

INSTRUCTION MANUAL
TRANSLATION

ASCOJET 1701
DRY ICE BLASTING MACHINE

from S/N 17-010-043
ascoco2.com



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THANK YOU VERY MUCH!

Congratulations - You have acquired a quality product from
ASCO CARBON DIOXIDE LTD.



NOTE

Before installing and operating this product, please read this operating manual carefully, and in particular section "GENERAL INFORMATION and SAFETY INSTRUCTIONS".

We will be pleased to assist you in the event of any questions or should you require further information.


ASCO CARBON DIOXIDE LTD

PURPOSE OF THE DOCUMENT

This ASCO operating manual provides support for the installation, setup and safe use of the ASCO quality product.

This operating manual contains important information for the safe and correct installation, setup, connection and operation of the product. Before starting the device for the first time, you must have read and understood all instructions in this manual. As an ASCO product is normally operated together with other machines, we have included a number of general safety notes.

ASCO reserves the right to make technical changes to its products without prior notice.

	NOTE
This document has been drafted and edited with the greatest care and according to our best knowledge. The authors and publishers shall not be liable for damage arising from incorrect, incomplete or misleading information in this document.	

If something is unclear, the German version of the operating manual is the reference document.

WARRANTY




The warranty terms below apply in all countries. Please find the conditions for repairs to your machine within the warranty period in our General Terms and Conditions which you received together with our order confirmation. Please contact the closest authorised ASCO distributor or the ASCO Customer Service Department in the event of a warranty claim. Please submit proof of purchase, the serial number of your device and the operating hours completed to date.

1 GENERAL SAFETY NOTES


1.1 DRAWINGS AND SYMBOLS

Many accidents with devices are caused because operators ignore manufacturer instructions and safety notes. In this document, internationally recognised symbols and signal words are used to highlight hazards and hazardous situations in the work environment.


Warning information is presented as follows:

	<p>⚠ DANGER</p> <p>Describes a hazard with a high degree of risk. If these instructions are not followed, this will result in death or serious injury (leading to disability).</p>
	<p>⚠ WARNING</p> <p>Describes a hazard with a medium degree of risk. If these instructions are not followed, this may result in death or serious injury (leading to disability).</p>
	<p>⚠ CAUTION</p> <p>Describes a hazard with a low degree of risk. If these instructions are not followed, this may result in slight or moderate injury.</p>

Note, user tips, minor material damage at the most:

	<p>NOTE</p> <p>Describes general notes. Useful user tips and work recommendations are given which do not, however, have any effect on the safety and health of staff.</p> <p>...highlights useful tips and recommendations plus information for efficient and fault-free operation.</p>
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Instructions designed to prevent serious damage to property:

	<p>CAUTION</p> <p>Describes a potentially damaging situation. If these instructions are not followed, material damage will result.</p> <p>...indicates a potentially damaging situation which may lead to material damage if these instructions are not followed.</p>
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1.1.1 Definition of the pictograms used

The safety instructions in this manual, which may present dangers to persons and property if they are not observed, are highlighted with a general warning symbol.

	General warning symbol
	Warning of electric charge
	Warning of suffocation hazard
	Warning of low temperature
	Use eye protection
	Use ear protection
	Use hand protection
	Use foot protection
	Use mask
	Disconnect the mains plug



1.1.2 Operator qualification


- The machine may only be operated by authorised and instructed staff.

The operators must be instructed in the following points by an authorised person (industrial company or manufacturer):



- Safe handling of dry ice and/or liquid/gaseous CO₂
 - Operation and maintenance of the ASCO system
 - Safety measures / protective equipment
 - Protective clothing
- Repair work may only be carried out by trained staff.
Trained engineers or technicians for:
 - Mechanical Engineering
 - Electrical Engineering
 - Water Engineering
 - Refrigeration Engineering
 - The manufacturer is available for training, including repeat sessions. Please contact our Customer Service Department.



