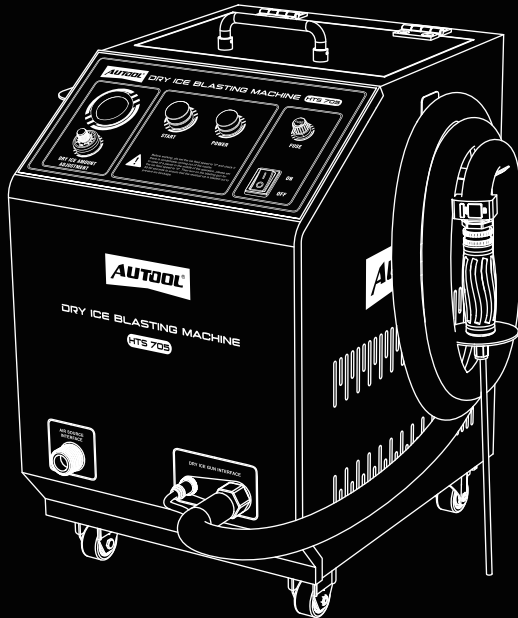


AUTOOL HTS705

Dry Ice Blasting Machine

User Manual





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TABLE OF CONTENTS

Copyright Information	2
Copyright.....	2
Trademark.....	2
Cautions	3
Warning.....	3
Product Introduction	4
Overview	4
Applicable industry field	4
Function features	4
Technical parameters	5
Product Structure	6
Machine structure.....	6
Control panel introduction	7
Operations Instruction	8
Equipment debugging	8
Adjusting the volume of dry ice blasting.....	8
Final work.....	8
Common Problems And Troubleshooting	9
Common faults.....	9
Analysis and treatment method.....	9
Maintenance Service	11
Maintenance.....	11
Warranty	12
Warranty access.....	12
Disclaimer	12
Return & Exchange Service	13
Return & Exchange.....	13

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CAUTIONS

Warning



Before using the instrument, please read this manual carefully for proper operation.

- ▶ If cleaning moving objects, firstly be sure to turn off the drive power of the objects to be cleaned.
- ▶ The temperature of dry ice is -78.5 degrees, and gloves must be worn for long-term contact with dry ice to prevent burns.
- ▶ The object to be cleaned and sprayed contains a lot of dust, so be sure to wear a protective mask.
- ▶ The spray head shall not against people, and the dry ice particles sprayed will hurt people.
- ▶ Cleaning with dry ice will produce certain noise, and it is necessary to wear noise-proof earmuffs during operation.
- ▶ It is forbidden to touch dry ice and the barrel of ice spraying gun.
- ▶ When adding dry ice, it must be kept clean and no other foreign objects fall into the equipment.
- ▶ This equipment uses solid CO₂ particles, and ventilation must be ensured when operating dry ice cleaning.
- ▶ Before working, it is necessary to check whether goggles, earmuffs, work clothes and gloves are worn.
- ▶ Before each operation, first set the ice feeding speed to "0" and test whether there is condensed water sprayed from the nozzle.
- ▶ When the operation is not finished and suspended, please adjust the ice feeding speed to "0" , and then start the spray gun to spray for 30-50s to ensure that the residual ice in the feeding pipe is discharged and prevent ice blocking.
- ▶ To ensure that the compressed air pressure flow of the air source is sufficient, please choose the air source supply pipe with an outer diameter greater than DN20 and an air source pressure greater than 6bar, so as to achieve better cleaning effect.
- ▶ To prevent electric shock, please do not touch the working equipment in the wet place or operate the equipment in the rain.
- ▶ In case of equipment failure during operation, the power supply shall be disconnected immediately.

PRODUCT INTRODUCTION

Overview

Dry ice cleaning uses compressed air as power to spray dry ice particles to the surface of the cleaned object at supersonic speed. However, it does not rely solely on the kinetic energy of dry ice particles, but uses the ultra-low temperature performance of dry ice to achieve the purpose of decontamination.

Dry ice spraying medium - dry ice particles accelerate in the high-pressure air flow and impact the surface to be cleaned. The unique feature of dry ice cleaning is that the dry ice particles are vaporized at the moment during cleaning, and the momentum of dry ice disappears at the moment of impact. The heat exchange between dry ice particles and the cleaning surface occurs rapidly, resulting in the rapid sublimation of solid CO₂ into gas, and the volume expansion of dry ice particles is nearly 800 times within a few thousandths of a second, thus causing "micro explosion" at the impact point. Due to the volatilization of CO₂, no secondary waste is generated during the dry ice cleaning process, and only the dirt that needs to be cleaned.

Applicable industry field

- Dry ice blasters are suitable for removing stuck and flaking formulations, silicone and rubber residues, oils, greases, turpentine, asphalt, dirt, inks, resins, adhesives, waxes and paints, chewing gum, and graffiti. It has been widely used in rubber, casting, automobile, marine, electric power, chemical, printing, plastic, food, pharmaceutical and aviation fields.
-

Function features

- **Effective cleaning equipment for improving productivity.**
The main function of the dry ice blasters is to clean different equipment. On the one hand, dry ice cleaning can avoid the impact of shutdown on production, and at the same time, it can reduce the disassembly and damage of equipment, fundamentally protect the equipment and improve productivity.
- **Avoid personal injury caused by hazardous substances.**
Cleaning with dry ice instead of toxic chemical to avoid long-term adhesion of undesirable substances to the equipment, affecting the overall operation and causing injury to

personnel.

