

Multi Stage Automated Ultrasonic Cleaner 7200W For Bearings Shafts

Our Product Introduction

Basic Information

- Place of Origin: Shenzhen, China
- Brand Name: Sky men
- Certification: RoHS, CE, FCC, SGS
- Model Number: JTM-3144AD
- Minimum Order Quantity: 1
- Price: Negotiation
- Packaging Details: Wooden case
- Delivery Time: In Stock
- Payment Terms: T/T
- Supply Ability: 800 pcs per month



Product Specification

- Single Stage Volume: 95 Gallon
- Single Stage Size: 39*24*24 Inch
- Functions: Cleaning, heating, Cooling; Drying, Etc
- Working Way: Automated
- Ultrasonic Power: 7200W
- Heating Power: 9000W
- Highlight: **Multi Stage Automated Ultrasonic Cleaner, Bearings Shafts Automated Ultrasonic Cleaner, 7200W Automatic Ultrasonic Washer**



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Product Description

Automated Ultrasonic Cleaner for Removing Rust from Big Metal Parts

I. Automated Ultrasonic Cleaner overview

1, Automated Ultrasonic Cleaner name: 5 stages automatic ultrasonic cleaning machine

2, Automated Ultrasonic Cleaner requirements: Based on the product information and cleaning technical requirements provided by customers, on the basis of meeting the technical agreement and production requirements, we will provide customers with mature, reliable, stable and excellent performance of automatic cleaning equipment to meet the use requirements, and provide customers with complete after-sales service and use technical guidance. In this project, Party B (the Seller) shall be responsible for the equipment design, manufacturing, commissioning, quality and after-sales service, and the project construction shall be completed according to the agreement reached with the customer before the sale.

II. Automated Ultrasonic Cleaner details

1, Equipment overview:

1.1 The fully automatic cleaning machine model JTM-5120SD is a high-intelligence and high-precision cleaning equipment designed and manufactured for customer products; it mainly uses ultrasonic cleaning, to clean, rinse and dry customer products; So that the cleanliness of the customer's workpiece can meet the requirements of use, The equipment has 5 cleaning chamber, loading and unloading table. The equipment is completed automatically, without the need for personnel to be on duty, and manual intervention can also be carried out as needed.

1.2 The model is JTM-5120SD automatic cleaning machine mainly by:

- 1 ultrasonic occurrence system (including generators, transducers),
- 2 holding system (cleaning tank),
- 3 heating system,
- 4 filtration circulation system,
- 5 liquid level control system,
- 6 Induction positioning system
- 7 PLC control system,
- 8 Robot arm system.

Among them,

- 1 The physical shock generated by the ultrasonic occurrence system is the most important way of cleaning;
- 3 The heating system is to sensing the heating temperature by high precision temperature probe to realize the start-stop control of the heating device;
- 4 The filtration circulation system is to effectively filter the large particle stains in the cleaning liquid to achieve the maximum utilization of the cleaning solution;
- 5 The level control system is a real-time induction of the amount of cleaning solution in the tank to realize the amount control of cleaning solution;
- 6 Induction positioning system helps mechanical grip precision positioning to improve grasp accuracy and effectiveness;
- 7 PLC control system is the start and stop and cleaning process, And according to the actual situation of the cleaning process for preparation or manual intervention;
- 8 The robot arm system is an effective way to carry and smoothly transport products into the next cleaning process