1.2 IMPORTANT SAFETY INSTRUCTIONS



	<p>⚠ DANGER</p> <p>Hazard due to concentration of carbon dioxide! Risk of suffocation and damage to health through carbon dioxide! Low concentration (3-5 %) causes headaches and makes breathing difficult. High concentration (7-10 %) causes headaches and nausea and leads to unconsciousness. Even higher concentration leads to unconsciousness and death. The highest non-hazardous CO₂ concentration is 5000 ppm. A higher concentration is very dangerous to humans (German MAK Scale IV).</p> <ul style="list-style-type: none"> ▪ Operate the device only in well-ventilated spaces. ▪ Installation of a CO₂ gas detector is recommended. <p>Hazard due to electrical energy! Unprotected electrical contacts, electrostatic processes, external effects on electrical systems for example.</p> <ul style="list-style-type: none"> ▪ Only qualified specialists are allowed to carry out work on electrical installations.
	<p>⚠ WARNING</p> <ul style="list-style-type: none"> ▪ Do not operate the device in a potentially explosive atmosphere.



	CAUTION
	<ul style="list-style-type: none"> ▪ Only use dry ice pellets as an abrasive. ▪ Using any other abrasive can damage the device.



Personal protective equipment

	 WARNING
	<p>Hazard due to parts being flung away! Parts are flung away due to the high blasting pressure.</p> <ul style="list-style-type: none"> ▪ Always use suitable protective glasses when operating the ASCOJET. ▪ All people close to the blasting system must wear suitable protective glasses.

	 WARNING
	<p>Hazard due to noise! Dry ice blasting is very loud.</p> <ul style="list-style-type: none"> ▪ Always wear proven ear protection when operating the ASCOJET. ▪ All people close to the blasting system must wear proven ear protection.

	 CAUTION
	<p>Hazard due to hand injury! Scratches, cuts, crushing injuries, penetration wounds etc. Burns and scalds due to hot or cold sources of energy and/or environment.</p> <ul style="list-style-type: none"> ▪ Always wear suitable protective gloves when operating the ASCOJET. ▪ All people close to the blasting system must wear suitable protective gloves.

	 CAUTION
	<p>Hazard due to foot injury!</p> <ul style="list-style-type: none"> ▪ Always wear suitable foot protection when operating the ASCOJET. ▪ All people close to the blasting system must wear suitable foot protection.

	 CAUTION
	<p>Hazard due to pulverization! During blasting, some residue turns into powder.</p> <ul style="list-style-type: none"> ▪ If the dust concentration exceeds 6 mg/m³ (0.00000037 lb/ft³) (fine mist), wear a dust mask.

Safety instructions attached to the machine

Rating plate



Fig. 1

Safety instructions

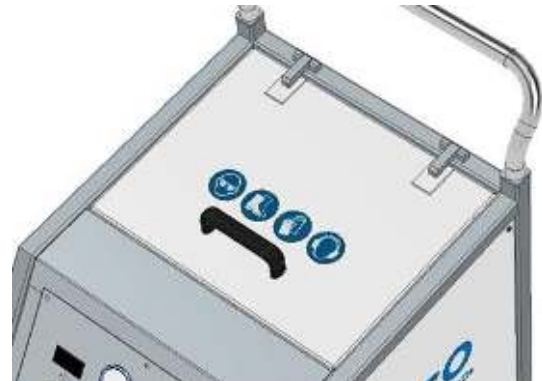









Fig. 2

Handling dry ice


	 CAUTION
	<p>Hazard due to frostbite as a result of cold dry ice! Solid carbon dioxide (dry ice) is at a temperature of about -79° C (-110.2° F). If it comes into contact with your skin, it can cause frostbite.</p> <p>The dry ice's low temperature results in icing of most of the parts of the ASCOJET.</p> <ul style="list-style-type: none"> Do not touch the dry ice or any of the iced components unless you are wearing appropriate protective clothing. Prolonged contact with dry ice/iced components must be avoided unless appropriate insulation is present. Always read the supplier's safety data sheet attentively and follow the instructions carefully.

Precautions to be taken before dry ice blasting

	 CAUTION
	<p>Hazard due to static discharge! Static discharges can lead to serious injuries!</p> <ul style="list-style-type: none"> Ensure that the object to be cleaned is properly earthed.
	 DANGER
	<p>Hazard due to dry ice pellets! The system fires CO₂ dry ice pellets from the gun nozzle at high speed.</p> <ul style="list-style-type: none"> Therefore never point the gun at people or animals.

