standards of cleanliness: Ion pollution completely accords with the 610D IPC - I class standard (less than 1.5 ug/cm<sup>2</sup>, and the U.S. army standard of MIL28809 class standard .

8. Convenient liquid adding mode: Can manually add chemical liquid , also can set according to proportion (5% ~ 25%) automatic proportioning DI water and chemical fluid.

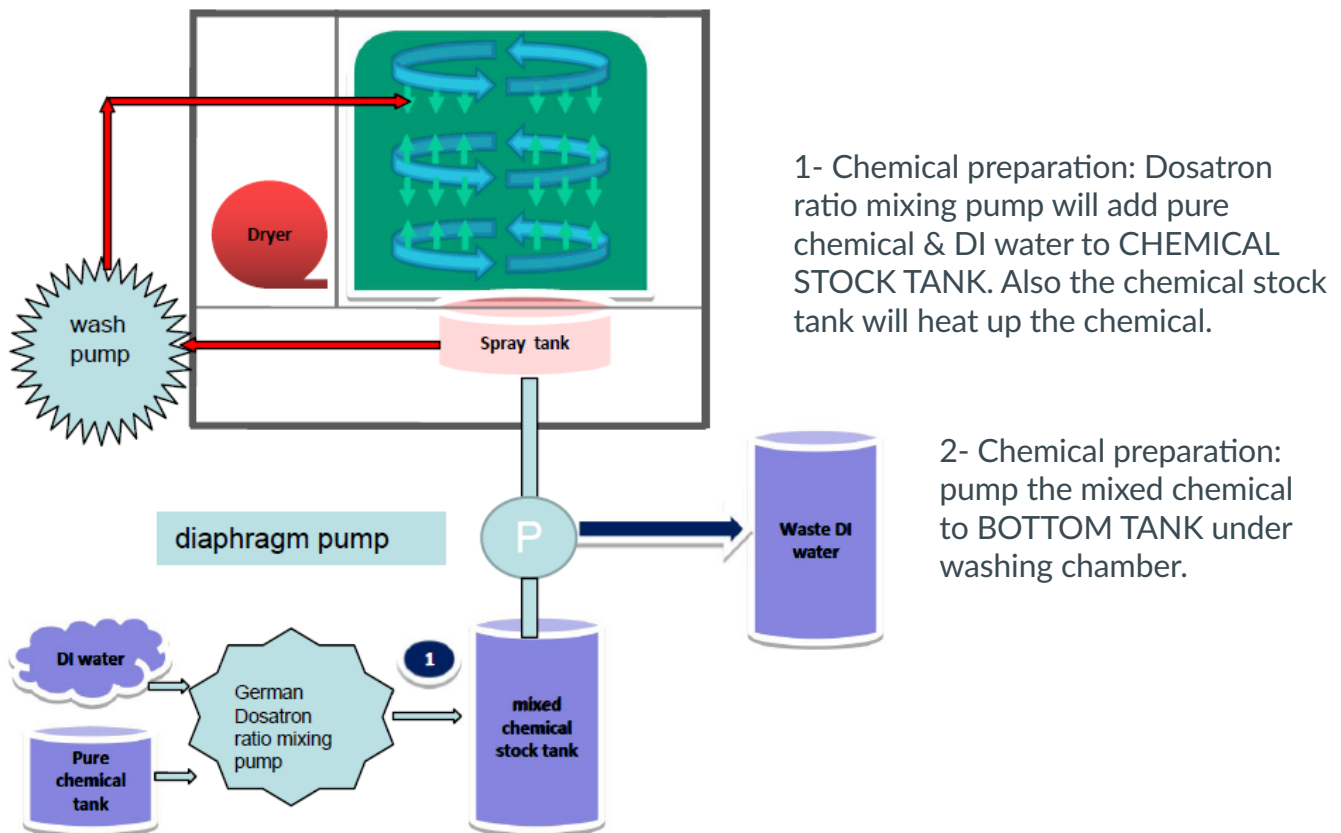
9. Comprehensive cleaning system: according to the product surface residual organic matter, inorganic matter thoroughly effective cleaning.

10. Automatic cleaning mode: in a clean indoor finish all cleaning, rinsing and drying process, small size, compact structure.