2, Basic parameters of Automated Ultrasonic Cleaner

2.1 Workpiece information	The maximum workpiece size is 40x40mm;
2.2 Chamber size	650(L)*650(W)*200(H) mm
2.3 Required air compressor	0.7Mpa
2.4 Required wire size	25 Square Aluminum wire or 16 square copper wire
2.5 Power of the cleaning machine	≈26kW
2.6 Robot arm quantity	1pc
2.7 Washing beat	15 25min
2.8 Machine dimension	About 5800x2200x1800mm, The actual size prevail
2.9 Power demand for equipment	380V±10%/50Hz, 3 phase
2.10 Water Inlet and drain valve size:	DN25
2.11 Material of all the tank	AISI 304
2.11 Remote control	Software problem that cause performance problem should be done by remote on device by Skymen engineer
2.12 The pneumatic joints	The pneumatic joints should be stainless steel and fastened by nuts.
2.13 HMI and keys language	English
2.14 Emergency stop	The device should be equipped with the required options to stop when a short circuit happens or any power swing or unusual voltage and unusual current.
2.15 Electric box	Electronic components should have big enough space than normal
2.16 Key switch	The key switch for power On/Off should be embedded.
2.17 Filter size	φ 60*255mm
2.18 Appearance	machine rendering drawing after receiving deposit

3, Working process of Automated Ultrasonic Cleaner:

3.1 To be washed products: Tappet body, shell, plunger

3.2 Cleaning process:

Loading

- 1 ultrasonic cleaning for 10 minutes (Solvent: Water + detergent)
- 2 Ultrasonic rinsing for 30 seconds (Solvent: Water)
- 3 Ultrasonic rinsing for 30 seconds (Solvent: Water)
- 4 Anti-rust soaking for 3 minutes (Solvent: Water + anti-rust detergent)

→5 Vacuum Drying for 10 minutes
Unloading

3.3 Cleaning agent type:Organic solvents, water

3.4 Description of the cleaning process configuration:

No.	cleaning liquid	Cleaning method	ultrasonic	auxiliary facilities	recycle filtering	heating power
1	Organic solvents	ultrasonic cleaning	40kHz/1.5kW	Storage tank 1	5μm	3kW
2	Water	ultrasonic rinsing	40kHz/1.5kW	Storage tank 2	5μm	3kW
3	Water	ultrasonic rinsing	40kHz/1.5kW	/	/	3kW
4	Organic solvents	ultrasonic soaking	40kHz/1.5kW	/	/	3kW
5	/	Vacuum drying	/	3kW vacuum pump	/	3kW

Allocation description of Automated Ultrasonic Cleaner

4.1 Ultrasonic cleaning

No.	1st tank	
Structure	Tank size	650*650*200mm
	Tank material	AISI304,thickness 2mm
Ultrasonic system	Transducer	30pcs ultrasonic transducer, the total ultrasonic power is 1.5kW, and the power is continuously adjustable
	Generator	Imported IGBT sweep control board with uniform ultrasonic output, output power with photoelectric display and current display
Circulating system	Storage tank	. Every tank volume is 30L, equipped with a lid; .Set the liquid level control in the box, if no liquid, will automatically turn off the circulating pump and sound and light alarm; .Set the discharge valve and set the discharge mode according to the requirements
	circulating pump	Adopt centrifugal water pump
	Filter Precision	5μm filter
	Tube coupling	Connect AISI 304 pipe with Y type valve with pressure gauge (0~0.8Mpa) showing the operating status of the circulating pump
heating system	temperature control	Digital display, temperature control range RT-90°C
	heating power	Place a 3kW stainless steel heating pipe inside the tank

4.2 Ultrasonic rinsing

No.	2nd tank	
Structure	Tank size	650*650*200mm
	Tank material	AISI304,thickness 2mm
Ultrasonic system	Transducer	30pcs ultrasonic transducer, the total ultrasonic power is 1.5kW, and the power is continuously adjustable
	Generator	Imported IGBT sweep control board with uniform ultrasonic output, output power with photoelectric display and current display
Circulating system	Storage tank	. Every tank volume is 30L, equipped with a lid; .Set the liquid level control in the box, if no liquid, will automatically turn off the circulating pump and sound and light alarm; .Set the discharge valve and set the discharge mode according to the requirements
	Circulating pump	Adopt centrifugal water pump
	Filter Precision	5μm filter
	Tube coupling	Connect AISI 304 pipe with Y type valve with pressure gauge (0~0.8Mpa) showing the operating status of the circulating pump
heating system	temperature control	Digital display, temperature control range RT-90°C
	heating power	Place a 3kW stainless steel heating pipe inside the tank