	<p>⚠ CAUTION</p>
	<p>Stability hazard! When blasting at maximum power, the pellet nozzle has a recoil force of approximately 6 kg (13.227 lb).</p> <ul style="list-style-type: none"> ▪ Assume a stance with the legs apart (approx. 60 cm (23.622 in)). ▪ Hold the gun securely with both hands during operation.

1.3 SAFETY COMPONENTS

	<p>⚠ DANGER</p>
	<p>Hazard due to missing safety components!</p> <ul style="list-style-type: none"> ▪ Only start the ASCOJET after you have made sure that all safety components are properly installed and in working order.

The machine is equipped with the following safety components:

- Main switch (EMERGENCY-STOP)
- All safety guards shown in Fig. 3
- Warning information (Fig. 4)
- Safety grille in hopper
- Safety coupling at blasting hose
- Compressed air disconnection device (operator side)



Fig. 3

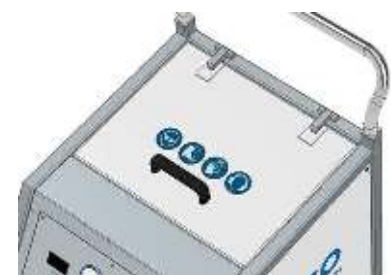


Fig. 4

1.4 INTENDED USE



The ASCOJET dry ice blasting machine has been specifically designed for industrial cleaning with dry ice pellets up to a diameter of 3 mm (0.1181 in) and compressed air at a pressure of 0-10 bar (0-145.03 psi) Observing the technical data also forms part of the intended use.

1.5 DECLARATION OF CONFORMITY

The EU Declaration of Conformity is in the appendix to this operating manual.

1.6 LIST OF SPARE PARTS / DRAWINGS / CIRCUIT DIAGRAMS

The spare parts list/drawings and circuit diagrams are enclosed within this operating manual as standalone documents.

	 WARNING
	Hazard due to unsuitable spare parts! The use of unsuitable spare parts can lead to safety hazards. This applies for safety components in particular. <ul style="list-style-type: none">▪ Spare parts may only be replaced by original parts.

2 TECHNICAL SPECIFICATION

2.1 CONTROL ELEMENTS


1	Coupling for dry ice transport hose	
2	Socket for control cable	
3	Castor with locking mechanism	
4	Control panel	
5	Blind cover	

Fig. 5


6	Frame handle	
7	Solid rubber tyres	
8	Hinged compartment	
9	Lid of dry ice tank	
10	Compressed air connection	
11	Electrical connection socket	

Fig. 6


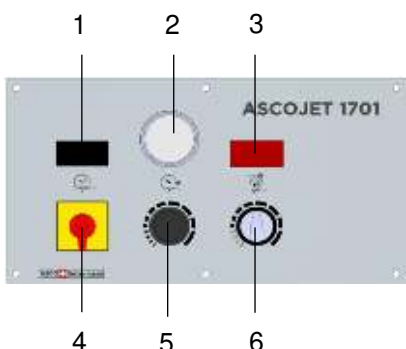


12	Locking bolt	
13	Hinged compartment (with defined opening position)	

Fig. 7

1	Hours counter	 <p>Fig. 8</p>
2	Pressure display for blasting pressure	
3	Dry ice consumption indicator	
4	Main switch / EMERGENCY-STOP	
5	Pressure regulator for blasting pressure	
6	Dry ice consumption regulator	


Gun dry ice		 <p>Fig. 9</p>
1	Connection dry ice transport hose	
2	Control cable connection	
3	Nozzle	
4	Locking slide	
5	Safety bracket	
6	Trigger	
7	Gun handle	

Hose assembly dry ice		 <p>Fig. 10</p>
1	7.5 m (24.606 ft) cable with plug	
2	Transport hose for dry ice	

2.2 TECHNICAL DATA

Dimensions:	752 x 608 x 1103 mm (29.606 x 23.937 x 43.425 in) (with wheels and handle)
Weight:	104 kg (229.27 lb)
Capacity of the pellets tank:	23 kg (50.705 lb)
Blasting pressure dry ice:	0-10 bar (0-145.03 psi) (adjustable)
Inlet pressure min:	3 bar (43.511 psi)
Inlet pressure max.:	10 bar (145.03 psi)
Air consumption:	4.6 m ³ /min (162.44 ft ³ /min) at 6 bar (87.022 psi), standard model
Air quality:	minimum air quality of class 3 according to ISO Standard 8573-1
Dry ice consumption:	25-80 kg/h (55.115-176.36 lb/h)
Inlet hose connection:	¾" BSP female thread
Material:	Frame, side, rear and front panels made of steel, powder coated
Voltage:	120 VAC (+/- 5 %), 60 Hz, 1 Ph, (other voltage ratings available on request)
Max. power consumption:	600 W nominal
Sound power level:	> 80 dB(A)

