skymen

清洗机·洁盟造

SKYMEN TECHNOLOGY CORPORATION LIMITED

Industrial cleaning equipment manufacturers
Process solution service provider

Since its establishment, Skymen has adhered to the concept of sustainable development and provided safe, efficient, energy-saving and environmentally friendly ultrasonic cleaning solutions to customers in various industries.

year established

2007

Staff

350+

Sales center

Area
1000+㎡

Operating hours
7*24h

Guangdong-Shenzhen

Technology R&D and laboratories

Area	Engineer	Research tests
3000+㎡	65+	1000+

Guangdong-Shenzhen

Manufacturing and warehousing

Area

35000+㎡

Annual output

2,000,000pcs

Guangdong-Shaoguan

Achievements and Honors

220+

Patents obtained

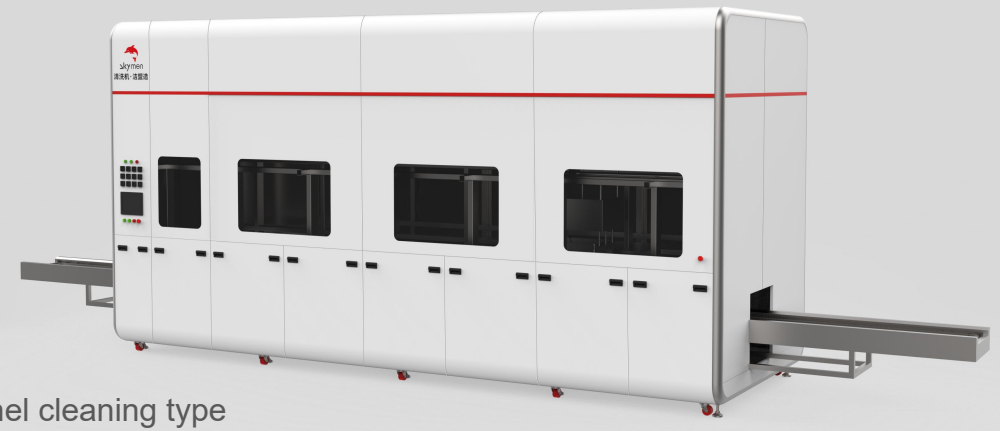
60+

Work/software copyright

150+

Authorized trademarks

Robotic arm type



Tunnel cleaning type

Automatic cleaning system

Based on ultrasonic cleaning technology, combined with other auxiliary processes and drying methods, the use of robotic arm, bracket transverse movement or chain suspension to complete the automatic transmission of the workpiece, can greatly improve the cleaning efficiency.

Agitation

Basket Rolling

Lifting

Bubbling

Sparying

Lift out

Application

Precision hardware, mechanical parts, electronics, semiconductors, precision optics, medical equipment, auto parts industry, rail transit, aerospace, shipping, new energy and other industries.

Cleaning dirt

Dust, grease, rust, wax, paint, glue, etc.

Vacuum hydrocarbon ultra cleaning machine

In the vacuum state of the ultrasonic cleaning tank, hydrocarbon solvents are used as cleaning media to clean and dry industrial parts.

Energy saving and environmental protection

safe

Almost no emissions

Efficient cleaning

Application areas

It is suitable for cleaning parts in automobiles, aviation, railways, ships, machinery, electric power, machinery, chemical industry, metallurgy and other fields.

单工位

多工位

Industry cases

Achieve good optical performance

In precision optical manufacturing, optical components need to be cleaned without damage or residue to prepare for subsequent processing. Ultrasonic cleaning technology is key to producing flawless precision optical components.

- **Clean dirt:**
  Cerium oxide, rosin, paraffin, asphalt, residual polishing fluid, adhesives, protective materials, edge grinding oil, glass powder, fingerprints, etc.

- **Application scenarios:**
  Optical glass/lens cleaning before and after CNC processing, polishing, tempering, silk screen printing, coating, ink coating and other processes.

- **Cooperation company:**

TCL 华星光电 CSOT · BIEL 伯恩光学 · 舜宇光学 SUNNY OPTICAL TECHNOLOGY · ZEISS · Phenix 凤凰 · 京东方 BOE

Application scope:

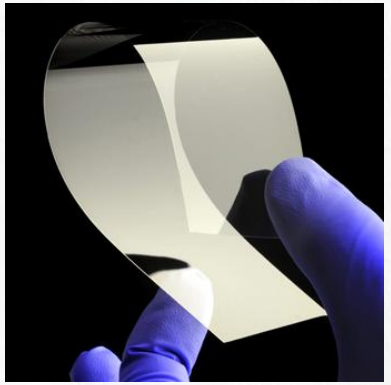
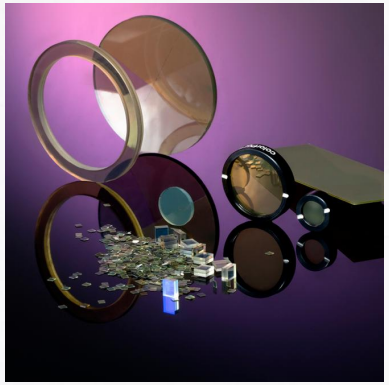
Optical lenses: spectacle lenses, camera lenses, microscope lenses.

