

# SMT Nozzle Cleaning Machine

**Model: HS-800**

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# HS-800 Machine introduction

- This automatic nozzle cleaning machine can automatically complete the cleaning and drying process, it adopts multiple spraying nozzles spraying cleaning method, uses fluid mechanics to shred water, produces very strong water mist, forms powerful kinetic energy at the speed of sound and sprays on the nozzle, forming a continuous shape above the nozzle, clean the dirty on the surface and inside of the nozzles, it mainly used for cleaning small components, such as 0603,0402,0201,01005 and high precision nozzles.



# HS-800 Features

- Elegant appearance, high precision 304 stainless steel machine body.
- Max can clean 30 pcs nozzles at one time, achieve high efficiency and energy saving.
- Suitable for cleaning all kinds of nozzles, also have good cleaning performance for cross type, I-shaped, and special shape nozzles.
- The atomized water flow equipped with supersonic spraying cleaning to completely clean the dirt impurities which the ultrasonic waves can not clean it all, ensure the clearness even very small nozzle holes.
- Easy operation, English is available.
- Inspection window which can watch the whole cleaning process.
- Using D.I water as cleaning solvent, not harmful for all types of nozzles and reflector panel.
- Touch screen + PLC distributed control, stable and reliable performance.



## HS-800 Working principle

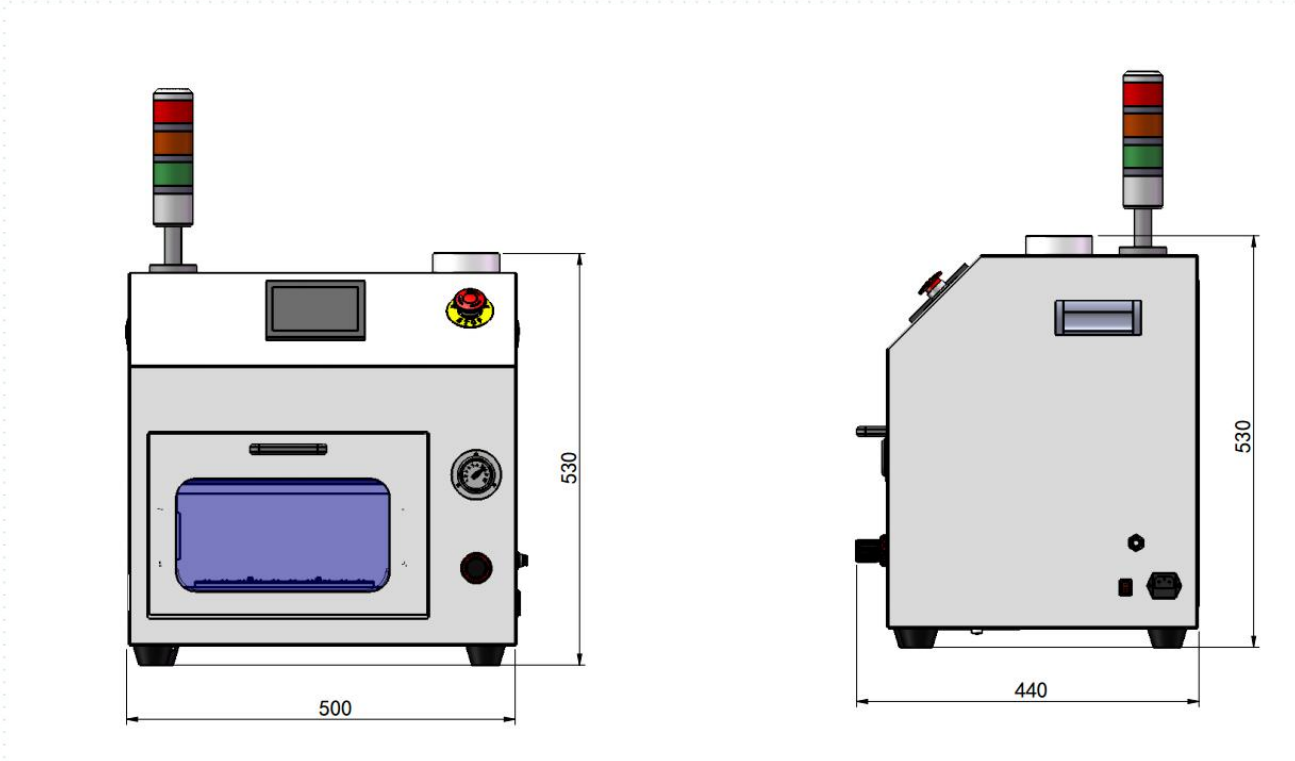
- High-pressure jet technology: A, fine water mist particles, continuous pressure to reduce water, resulting in 3-10um particles of water mist to clean the dirt into the inner wall of the small nozzle aperture.
- Pulsed power: B, Sound velocity ( $V=360\text{m/s}$ ) forms a powerful pulsed power injection onto the nozzle, which can reach 30 pulse frequency per second, forming a continuous impact force above the nozzle to be cleaned. Smash the surface and internal dirt for cleaning purposes.