- **Quickly remove all kinds of intractable dirt.**

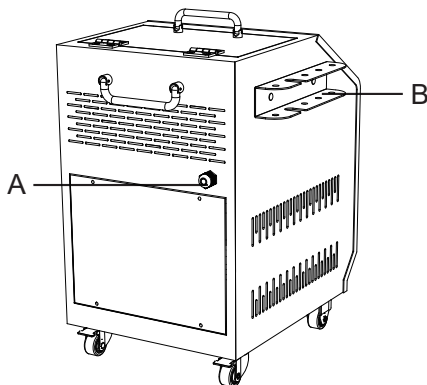
The use of dry ice blaster can thoroughly remove the attached dirt and protect the equipment to avoid affecting the operation and use of the equipment during cleaning.

Technical parameters

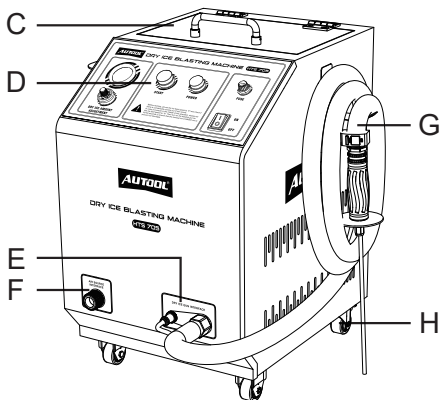
Power Supply	110V/220V
Dry Ice Volume	5.0kg
Compressed Air Flow	>1~3m³/min
Dry Ice Particle State	3mm
Air Supply Pressure	0.3~0.8Mpa
Dry Ice Blasting Volume (Adjustable)	0~3.2Kg/min
Product Size	350*450*575mm
Net Weight (US/EU)	45kg/39kg
Gross Weight (US/EU)	50kg/44kg

PRODUCT STRUCTURE

Machine structure

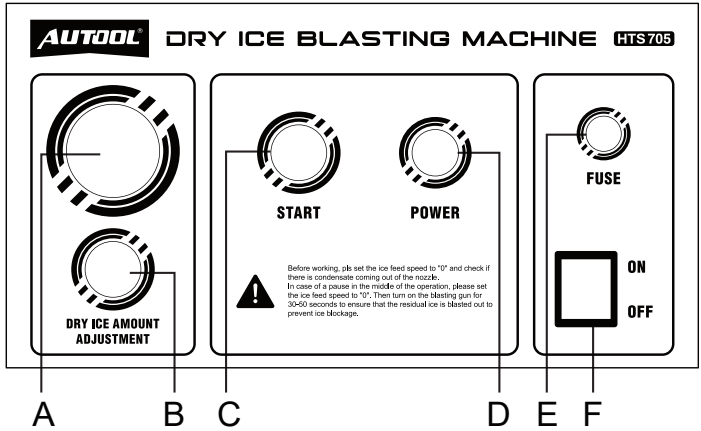


A	Power cord	B	Hanger of spray gun pipe
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C	Dry ice tank	D	Control panel
E	Dry ice gun interface	F	Air source interface
G	Ice spray gun	H	Caster

Control panel introduction



A	Pressure gauge	B	Dry ice volume adjustment controller
C	Start / Cleaning controller	D	Power indicator light
E	Fuse	F	Power switch

OPERATIONS INSTRUCTION

Equipment debugging

- Connect the host to the external air source and external power supply. Check whether the data of the air pressure indicator is normal and whether the power connection is normal (make sure the power supply is grounded normally).
 - Make preparations for testing machine, including connecting the machine and accessories properly, checking whether the parts are loose, and cleaning the unnecessary items placed on the machine body or the work area.
 - Turn on the power switch, then turn it to start mode first. And then press the start switch on the handle to run, adjust the dry ice volume from 0 to its maximum, check whether there is any abnormality, and then put dry ice materials into the machine for trial operation.
-

Adjusting the volume of dry ice blasting

- Add an appropriate volume of dry ice and cover the lid.
 - According to the required cleaning degree, turn the dry ice volume adjusting controller to achieve the best effect as needed (it is recommended to set it to "5" first and adjust it according to the cleaning effect).
 - If the barrel with smaller inner diameter is adopted, it is recommended to set it to "3" and then increase it as appropriate.
 - After confirmation, align the spray gun with the parts to be cleaned, and press the start switch on the handle to enter the cleaning procedure.
-

Final work

- Turn the dry ice volume adjusting controller to "0" and start the spray gun to spray for 30-50s until no water is sprayed.
- The dry ice residue can be removed by extending the product's spraying time, and manual cleaning is required if necessary.
- Turn off the power switch, disconnect the air source, and store the spray gun and accessories.