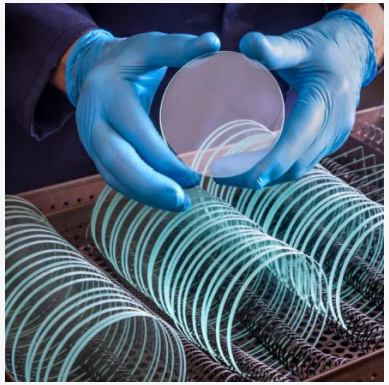
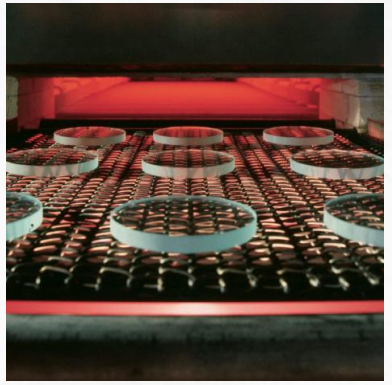
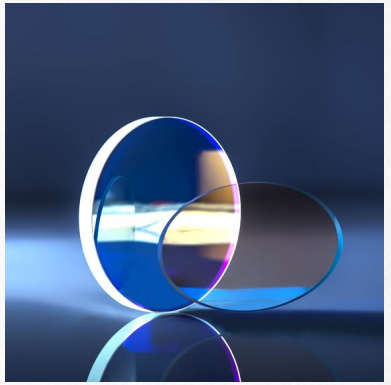
Photoelectric glass: ITO glass, flexible glass, tempered glass, glass cover.

Others: Optical precision components, micro-optical components, laser components, filters and masks.





Precision optics/optoelectronics industry

Buyer — Carl Zeiss AG
Carl Zeiss Vision (China) Ltd.

Parts — Lens fixture

Product — 10 tanks fully automatic ultrasonic cleaning machine

- Three cleaning programs can be set to meet different cleaning requirements, such as alkali cleaning, pickling, etc.
- The inner tank is made of SUS316L, and the surface of the vibration plate is chrome-plated to prevent corrosion of the tank body.
- The cleaning tank is equipped with a throwing effect, which can increase the friction between the workpiece surface and the liquid and improve the cleaning effect.
- A pressure difference gauge is installed before and after the pipeline filter, and the pressure difference value can be set independently. If the value exceeds the value, an automatic alarm will be issued.
- The equipment is equipped with an exhaust device to solve problems such as odor spillage.

Cleaning process

Loading → Alkaline cleaning, ultrasonic & throwing → High pressure spray → Alkaline cleaning, ultrasonic & agitation → Alkali cleaning, ultrasonic & agitation → Soaking, rinsing & agitation → Pickling & agitation → High pressure spray → Soaking, rinsing & agitation → Hot air drying → Hot air drying → Unloading

Precision optics/optoelectronics industry

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Buyer	**Nanofilm Technologies International Limited**
Parts	**Glass**
Product	**21 tanks fully automatic ultrasonic cleaning machine**

- It can realize simultaneous operation of five or more groups of process parameters.
- Equipped with 2 tons of EDI industrial ultrapure water equipment.
- Cleaning fluid monitoring system: concentration, pH value, conductivity/resistivity.
- The loading and unloading tables are automatically transmitted by light sensing.
- Dust-proof treatment is carried out during operation.

Cleaning process

Loading → Ultrasonic cleaning (1#2#) → Spray (3#) → Ultrasonic cleaning (4#5#6#) → spray (7#)→ Ultrasonic rinsing(8# to 16#) → slow lift-out (17#) → drying (18# to 21#) → Unloading

Helping cars travel safely

Whether it is a traditional fuel vehicle or an emerging electric vehicle, the cleanliness of parts is a key factor in maintaining reliability. Ultrasonic cleaning technology can help vehicle manufacturers and auto parts suppliers improve product performance and maintain market competitiveness.

Cleaning dirt:

Metal chips, dust and particles, lubrication residues, coolant residues, handprints and fingerprints, grease, oxides, carbon deposits and paint residues, etc.

Application:

Cleaning of auto parts during casting, forging, cold stamping, cutting, metal cutting (milling, turning, drilling), heat treatment, assembly, maintenance and other processes.