4.3 Ultrasonic rinsing

No.	3rd tank	
Structure	Tank size	650*650*200mm
	Tank material	AISI304,thickness 2mm
Ultrasonic system	Transducer	30pcs ultrasonic transducer, the total ultrasonic power is 1.5kW, and the power is continuously adjustable
	Generator	Imported IGBT sweep control board with uniform ultrasonic output, output power with photoelectric display and current display
heating system	temperature control	Digital display, temperature control range RT-90°C
	heating power	Place a 3kW stainless steel heating pipe inside the tank

4.4 Ultrasonic soaking-Anti-rust tank

No.	4th tank	
Structure	Tank size	650*650*200mm
	Tank material	AISI304,thickness 2mm

Ultrasonic system	Transducer	30pcs ultrasonic transducer, the total ultrasonic power is 1.5kW, and the power is continuously adjustable
	Generator	Imported IGBT sweep control board with uniform ultrasonic output, output power with photoelectric display and current display
heating system	temperature control	Digital display, temperature control range RT-90°C
	heating power	Place a 3kW stainless steel heating pipe inside the tank

4.5 Vacuum drying

No.	5th tank	
Structure	Tank size	650*650*200mm
	Tank material	AISI304,thickness 10mm
Vacuum drying	Quantity	1 set
	Structure	The tank body is equipped with a downward pressure cylinder head and an vacuum pump. When the tank body is sealed, vacuum is carried out to form a negative pressure cavity.
	principle	In the vacuum state, the boiling point of the liquid is lowered, the liquid evaporates faster, and the residual liquid in the complex parts of the workpiece (blind holes) can be completely evaporated
	assisting equipments	Pressure relief valve, noise reduction device

5,Main mechanical structure of Automated Ultrasonic Cleaner

5.1 Robot arm

Quantity	1 set	
structure	The structure of the robot arm is a single-arm beam type, which is stable in operation, accurate in positioning, large in bearing capacity, strong in flexibility and fast in lifting.	
electrical control	►The robotic arm is controlled by a programmable controller and proximity and induction switches to automatically complete the cleaning process; the cleaning rhythm is adjustable, and the operation process is variable frequency speed regulation, which can achieve soft landing and accurate positioning ►Established with a washing basket protection device, when there is a basket in the tank, the robotic arm shall not place any more baskets	
Motor parameters	Lifting	Gear motor, power: 3/4HP, speed: 0-7 m/min (parameters are designed on demand)
	Moving	Servo motor, power: 1HP, speed: 0-7 m/min (parameters are designed on demand)
Can achieve Function	► Manual operation; ► Fully automatic operation; ► Automatic reset system; ► Pause and emergency stop; ►The man-machine interface modifies the program; ►The man-machine interface adjusts the process parameters; ►Can remotely monitor and control equipment operation; ►HMI fault alarm display.	
load bearing	Max. 50kg	

5.2 Machine frame chassis and door panel

quantity	1 set	
structure	The frame and chassis of the entire equipment are made of stainless steel The front and rear and left and right sides of the equipment are equipped with decorative door panels, which are mainly composed of brushed stainless steel and acrylic panels. The surface is matte and beautiful. The water distribution tank is set on the rack, and the foot cup is set at the bottom	

5.3 Air release

quantity	1set	
material	Stainless steel, PVC engineering plastics	
installation site	A suction cover can be set up above the organic solvent and water-soluble solvent cleaning tank, which can be connected to the customer exhaust system, and the air valve can be adjustable	

5.4 Basket

quantity	5pcs
material	AISI 304

5.5 Electric control system

quantity	1 set	
material	Stainless steel board	
structure	►The electric control cabinet is located on the left side of the first tank and is assembled with the cleaning system; install the touch screen of the operation panel and display the working status of the whole machine simultaneously ►The buzzer and the equipment shall have three-color working indicator lamp, abnormal situation prompt sound and light alarm; ►PLC, relay, air switch, transformer and other main order control circuit is configured in the cabinet; ►The line layout is neat and clear, with a clear line number.	