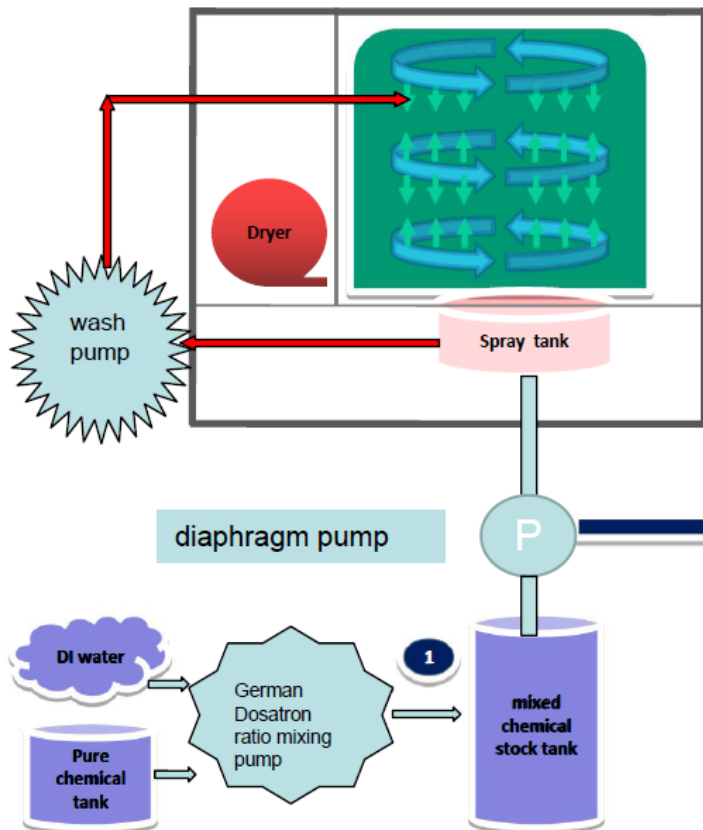
MACHINE MODEL	AQ-650
Clean Basket Size	Max 610mm(L) X560mm(W) X100mm(H)mm 2layers
Max Product Size	Max 600mm(L) X520mm(W) X150mm(H)mm
Min Product Size	Min 20mm(L) X20mm(W) X150mm(H)mm , the small product need customized fixture to fix it .
Dilution Tank Capacity	Max 70L
Chemical Liquid Tank Capacity	30L
Spray Tank Capacity	17L-23L
Cleaning method	360°Whirl/Ejection for cleaning; hot air for drying
Cleaning Time	5~20 Minutes (Reference)
Rinsing Time	1-2 Minutes (Reference)
Rinsing Times	1-10(Set)
Drying Time	20~30 Minutes (Reference)
Cleaning Liquid Recovery Filter	0.45um ( filter tiny impurities: solder paste, flux, rosin and pollutants)
Rinsing Liquid Discharge Filter	0.45um ( filter tiny impurities: solder paste, flux, rosin and pollutants)
Dilution Liquid Heating Temperature	Room temperature~75°
Drying Heating Temperature	Room temperature~75°
Resistivity Meter Monitoring Range	0mΩ~18mΩ.cm
DI Water Supply	30~60L/min
DI Water Pressure	0.2-0.4Mpa
DI Water Entrance Pipe Connection	6/8 inch

MACHINE MODEL	AQ-650
Dilution Tank Heating Power	9KW
Spray Tank Heating Power	3KW
Drying Heating Power	8KW
Cleaning Motor	5.5KW
Total Power	32KW
Total Current	55A
Air consumption	200-400L/Min
Air Supply	0.45Mpa~ 0.7Mpa
Chemical liquid Adding	Automatic
Power Supply	3Phase 380V 50/60HZ
Net Weight	400Kg
Exhaust Size	Φ100mm(W)×30mm(H)
Machine Size	L1200 × W1100 × H1830(mm)