Cooperation company:

WLY 万里扬 | WEICHAI 潍柴 | 广东鸿特 HongTeo | HASCO AUTOMOTIVE | RUI JIN 睿今集团 | 萬向集團 WANXIANG GROUP

Application scope:

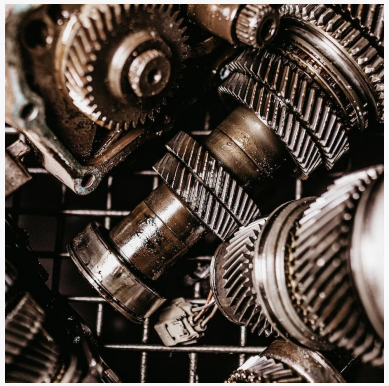
Engine and fuel system accessories: crankshaft, piston, connecting rod, cylinder liner, throttle, fuel injector, cylinder gasket, spark plug, cylinder head, fuel injector, air filter, etc.

Transmission and steering system accessories: clutch plates, transmissions, reducers, steering knuckles, steering gears, steering columns, etc.

Bearings and others: including universal joints, drive shafts, half shafts, transmissions, couplers, etc.







Auto parts industry

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Buyer — **Jiangxi Ruijin Technology Group Co., Ltd.**

Parts — **Pump cover, cover plate, aluminum bracket, Yangteng shell, Yangteng bottom plate, pump body, etc.**

Products — **8 tanks fully automatic ultrasonic cleaning spray equipment**

- Siemens PLC system + 12-inch human-machine interface control.
- Independent electronic control, pneumatic, automatic loading and unloading, filtration and other systems.
- Scanning spray cleaning, 1.5-2Mpa spray pressure, flow rate 32 cubic meters/H.
- Equipped with a steam condenser to control the spillage of steam, water mist and water droplets to the workshop.
- Multi-stage oil-water separation system, unique oil pumping and collecting methods.

Cleaning process

Loading → Spray cleaning → Ultrasonic cleaning → Spray cleaning → Ultrasonic cleaning → Spray rinsing → Blow drying → Vacuum drying → Cooling → Unloading

Maintain the true color of metallic luster

Turning/milling/grinding/punching/drilling, no matter what processing method is used for the workpiece, it is a necessary step to remove the oil, debris, cutting fluid, rust, etc. attached to the surface. Ultrasonic cleaning technology is an ideal choice as it is cost-effective and efficient.

Cleaning dirt:

Chips and abrasives, coolant and lubricant residues, metal chips, dust and particles, grease and dirt, oxides, rust, etc.

Application scenarios:

Cleaning of metal parts formed by turning, milling, drilling, stamping, pressing, deep drawing, bending, casting and other processes.

Cooperation company:

HITACHI Inspire the Next

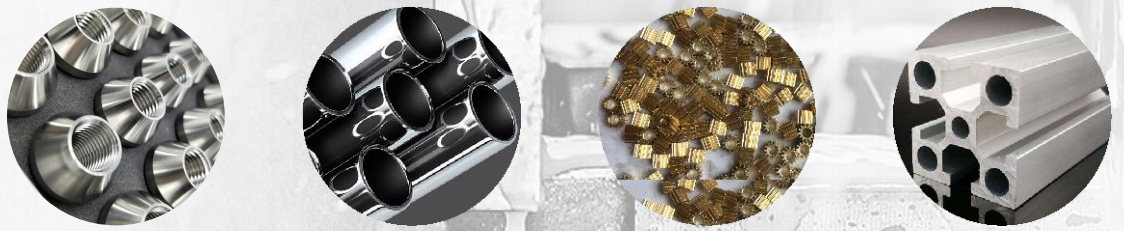
LUXSHARE ICT 立讯精密

坚美铝业 JMA ALUMINIUM

SANY

ZOOMLION 中联重科

长盈精密 EVERWIN PRECISION



Application scope:

Various types of workpieces made of iron, stainless steel, aluminum, copper, alloys, etc., such as bearings, gears, bolts, nuts, screws, washers, washers, springs, chains and sprockets, etc.。










Precision hardware industry

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Buyer Hitachi (China) Co., Ltd.