2.3 COMPRESSED AIR QUALITY


NOTE		
	For safe and trouble-free operation of the ASCOJET please ensure the following:	
	<ul style="list-style-type: none"> Compressed air pressure does not exceed 10 bar (145.03 psi), and compressed air meets the following quality standard: 	
	The ISO Standard 8573-1 must be adhered to with the following classifications for seamless functioning of our blasting machines.	
	Class	Limit value
Oil content	3	max. residual oil content: 1 mg/m ³ (0.000000062 lb/ft ³)
Particle size and density	3	max. particle size 5 µm (0.00019 in), density 5 mg/m ³ (0.00000031 lb/ft ³)
Pressure dew point	4	max. residual water content 5.953 g/m ³ (0.00037 lb/ft ³) and pressure dew point +3° C (37.4° F)

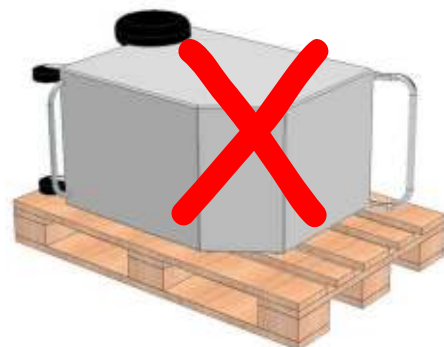
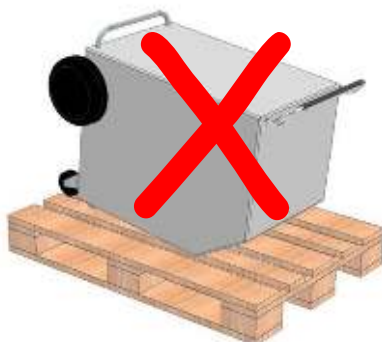
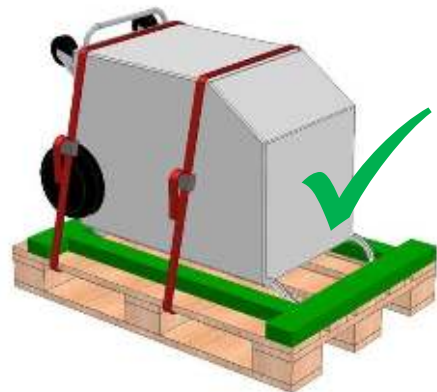
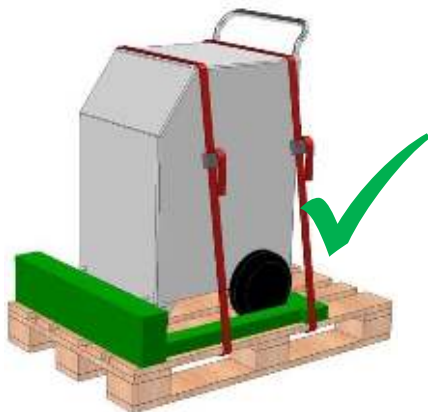
3 TRANSPORTATION

3.1 TRANSPORTATION

After delivery of the ASCOJET, the machine must be inspected for damage in transit. If there is damage, notify the shipping company to have the damage recorded.


The ASCOJET is delivered with a blasting hose and a gun. Check whether the delivery is complete.


NOTE	
	<ul style="list-style-type: none"> Transport the ASCOJET vertically on its wheels. If lack of space dictates that the ASCOJET is transported horizontally, tip it backwards into a horizontal position Never tip the ASCOJET to the side or front! When transporting the ASCOJET on a vehicle, secure it to the platform.