## AQ-650 Process Diagram (preparation):



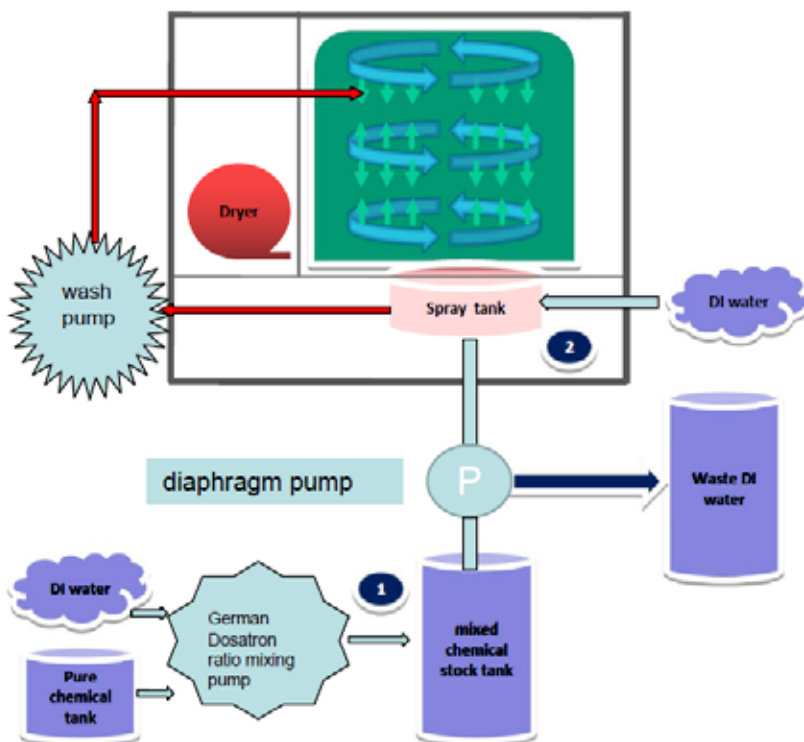
## AQ-650 Process Diagram (chemical cleaning):



1- Chemical wash: powerful pump will generate around 60-80psi pressure spraying to board. During cleaning process, the spraying tube will rotating automatically. Meanwhile, the PCB rack will be push & pull in front&rear direction, so to be sure every board can be cleaned perfectly even the board is at corner.

2- After chemical wash finished, The chemical filtered through a filter. Next it will be return back to CHEMICAL STOCK TANK

## AQ-650 Process Diagram (DI water rinsing):

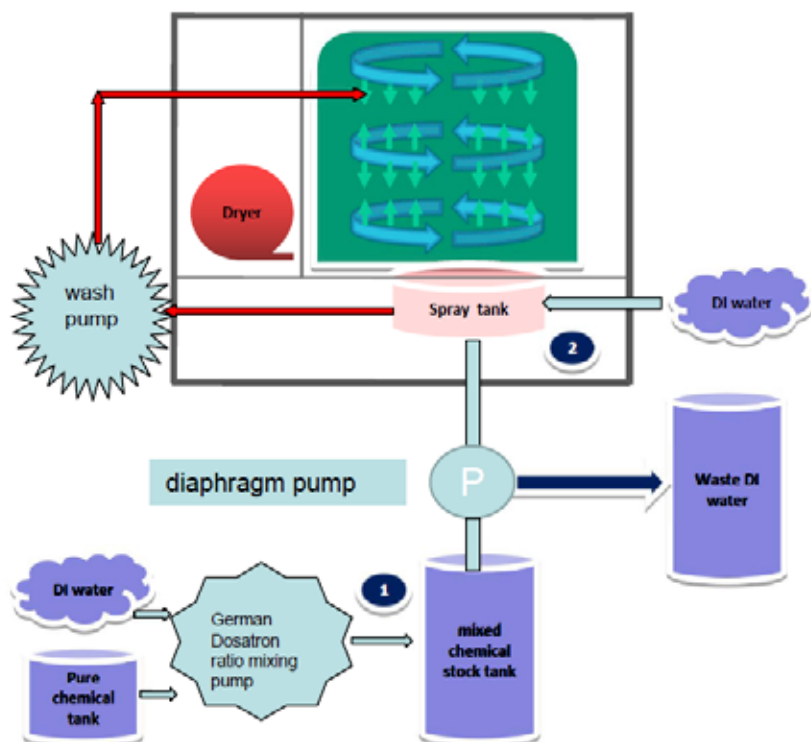


1- DI water will be supplied to bottom tank directly

2- The wash pump will generate 60-80psi pressure to rinse the boards.

3- After cleaning the waste water will be drained.

## AQ-650 Process Diagram (Repeat DI rinse):



1- DI water will be supplied to bottom tank directly

2- The wash pump will generate 60-80psi pressure to rinse the boards.

3- After cleaning the waste water will be drained.

4- According edited program's rinse period, times. Also check DI water's conductivity. Until it's meet the setting value, it will consider cleaning process finish.