Parts Precision hardware

Products 7 tanks fully automatic ultrasonic cleaning machine

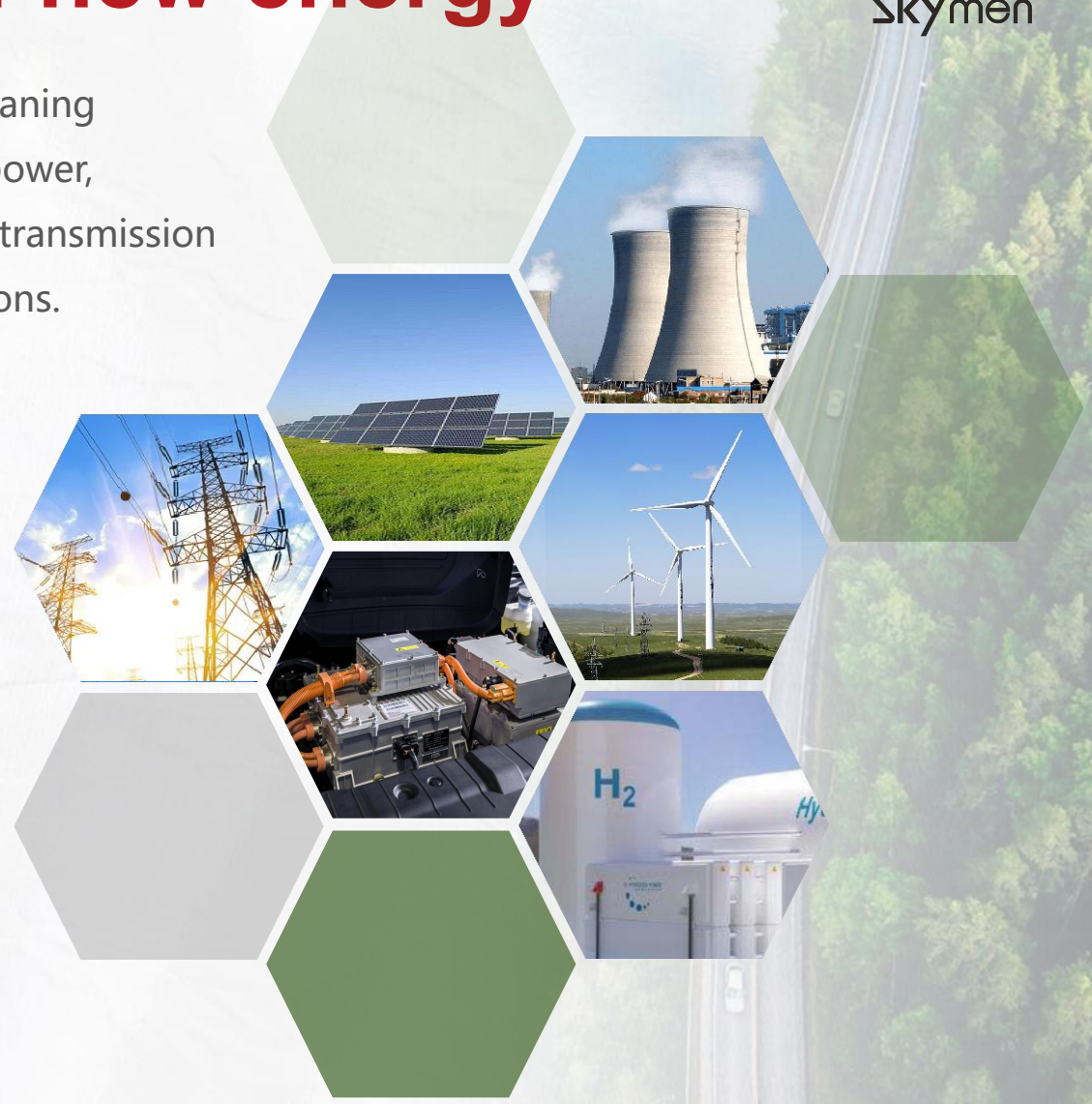
- It has three drying methods (air cutting, drying, vacuum drying) to achieve the purpose of rapid drying of workpieces.
- The inner tank material is made of 316LEP treated stainless steel.
- The filtration circulation system is equipped with a high-precision filter with a filtration precision of 0.2μ.
- Equipped with two sets of high-efficiency air filters to filter dust in the air, prevent secondary contamination of workpieces, and create a clean drying space.
- PH and resistivity are detected online, the threshold can be set independently, and an alarm will sound if it exceeds the threshold.

Process

Loading → Ultrasonic cleaning & filtering cycle → Spray cleaning → Ultrasonic cleaning & filtering cycle→ Ultrasonic rinsing & filtration cycle → Wind cutting → Drying → Vacuum drying → Unloading

Drive green development of new energy

From power generation, transmission to energy storage, ultrasonic cleaning technology is a favorable guarantee for the stable operation of wind power, photovoltaic, nuclear power, hydrogen energy, energy storage, power transmission and transformation and other new energy infrastructure and applications.



Cleaning dirt:

Conductive particles, metal debris, dust, grease, oxides, etc.

Application scenarios:

Intermediate cleaning in production processes such as cutting, stamping, and stretching; cleaning in pre- and post-processing such as spraying, electroplating, and polishing; cleaning in anti-corrosion protection or passivation processes; ultra-fine cleaning.

Cooperation company:

KDL科达利 CATL 宁德时代 LEAD 先导

骥翀氢能 JICHONG HYDROGEN 国鸿氢能 SINOSYNERGY 治臻 ZHIZHEN

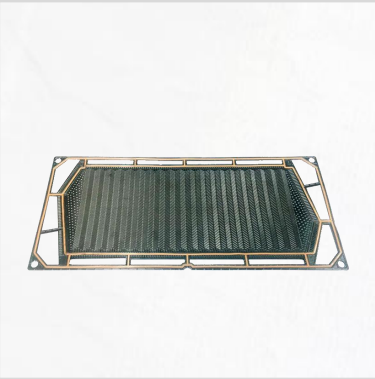
Application scope:

Power generation: solar silicon wafers, glass plates, new photovoltaic materials, etc.