4 INSTALLATION




4.1 CONNECTING THE ASCOJET





	<p>⚠ WARNING</p>
	<p>Hazard due to damaged hoses and loose connections!</p> <ul style="list-style-type: none"> ▪ Before making the connection, inspect the hose, gun, and couplings for damage. ▪ Check that all hose and cable connections are tight! ▪ Malfunctions and damage caused by incorrect installation will void the ASCO warranty.

	<p>NOTE</p>
	<ul style="list-style-type: none"> ▪ To ensure trouble-free operation of the machine, we recommend using compressed air with a low moisture content (approx. 6 g/m³ (0.00037 lb/ft³) at a pressure dew point of +3° C (37.4° F)). ▪ The compressed air must be free of oil, contaminants and foreign particles. A minimum air quality according to ISO standard 8573-1, class 3 must be guaranteed.



4.1.1 Connecting to the compressed air and power supply

- Connect compressed air supply to the ASCOJET.
This may be an on-site compressed air system or a portable compressor. The connection on the ASCOJET has a 3/4" BSP female thread.
- Do not exceed the maximum permissible supply pressure of 10 bar (145.03 psi).

	<p>NOTE</p>
	<p>Compressed air connection: For quick coupling and uncoupling, we recommend using a 3/4" claw coupling with a retaining ring that prevents the connection from coming loose accidentally. A separating device (ball valve) must be provided on the compressed air supply on the operating side.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Fig. 11</p> </div> <div style="text-align: center;">  <p>Fig. 12</p> </div> </div>

	NOTE
	<p>Electrical connection</p> <ul style="list-style-type: none"> ▪ You make the electrical connection to the mains using the blue Power-Con plug. ▪ Push back the locking slide, insert the plug and turn the slide clockwise until it locks in place. <p>Disconnecting ASCOJET from power supply:</p> <ul style="list-style-type: none"> ▪ Push back the locking slide, turn the plug counter-clockwise and pull it from the socket. <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>Fig. 13</p> </div> <div style="text-align: center;">  <p>Fig. 14</p> </div> <div style="text-align: center;">  <p>Fig. 15</p> </div> </div>

4.1.2 Depressurise the machine

	⚠ WARNING
	<p>Hazard due to pressure</p> <p>Stop supply of compressed air.</p> <ul style="list-style-type: none"> ▪ Close the separating device (ball valve) on the compressed air supply. ▪ Reduction in pressure through using the gun. ▪ Lower residual pressure through valve at the machine's compressed air connection (Fig. 16) <div style="text-align: center; margin-top: 10px;">  <p>Fig. 16</p> </div>

4.2 BLASTING GUNS PREPARATION

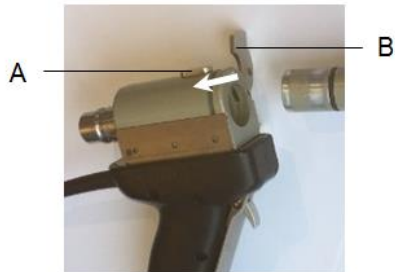



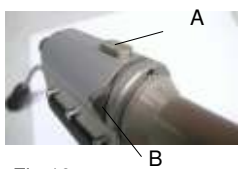
Fig. 17




Fig. 18

4.2.1 Blasting guns for dry ice

- Choose the blasting gun for dry ice.
- Choose the nozzle for dry ice.
- Push back and hold the locking slide (A) on the blasting gun.
- Open the safety bracket (B).
- Insert nozzle in blasting gun. (Fig. 18).
- Close the safety bracket.
- Release the locking slide.
- The blasting gun can be insert in the hose assembly now.

	<p>⚠ WARNING</p>
	<ul style="list-style-type: none"> ▪ The safety bracket (B) on the blasting gun must be closed before each press of the trigger ▪ The locking slide (A) must be at the front end position. <div style="text-align: right; margin-top: 10px;">  <p>Fig 19</p> </div>

4.3 CONNECTION OF THE HOSE ASSEMBLIES AND CONNECTION LINES

	<p>NOTE</p>
	<p>IMPORTANT:</p> <p>For problem free use and guaranteeing of all blasting functions it is important to examine all additional parts (hoses, cables, blasting guns etc.) for quality and readiness for use. Defective coupling pieces, both electrical and pneumatic, present a safety risk and they can lead to accidents.</p> <p>You must thus ensure that all coupling pieces are fitted on the hoses correctly. Re-tighten or replace if they are defective.</p> <p>The same applies for the electrical connections and plugs.</p>

4.3.1 Connection of the hose system - dry ice

- Connect electric plug to the socket provided.
- Secure by locking the bracket (Fig. 20).
- Connect blasting hose to the quick coupling (Fig. 21).
- Secure the coupling by pulling and turning the retaining ring at the back of the quick coupling (Fig. 22).
- It is now no longer possible to uncouple the blasting hose.
- Connect the other end of the blasting hose to the gun and secure it in the same way.
- Connect the control cable of the hose package to the gun.