## Details

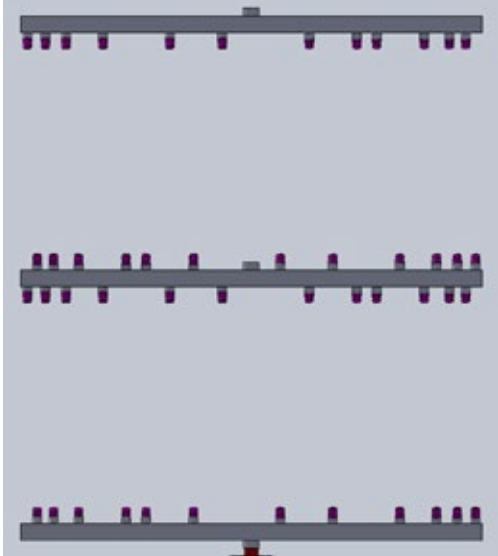


### Visualization of the whole process:

Cleaning room equipped with visual windowcleaning process can be monitored at all time .

Large cleaning baskets:610mm(L) ×560mm(W) × 100mm(H) 2 layer , Meet larger PCBA sizes and higher cleaning production





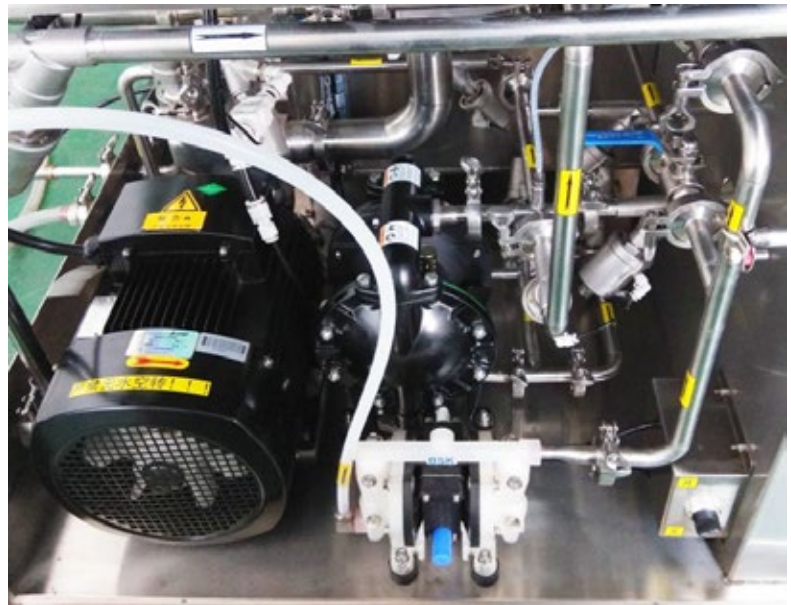
### Spraying System:

Upper and bottom spraying system, each 12 sets nozzles, total 48 sets nozzle to make sure 360 degree cleaning.

The most scientific nozzle design(patent): Increasing nozzles from left to right, Enhance the cleaning efficiency, Distribution nozzles up and down, Completely solve the blind clean area

### Spray Pump System:

High power(5.5KW) & high efficiency stainless steel spray pumps, spray pressure can reach 60 ~ 80PSI, pressure can be adjusted based on actual requirement to clean the contamination



Nozzle pressure is adjustable

**Convenient liquid add System:**

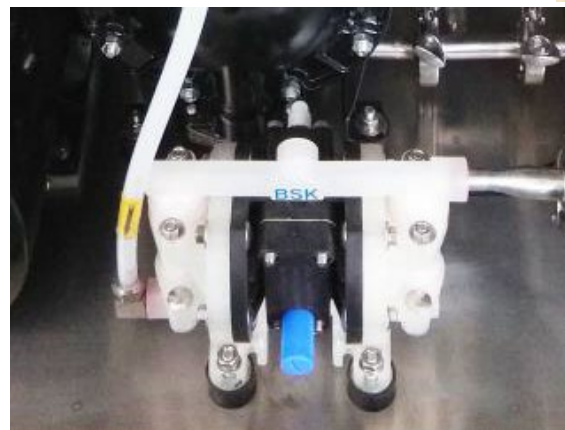
Adopt “Dosatron Automatic mixing System” from Germany , it can set according to proportion (5% ~ 25%) automatic proportioning DI water and chemical liquid.



**Circulating and Filtering System:**

Adopt 0.45µm filter, can filter dust and other particulate impurities. So that the chemical liquid recycling can be maintained better cleaning performance and longer life. Meanwhile, can reduce operating costs.