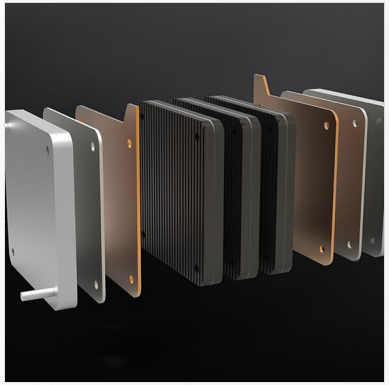
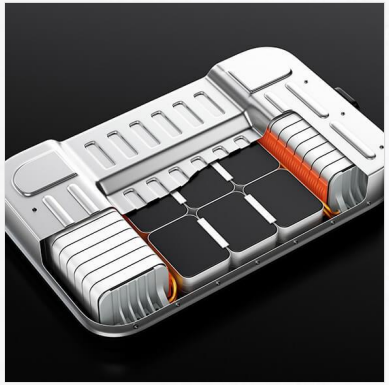
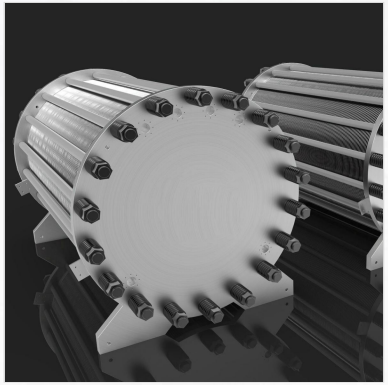
Power transmission: transformer housing, wires, etc.

Energy storage: battery casing, tabs, bipolar plates, etc.








Hydrogen energy industry

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Buyer	**Lead Intelligent Equipment (Deutschland) GmbH** **Wuxi Lead Intelligent Equipment Co., Ltd.**
Parts	**bipolar plate**
Product	**11 tanks fully automatic ultrasonic cleaning machine**

- Municipal water/pure water are set up with independent inlets and drainages.
- Digital temperature control system monitors the temperature in the tank.
- With water quality monitoring instrument.
- Equipped with bubbling, throwing, overflow, vacuum systems, etc.
- The equipment is fully enclosed and equipped with an exhaust device。

Cleaning process

Loading → Ultrasonic cleaning (1#2#) → Bubble rinsing (3#)→ Draining drying(4#)→ Ultrasonic rinsing (5#6#) → Bubble rinsing(7#) → Slow dehydration(8#) → Draining drying (9#)→ Hot air drying (10#)→ (11#)Vacuum drying → Unloading

Ensure the safety of sea, land and air traffic

Cleaning is an essential process in the production, manufacturing or maintenance of various types of vehicles. Ultrasonic cleaning technology is the preferred way to deal with such needs and is suitable for cleaning various parts including aircraft, locomotives, and ships.

- **Cleaning dirt:**

  Dust and particles, grease and dirt, fuel carbon deposits, metal debris, oxides, etc.

- **Application scope:**

  Parts cleaning in the production process of aircraft/ships/locomotives and other spare parts as well as in the maintenance, repair and overhaul (MRO) process.

- **Cooperation company:**

中国中车 CRRC　贵州永红航空机械　中国船舶 CHINA SHIPBUIL

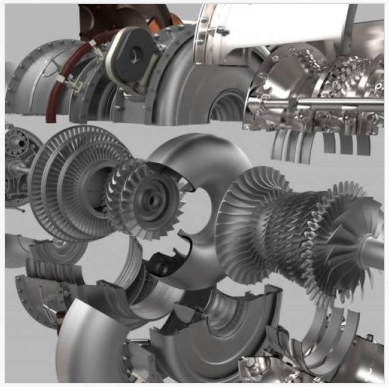
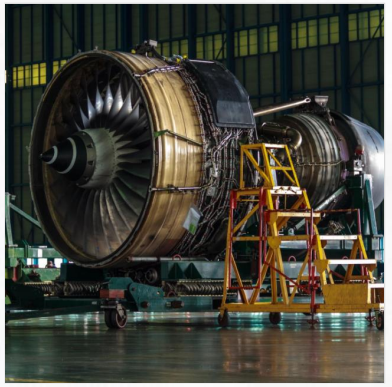
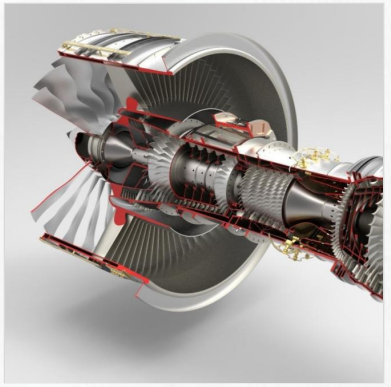
深圳地铁 SHENZHEN METRO　中国航发 AECC　RMS