Working way of Automated Ultrasonic Cleaner

The entire process of putting the basket into the cleaning tank, removing the basket and moving the basket between the tanks

is automatically completed by a single-arm manipulator. This ultrasonic cleaning machine has a total of 3 working tanks, plus 1 loading and unloading station, a total of 4 stations.

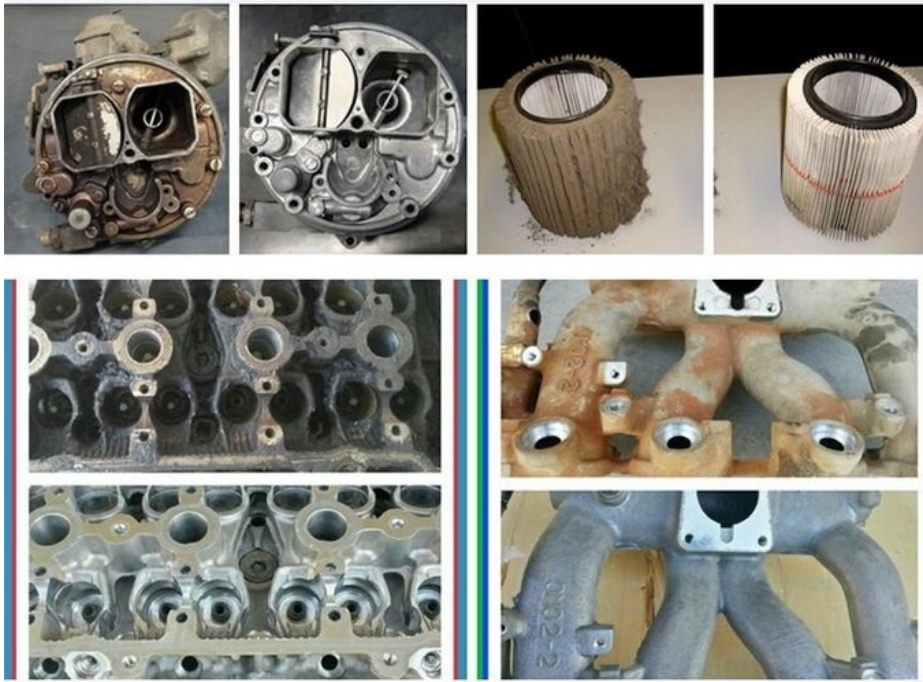
Same series with different size for your choice:

Model	Size of every tank	Tank Volume	Ultrasonic Power	Heating Power of Ultrasonic tank	Heating Power of drying tank	Transducer
	L*W*H (mm)	(L)	(W)	(W)	750W	(pcs)
JTM-3024AD	500X300X250	38L*3	600W	1500W*2	750W	24pcs
JTM-3036AD	500X350X300	53L*3	900W	1500W*2	750W	36pcs
JTM-3048AD	550X400X350	77L*3	1200W	3000W*2	750W	48pcs
JTM-3060AD	550X450X400	99L*3	1500W	3000W*2	750W	60pcs
JTM-3072AD	600X500X450	135L*3	1800W	4500W*2	750W	72pcs
JTM-3096AD	700X500X500	175L*3	2400W	6000W*2	750W	96pcs
JTM-3120AD	800X600X550	264L*3	3000W	6000W*2	750W	120pcs
JTM-3144AD	1000X600X600	360L*3	3600W	9000W*2	750W	144pcs
JTM-3216AD	1000X900X600	540L*3	5400W	18000W*2	1100W	216pcs
JTM-3288AD	12000*1000*800	960L*3	7200W	24000W*2	1500W	288pcs

Images of Automated Ultrasonic Cleaner:



Clean effect:



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