# HS-800 Specification

Model:	HS-800
Size:(L*W*H)	500*440*530mm
Power:	Single phase,220V,50/60Hz,20A
Power supply:	200W
Air pressure:	0.5-0.6MPa
Controlling Mode:	Touch Screen+PLC
Air Source:	Pure Compressed air
Jet Pressure:	≤0.4MPa
Air Wastage:	under 280NL/min
Liquid Type:	Industrial Purified Water
Liquid Consumption:	300cc/hour
Liquid Storage:	800cc
Admission pipe/Drainpipe	φ8/φ6
Specs of Nozzle Tray	Default 30 nozzles
Specs of cleaning nozzle	0201-2512inch
Noise	35-60dB
Net Weight:	45kg

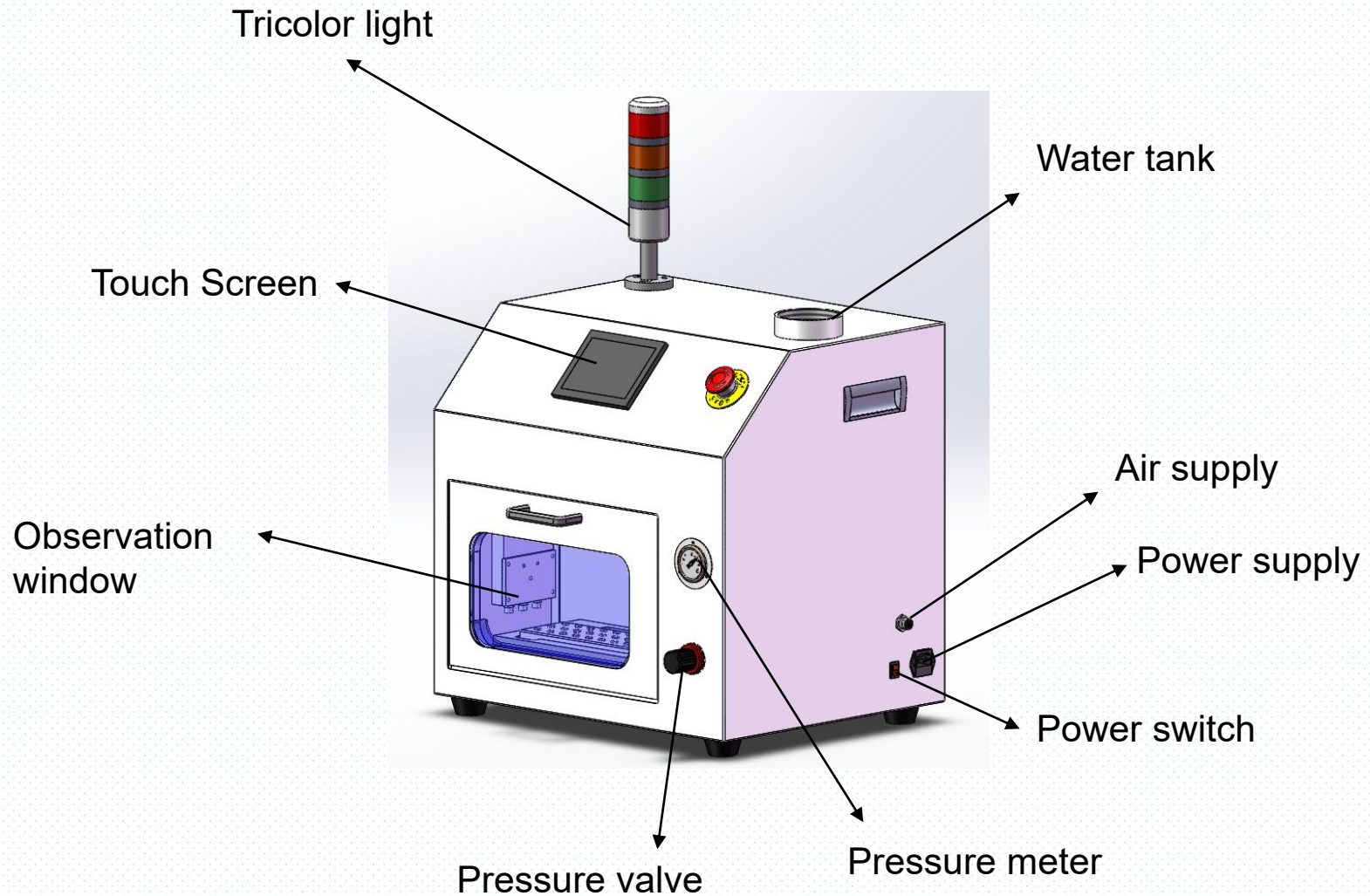


# HS-800 Main structure



Machine dimension : 500mm\*440mm\*530mm

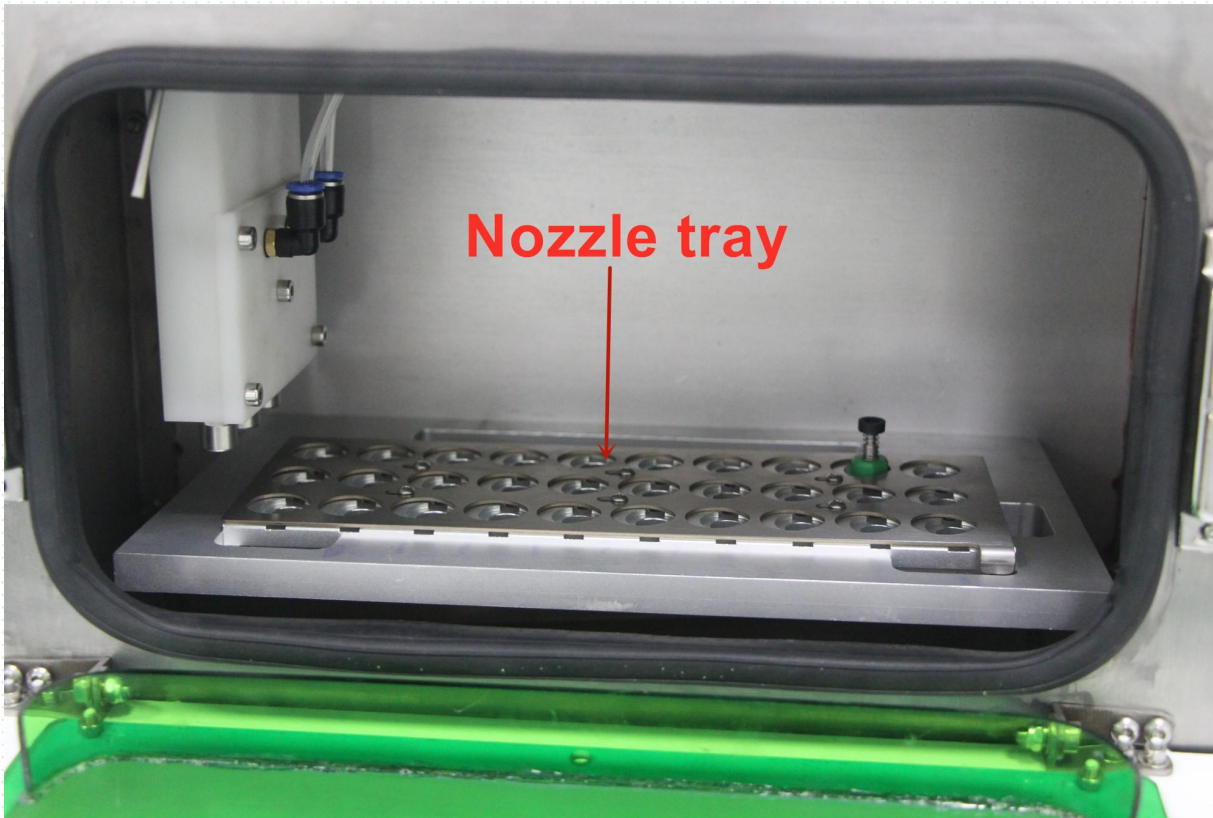
# HS-800 Main structure





# HS-800 Nozzle Tray(fixture)

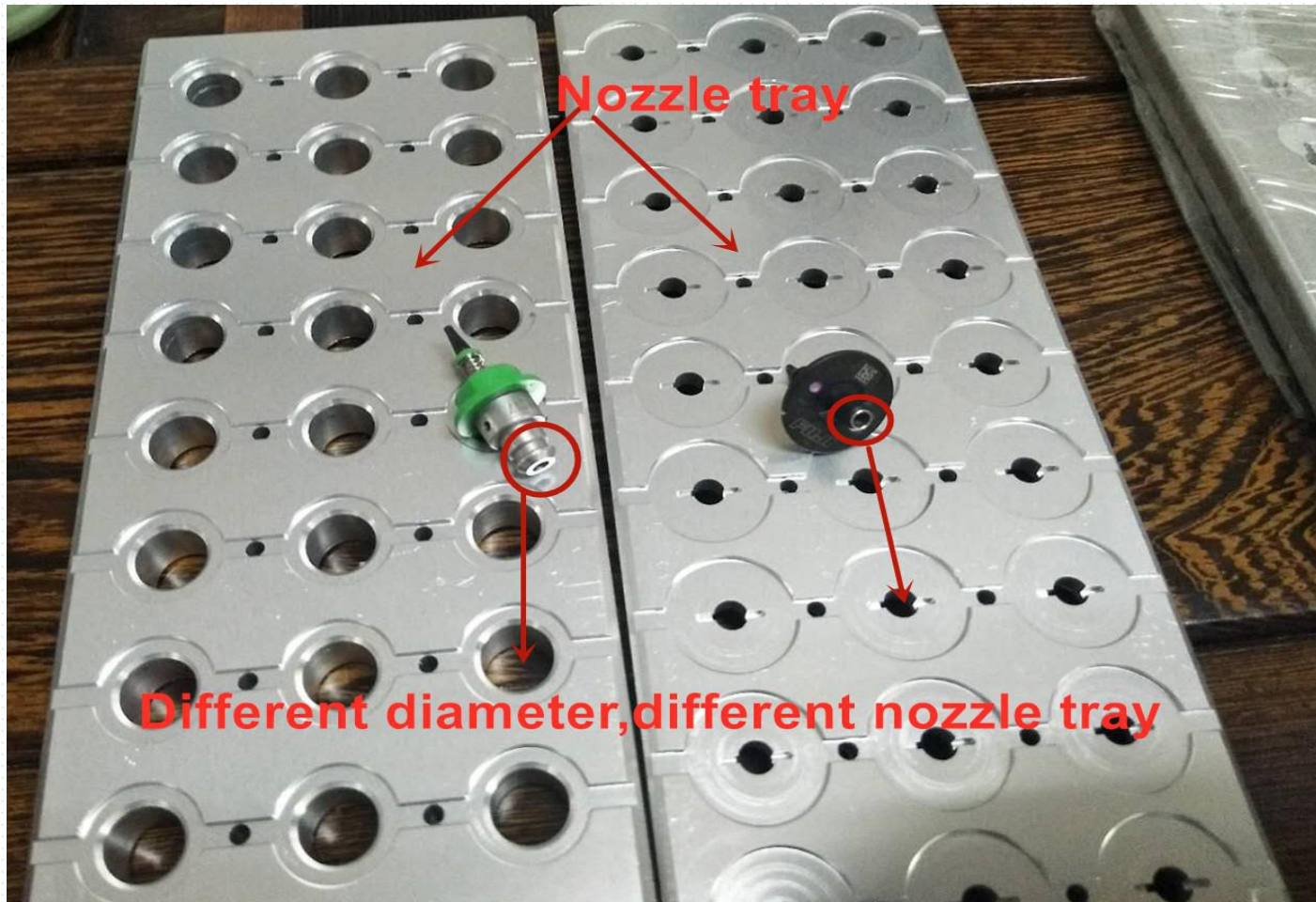
The nozzle tray(fixture) is used for fix the nozzles during the cleaing process, the machine is spray cleaning, so we have to fix the nozzles stable. The nozzle trays are customized based on the diameter of the nozzles, so different nozzle diameter need differents nozzle trays. Before the purchase, we need to know the nozzles models customers using.