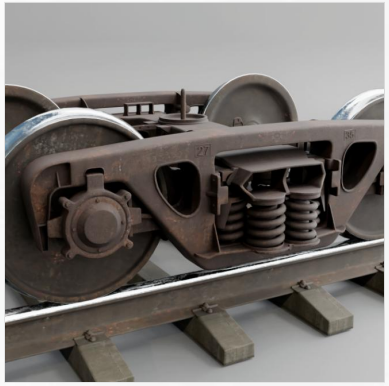
Application scope:

Aerospace: aerospace engine components, landing gear components, gearboxes, drive shafts, reducers, etc.

Shipping ships: diesel engine accessories, gearboxes and accessories, steering gears and accessories, fuel filters, etc.

Rail transit: wheels and axles, bogie components, brake discs, brake cylinders, brake hoses, etc.




Rail industry

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Buyer CRRC Corporation Limited

Parts bogie

Products 8 tanks fully automatic ultrasonic cleaning machine

- The equipment is equipped with high and low liquid level protection programs, low replenishment and high stop, and automatic replenishment.
- The equipment is equipped with an oil-water separation device, which can collect and process the cleaned oil.
- The glue removal tank adopts condensation coil circulation, which can effectively control the temperature of flammable and explosive cleaning agents and ensure a safe operating environment.
- There is a liquid extraction port behind each filtration system to facilitate personnel to extract the filtered liquid for testing.

Cleaning process

Loading → High-pressure spray → Ultrasonic rough cleaning & filtration cycle → Ultrasonic rinsing & filtration cycle →
Ultrasonic rinsing & filtration cycle → high pressure spray → hot air drying →
ultrasonic glue removal → hot air drying → Unloading

Aviation industry

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Buyer China Aviation Development Guizhou Liyang Aviation Power Co., Ltd.

Parts Aviation parts

Product 4 tanks fully automatic ultrasonic cleaning machine

- Automatic loading, unloading and return.
- The tanks are equipped with overflow design, circulation filtering device and separate liquid storage auxiliary tanks.
- It is equipped with a liquid extraction port to facilitate collection of cleaning liquid for monitoring.
- Equipped with an exhaust system to discharge the steam that escapes when the lid is opened.

Cleaning process

Loading → Ultrasonic cleaning → Spray cleaning → Bubble cleaning → Ultrasonic cleaning → Unloading

Protect medical health

Facing the challenges posed by the most stringent standards in the medical industry, ultrasonic cleaning technology can always easily cope with cleaning for processing or reuse, achieving cleanliness requirements that meet industry specifications.

- **Cleaning dirt:**

  Chemical reagents, lubricants, metal chips, processing oils and emulsions, burrs and chips, grinding and polishing residues, particles and film residues, etc.

- **Application scenarios:**

  Implant/medical device CNC manufacturing, grinding, polishing, passivation, packaging and other processes Wash before and after.

- **Cooperation company:**

mindray 奥美医疗 ALLMED MEDICAL APT MEDICAL 埃普特医疗

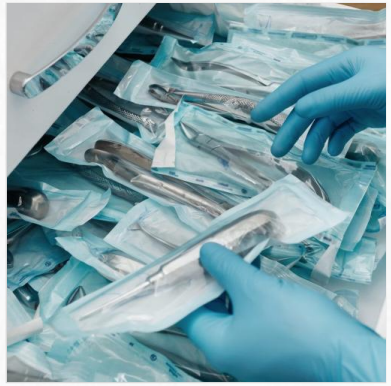
EDGE MEDICAL 精锋医疗 MicroPort 微创科威医疗 Bioconcept 百康特医疗

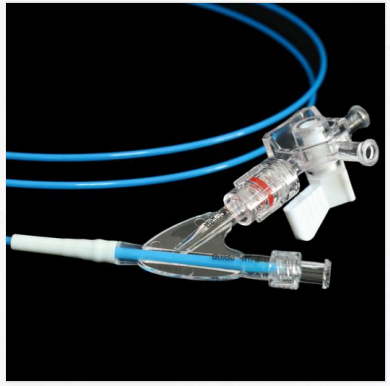
Application scope:

Medical instruments: surgical instruments, scissors, saws, clamps, tweezers, scalpels, etc.

Implants and additives: hip joints, knee joints, spinal implants, dental implants, etc.

Others: Endoscope components, dental handpieces, syringes, cannulas, etc.