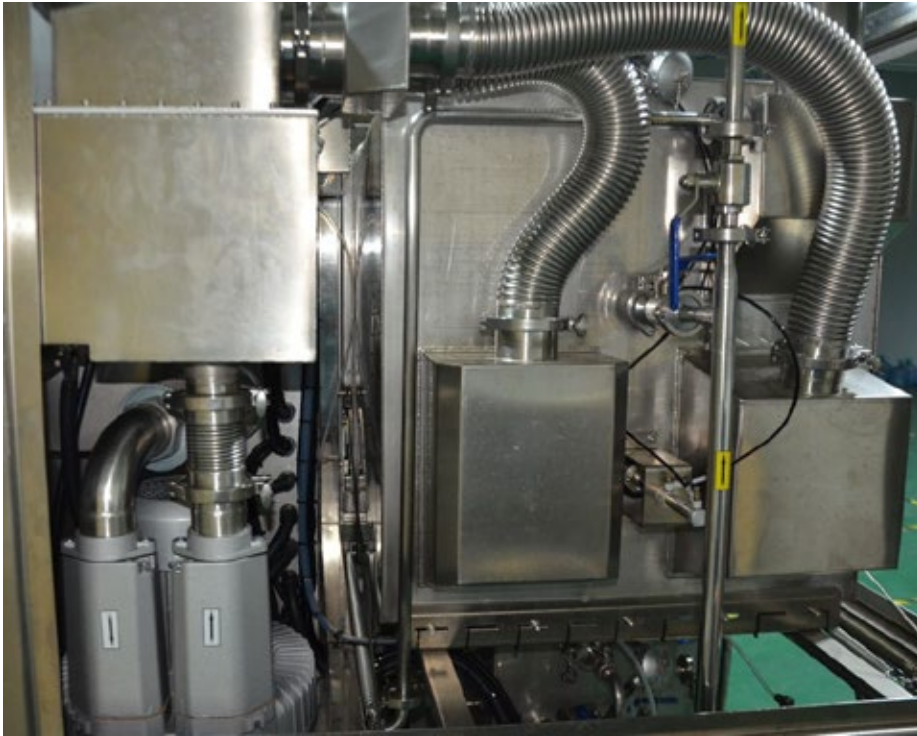
**DI water conductivity mointor**



**Independent chemical liquid adding pump**

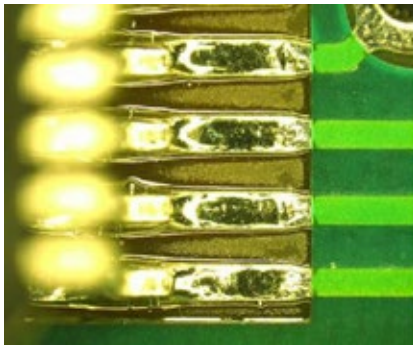


## Drying system

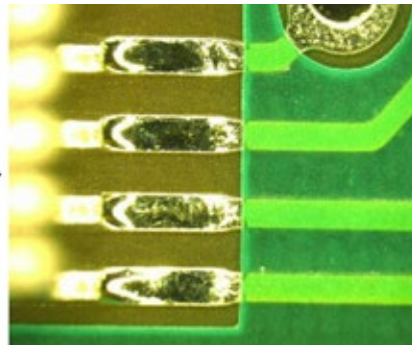


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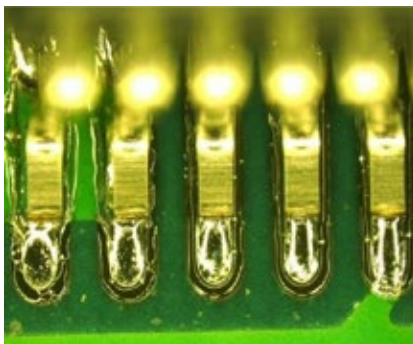
Before



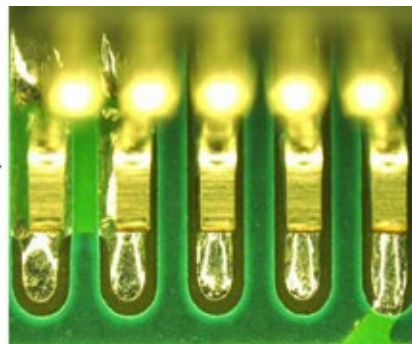
After



Before



After





# Configuration

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## Offline PCBA Cleaner AQ-650 includes:

- Offline PCBA Cleaner AQ-650\*1 set
- 0.45µm filter core \*2pcs

## Optional consumable parts:

- 0.45µm filter core (consumable parts , service life : 15 days )
- Sealing strip (consumable parts, service life : around 3 months)
- Liquid level tube (consumable parts ,service life : around 1 year)
- Liquid level sensor (consumable parts ,service life : above 1 year)