Fig. 20



Fig. 21




Fig. 22

	 WARNING
	<ul style="list-style-type: none"> ▪ Connect ASCOJET to the appropriate power supply (see technical data). ▪ Compare rating plate with the local power supply. ▪ The blasting hose must not be kinked. ▪ Electrical connections must never come into contact with moisture or water. ▪ The compressed air supply to the ASCOJET must not exceed 10 bar (145.03 psi). ▪ All safety devices and covers on the machine must be fitted and fully functional. ▪ The retaining rings of the safety coupling on the ASCOJET and on the hose assembly must be locked in place. ▪ The safety bracket of the blasting gun must be closed and the blasting nozzle must be firmly stuck in place. ▪ The ASCOJET is now ready for blasting.

5 OPERATION OF THE SYSTEM

5.1 HANDLING OF THE ASCOJET

	<p>WARNING</p>
<p>Pre-requisite for operation:</p> <ul style="list-style-type: none"> All safety instructions (chapter 1) have been read and understood. 	

Once the device has been connected properly, observe the following handling instructions:

- Place ASCOJET on a level surface (inclination of max. 6 %).
- Place ASCOJET in a dry location and lock the brakes of the front wheels.

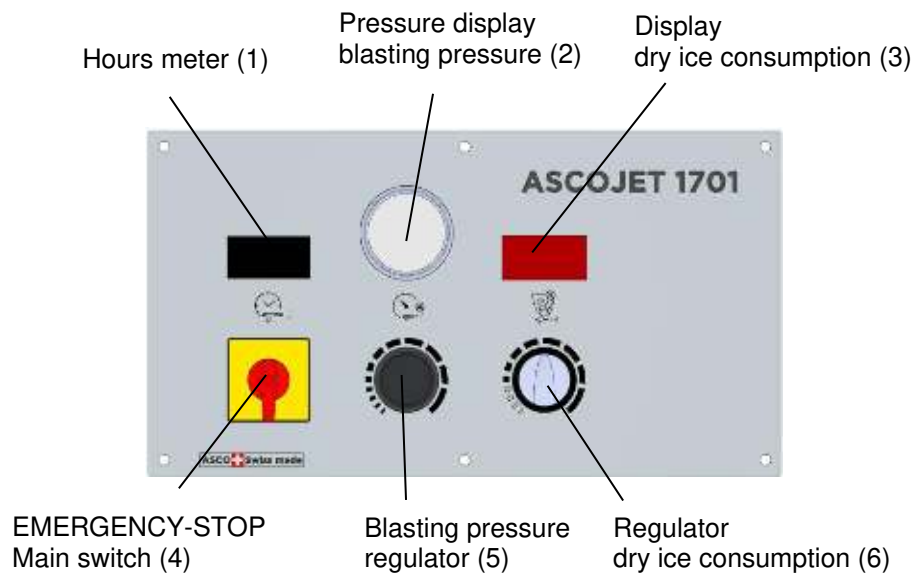





Fig. 23


- Turn main switch (4) to "I" (Fig. 23).
- Open main valve of compressed air source.
- Build up pressure slowly.
- Pull out the blasting pressure regulator (5), set the pressure to the desired level, push in the control knob again to lock it in place.
It is possible to adjust this pressure during operation.

	NOTE
	<ul style="list-style-type: none"> ▪ Blow out the ASCOJET for approx. 5-10 seconds before filling with dry ice pellets. It is thereby assured that no residual moisture will be present in the distributor unit. This could otherwise result in the unit freezing up. ▪ If possible, when you finish blasting, there should be no pellets left in the hopper. This prevents excessive condensation in the tank.