Medical device/pharmaceutical industry

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Buyer **Bioconcept**

Parts **Implant structural parts**

Parts **4 Tanks fully automatic vacuum ultrasonic cleaning machine**

- 12-inch LED color high-definition touch screen control.
- The loading table is equipped with a code scanner, and the PLC is connected to the printer system.
- Alarm prompts for upper and lower limits of vacuum value/flow meter/water conductivity/water pressure.
- Equipped with auxiliary processes such as throwing, filtration cycle, overflow, and automatic liquid addition.

Cleaning process

Loading → Vacuum ultrasonic cleaning → Soaking + spraying → Vacuum ultrasonic rinsing → Vacuum ultrasonic rinsing → Unloading

Reduce semiconductor electronic defect rate

Semiconductors and microelectronics are extremely sensitive fields that require the creation of surfaces free of metals, particles and organic matter during the production process. Jiemeng's various ultra-fine surface treatments and pre-cleaning technologies ensure the reliability and stability of electronic components.

- **Cleaning dirt:**

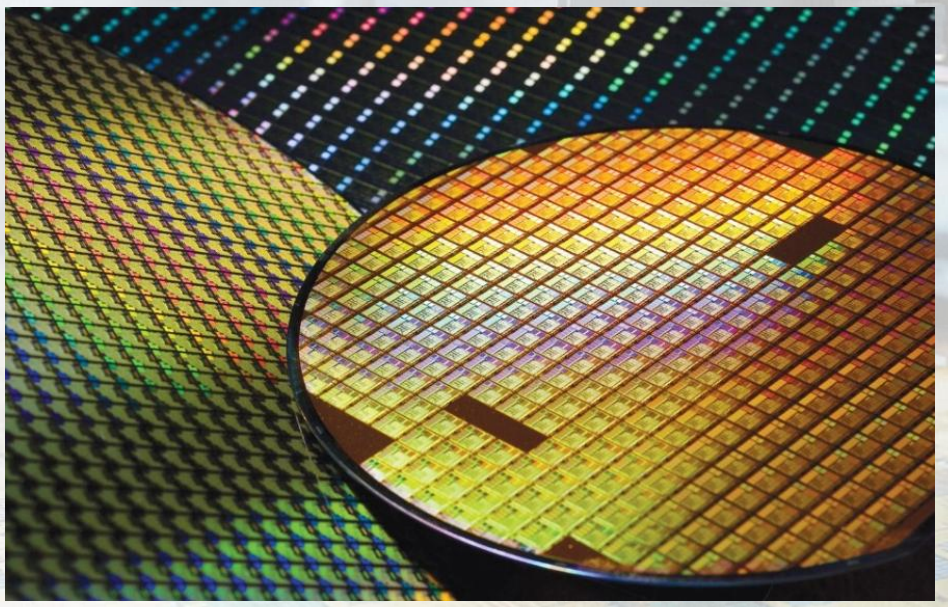
  Particles, organic matter, metal contaminants, native and chemical oxides, rosin, flux, etc.

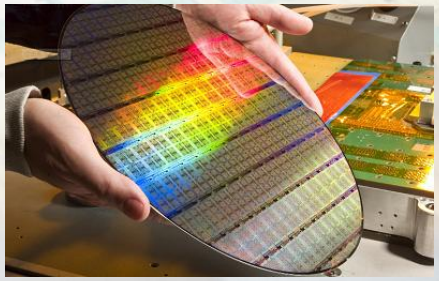
- **Application scenarios:**

  substrate wafer manufacturing, integrated circuit manufacturing, advanced packaging, testing and semiconductor component manufacturing, PCB processing and other electronic/semiconductor process cleaning before and after

- **Cooperation company:**

SAMSUNG · HC SEMITEK · 紫光国微 GUOXIN MICRO · GZSC 南砂晶圆 · SMIC 中芯国际 · highsys 海思

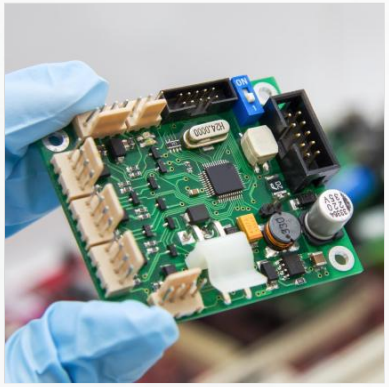


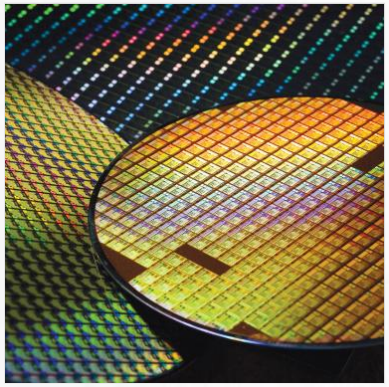


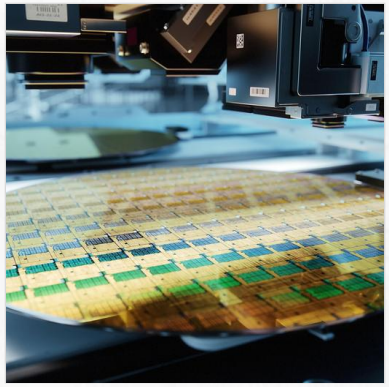
Application scope:

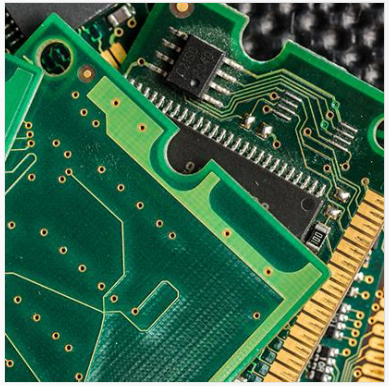
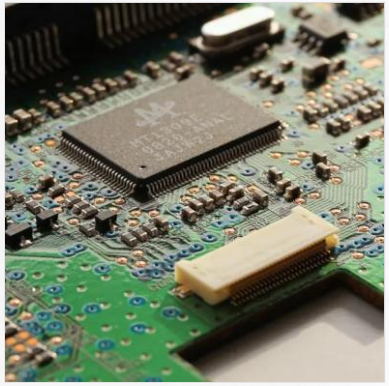
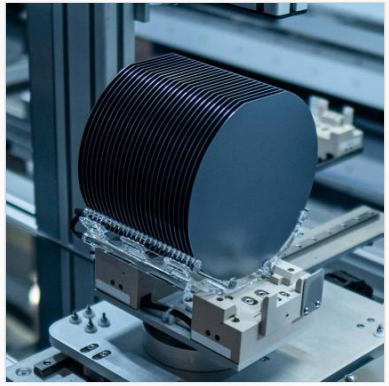
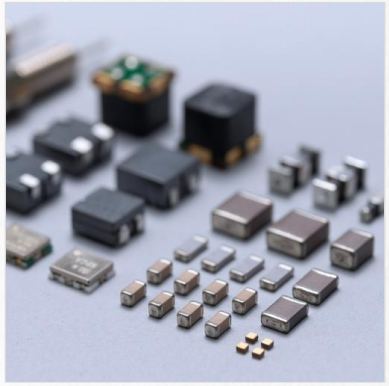
Semiconductors: wafers, silicon wafers, quartz boats, quartz tubes, powders, graphite bases, masks, flower baskets, boxes, etc.

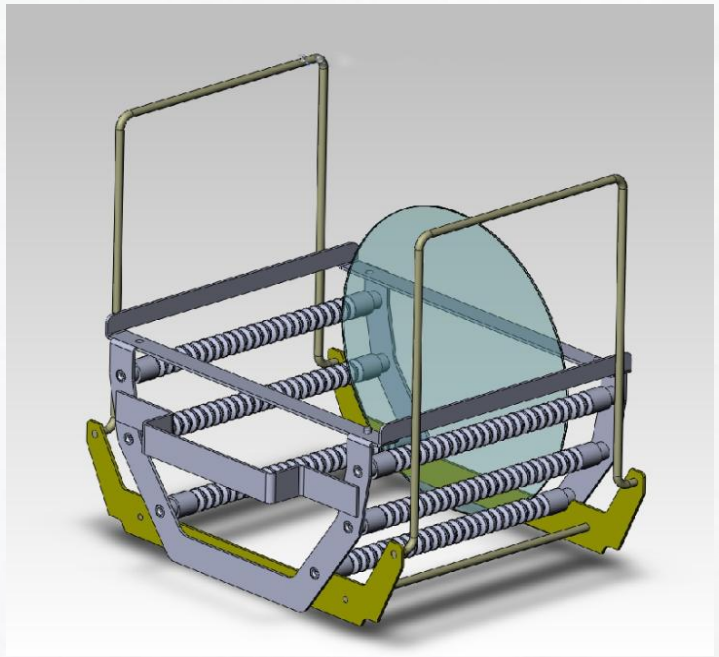
Microelectronics: PCB circuit boards, electronic components, etc.









Semiconductor/microelectronics industry

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Buyer Guangzhou Summit Crystal Semiconductor Co.,Ltd

Parts wafer/sapphire

Product Five-tank fully automatic ultrasonic cleaning machine

- The infrared photoelectric induction switch of the loading and unloading table controls start and stop.
- Equipped with independent digital display thermostat, over-temperature alarm and shutdown.
- With throwing system (1#2#3#4# conjoined throwing).
- Configure industrial refrigeration systems.
- The inlet and drainage system uses explosion-proof magnetic pumps.

Cleaning Process

Loading → Ultrasonic cleaning → Ultrasonic cleaning → Ultrasonic rinsing → Ultrasonic rinsing → Hot air drying → Unloading