# HS-800 Nozzle Tray(fixture)

Different nozzle diameter need different nozzle trays



From the picture above, we can see the JUKI nozzle and FUJI nozzle use different fixtures



# Cleaning comparison

- ❖ There are three main types of cleaning methods currently used. :

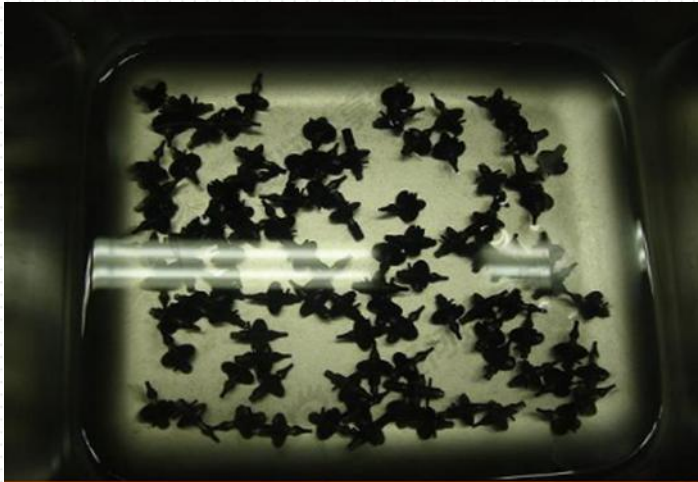
Artificial air gun



- ① The manual cleaning efficiency is low, the surface of nozzle and the lumen cannot be cleaned, and the inner hole is easily damaged by the steel wire;
- ② Great difference in cleaning effect;
- ③ Use of cleaning solvents and alcohol may penetrate and cause the reflective layer to fall off.