- Using the dry ice consumption regulator (6) set the dry ice consumption on a continuously variable scale to a value of 25 kg to 80 kg (55.115 lb to 176.36 lb) per hour.
- The consumption of blasting agent can be adjusted on the one hand by opening or closing the regulating valve (wheel) or by setting the blasting pressure for the dry ice.
- Add pellets to the hopper. For the first 4-5 minutes of blasting, only fill a few pellets into the hopper so that the hopper is gradually brought to the pellet temperature. Fill the hopper with the required amount of dry ice pellets once 5 minutes have elapsed.
- The ASCOJET is now ready for blasting.

	WARNING	 <small>Fig. 24</small>
	<ul style="list-style-type: none"> ▪ The safety bracket (B) on the blasting gun must be closed before each press of the trigger. ▪ The locking slide (A) must be at the front end position. 	



- The feeding of the blasting agent can be stopped or started as required by operating the trigger (Fig. 9, 6) on the blasting gun.



	CAUTION
	<p>Always use freshly produced dry ice pellets in order to achieve the maximum cleaning performance. If you use pellets that are more than 24 hours old, there is a risk of them getting lumpy, which can block the device.</p>

5.2 OPERATING THE SYSTEM


	DANGER
	<p>Hazard due to missing safety components!</p> <ul style="list-style-type: none"> ▪ Only start the ASCOJET after you have made sure that all safety components are properly installed and in working order.

5.3 FILLING WITH DRY ICE

	 WARNING
	<p>Risk of injury due to low temperatures. Dry ice is at a temperature of -79° C (-110.2° F). Direct contact with skin can lead to frostbite. When handling dry ice, always wear appropriate protective clothing.</p>

	 WARNING
	<p>Risk of damage to device. Only use dry ice pellets as an abrasive. Using any other abrasive with the ASCOJET will void any and all warranty claims.</p>



- Open the cover of the dry ice container.
- Check dry ice container for foreign matter and condensate and remove if necessary.
- Blow out the distributor unit.
- Fill the container with dry ice pellets.
- Close the lid of the dry ice container.







	NOTE
	<p>To avoid interruptions to operation caused by old dry ice, we recommend using up the contents of the hopper before filling it with new dry ice pellets.</p>

5.4 SETTINGS FOR DRY ICE

- The settings depend on the surface to be cleaned and the type of contamination.
- Increase/reduce the air pressure by setting the appropriate pressure regulator. (Fig. 23,5)
- The higher the air pressure, the greater (more aggressive) the cleaning performance.
- Adjust the dry ice consumption by turning the volume regulator. (6)

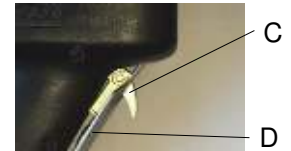
5.5 STARTING OPERATION

	 WARNING
	<p>Risk of injury due to dry ice pellets spinning around!</p> <ul style="list-style-type: none"> ▪ Never point the blasting gun at people/animals. ▪ No third parties may be in the immediate vicinity during operation. ▪ Cordon off the work area. ▪ Never touch the nozzle aperture during operation. ▪ Shut off the compressed air supply before the gun is disconnected from the hose and the hose is disconnected from the machine. ▪ Once work is complete: Depressurise the system, disconnect the mains plug.

	<p>⚠ CAUTION</p> <p>Risk from hazardous substances!</p> <ul style="list-style-type: none"> If dust is created, the necessary safety measures must be taken before starting work, such as wearing a protective mask.
	<p>⚠ WARNING</p> <p>Risk of explosion!</p> <ul style="list-style-type: none"> Do not work on light metals and ferrous substances at the same time. If you work alternately on light metals and ferrous components, you must clean the working area between the different processes.
	<p>⚠ WARNING</p> <p>Hazard due to suffocation! Working in enclosed, unventilated spaces presents a suffocation risk due to the concentration of carbon dioxide!</p> <ul style="list-style-type: none"> When working in enclosed spaces, ensure that there is adequate ventilation to keep the carbon dioxide concentration in the ambient air below a dangerous level.
	<p>⚠ CAUTION</p> <p>Hazard due to parts flying around!</p> <ul style="list-style-type: none"> Fix the object being cleaned in position if necessary and secure it against being flung away.
	<p>⚠ WARNING</p> <p>Hazard due to electrostatic discharge! Risk of damage to electronic components! The object to be cleaned might become charged electrically during cleaning.</p> <ul style="list-style-type: none"> Ensure that the object to be cleaned is properly earthed. Ensure earthing throughout the cleaning process.
	<p>⚠ WARNING</p> <p>Risk of damage due to foreign matter!</p> <ul style="list-style-type: none"> Keep the lid of the dry ice hopper closed during operation so that no foreign matter can fall in.