COMMON PROBLEMS AND TROUBLESHOOTING

Common faults

► **The ice is blocked in the ice hopper in the dry ice box.**

- Stop the operation, open the cover, and check if there is excessive dry ice filled. If so, remove some dry ice, and then continue the operation.
- Check whether the vibration pump works. If not, contact the manufacturer for replacement.
- When filling dry ice into the funnel, it instantly removes the air inside the funnel and forms condensation blocks. It requires manual assistance using a steel rod at the center of the funnel to fill the dry ice.

Analysis and treatment method:

Common faults

► **The dry ice pipe is vented but does not discharge ice (internal ice blockage).**

- During the operation, intermittent use or intermittent shutdown can cause the residual dry ice and compressed air mixed in the ice outlet pipe, leading to icing. If this situation occurs: first adjust the ice output to 0, then turn on the spray gun switch and keep it running continuously for 3 minutes, then adjust the ice output to 20%-30%, and then observe the ice output effect.

Analysis and treatment method:

Common faults

► **The dry ice pipe leaks ice and air.**

- Check the air source to ensure that the compressed air supplied to the dry ice blaster is free of oil and water.
- The dry ice pipe has been used for a long time, and the dry ice has been rubbing against the pipe wall for a long time, resulting in the internal thinning. Contact the manufacturer for replacement.

Analysis and treatment method:

Common faults

► **The cleaning effect is not perfect, carbon deposits and other intractable stains are not cleaned thoroughly.**

Analysis and treatment method:

- If the cleaning is not complete, first check whether the air pressure and flow of the external air source are insufficient. The working pressure of the dry ice machine is not less than 6bar and the flow rate is not less than 1m³/min. If the air supply pipe is too thin, too long, or directly connected to the quick interface, it will cause the pressure of the pipeline to drop too much. In this case, it is considered to directly connect the blaster to the main air supply pipe before operation.

MAINTENANCE SERVICE

Our products are made of long-lasting and durable materials, and we insist on perfect production process. Each product leaves the factory after 35 procedures and 12 times of testing and inspection work, which ensures that each product has excellent quality and performance.

Maintenance To maintain the performance and appearance of the product, it is recommended that the following product care guidelines be read carefully:

- Be careful not to rub the product against rough surfaces or wear the product, especially the sheet metal housing.
- Please regularly check the product parts that need to be tightened and connected. If found loose, please tighten it in time to ensure the safe operation of the equipment. The external and internal parts of the equipment in contact with various chemical media should be frequently treated with anti-corrosion treatment such as rust removal and painting to improve the corrosion resistance of the equipment and extend its service life.
- Comply with the safe operating procedures and do not overload the equipment. The safety guards of the products are complete and reliable.
- Unsafe factors are to be eliminated in time. The circuit part should be checked thoroughly and the aging wires should be replaced in time.
- Adjust the clearance of various parts and replace worn (broken) parts. Avoid contact with corrosive liquids.
- When not in use, please store the product in a dry place. Do not store the product in hot, humid, or non-ventilated places.

WARRANTY

From the date of receipt, we provide a three-year warranty for the main unit and all the accessories included are covered by a one-year warranty.

Warranty access

- The repair or replacement of products is determined by the actual breakdown situation of product.
- It is guaranteed that AUTOOL will use brand new component, accessory or device in terms of repair or replacement.
- If the product fails within 90 days after the customer receives it, the buyer should provide both video and picture, and we will bear the shipping cost and provide the accessories for the customer to replace it free of charge. While the product is received for more than 90 days, the customer will bear the appropriate cost and we will provide the parts to the customer for replacement free of charge.

These conditions below shall not be in warranty range

- The product is not purchased through official or authorized channels.
- The product breakdown because the user does not follow product instructions to use or maintain the product.

We AUTOOL pride ourselves on superb design and excellent service. It would be our pleasure to provide you with any further support or services.

Disclaimer

All information, illustrations, and specifications contained in this manual, AUTOOL reserves the right of modify this manual and the machine itself with no prior notice. The physical appearance and color may differ from what is shown in the manual, please refer to the actual product. Every effort has been made to make all descriptions in the book accurate, but inevitably there are still inaccuracies, if in doubt, please contact your dealer or AUTOOL after-service centre, we are not responsible for any consequences arising from misunderstandings.

RETURN & EXCHANGE SERVICE

Return & Exchange

- If you are an AUTOOL user and are not satisfied with the AUTOOL products purchased from the online authorized shopping platform and offline authorized dealers, you can return the products within seven days from the date of receipt; or you may exchange it for another product of the same value within 30 days from the date of delivery.
- Returned and exchanged products must be in fully saleable condition with documentation of the relevant bill of sale, all relevant accessories and original packaging.
- AUTOOL will inspect the returned items to ensure that they are in good condition and eligible. Any item that does not pass inspection will be returned to you and you will not receive a refund for the item.
- You can exchange the product through the customer service center or AUTOOL authorized distributors; the policy of return and exchange is to return the product from where it was purchased. If there are difficulties or problems with your return or exchange, please contact AUTOOL Customer Service.

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