# Cleaning comparison

## Ultrasonic Cleaning



- ① Low cost and high efficiency;
- ② During the cleaning process, the nozzles may collide with each other, causing the surface black coating to be damaged or fall off;
- ③ The cleaning solvent causes damage to the surface of the nozzle, greatly shortening the life of the nozzle;
- ④ Cannot completely clean the nozzle surface and lumen
- ⑤ For the latest 01005 nozzle can not be cleaned very well, mainly because the inner hole of the nozzle is too small, the vacuum bubble will cause the vacuum bubble to be discharged and the cleaning is not clean;



# Cleaning comparison

## Auto nozzle clean machine

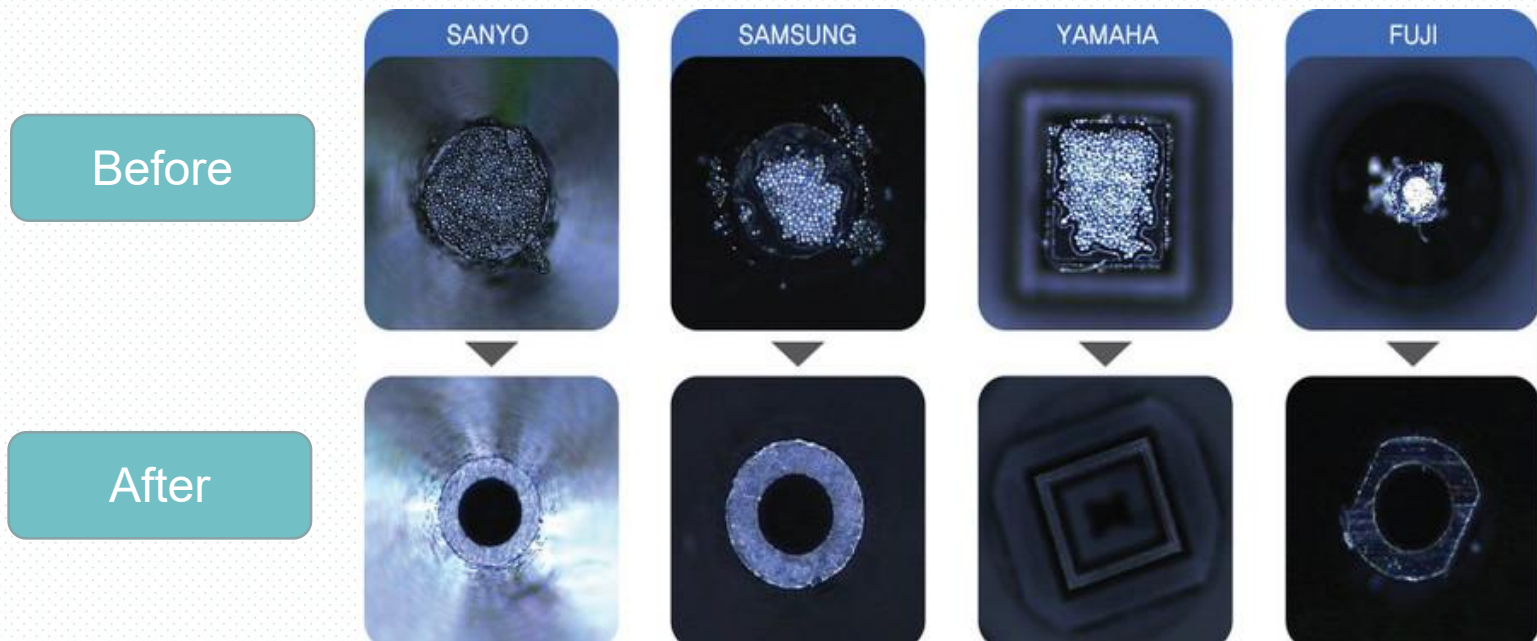


① Reduce the purchase cost of the nozzle;  
After using the fully automatic cleaning machine, the nozzle can be well treated and discarded, thus prolonging the service life.

② Reduce unnecessary labor;  
Since the machine is fully automatic cleaning, no special person is responsible, and the whole process is automatically completed by the machine.

③ Effectively reduce product defect rate and increase SMT productivity;  
A large part of the production process is caused by the uneven surface of the nozzle and the excessive contamination of the inner cavity, which causes the throwing or placement displacement, resulting in poor post-welding. The use of the washing machine allows the nozzle to always protect the new state and greatly increase production efficiency.

# HS-800 Cleaning Performance





# Thank you !