- Connect the earthing cable to the object to be cleaned or earth the object to be cleaned in a different way.
- Switch on the compressed air supply.
- Turn the main switch to release it.
- Choose a safe location and adopt a stable stance so that the recoil force of the blasting gun does not knock you off balance.

- Slide up and hold the safety lever (C) on the blasting gun.
- Activate the ASCOJET by pressing the trigger (D) on the blasting gun and carry out the cleaning process.



5.6 INTERRUPTING OPERATION BRIEFLY

- Release the blasting gun trigger.
- Turn the main switch.



NOTE

Before prolonged breaks to the blasting process (e.g. lunchtime, night), empty the hopper to prevent the dry ice pellets getting lumpy.

5.7 ENDING OPERATION

- Empty container.
- Interrupt the compressed air supply.
- Activate gun and lower residual pressure. Depressurise the machine.
- Turn the main switch.
- Disconnect power feed.

5.8 EMERGENCY SHUT-DOWN

- Turn the EMERGENCY STOP switch (Fig 23, 4).
- Dry ice metering is stopped and the flow of air from the nozzle is interrupted.
- Interrupt the compressed air supply.



NOTE

The pressure is retained even when the machine is switched off.

- Rectify the malfunction which led to the EMERGENCY STOP. Repair by specialist staff if necessary.

5.9 RESTART AFTER AN EMERGENCY STOP

- Switch on the compressed air supply.
- Turn the main switch.

6 SERVICE, CLEANING, MAINTENANCE


6.1 GENERAL

As the ASCOJET has been constructed for user-friendliness and according to the state of the art, it requires only minimum maintenance.

Servicing is only necessary if the ASCOJET no longer performs satisfactorily or if the distributor unit shows high air leakage to the side even after the seven hexagonal nuts have been adjusted.

We still advise you to inspect the system for damage on a regular basis and every time before you operate it, and to lubricate the safety coupling of the ASCOJET and the gun at regular intervals. This enhances the ASCOJET's operational safety and extends its service life. You can use commercially available lubricant for this.

6.2 SERVICE INTERVALS

	<p>⚠ WARNING</p> <p>Hazard due to inappropriate maintenance! When carrying out maintenance work on the ASCOJET, observe the following:</p> <ul style="list-style-type: none"> ▪ Unplug the mains plug to avoid unexpected rotation of the distributor unit! ▪ The air supply must be shut off and the machine must be free of any pressure! ▪ Only specialists with electrical engineering qualifications are allowed to carry out work on electrical installations.
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6.3 CHECKING THE PARTS SUBJECT TO WEAR

Component	Activity	Before each start up	40 h or 1 month	100 h or 3 months
Gun and nozzle	<ul style="list-style-type: none"> Check for damage and lubricate 	X	X	X
Safety coupling	<ul style="list-style-type: none"> Check for damage and lubricate 	X	X	X
Safety coupling hose	<ul style="list-style-type: none"> Check for damage and lubricate 	X	X	X
Power cable and plug	<ul style="list-style-type: none"> Check for damage 	X	X	X
Control cable	<ul style="list-style-type: none"> Check for damage 	X	X	X
Check distributor unit for excessive air loss	<ul style="list-style-type: none"> Readjust distributor unit Replace the upper and lower Teflon disc if the air loss continues 			X
Transport hose inside the machine	<ul style="list-style-type: none"> Remove the left cover Check wall thickness of the internal transport hose Press the hose together between two fingers and check Replace the hose in good time 		X	X
Transport hose outside the machine	<ul style="list-style-type: none"> Check wall thickness of the external transport hose Press the hose together between two fingers and check Replace the hose in good time 		X	X
Blasting jet nozzle	<ul style="list-style-type: none"> Remove blasting jet nozzle from blasting gun Clean the blasting jet nozzle Check the nozzle for wear Replace the nozzle in good time 		X	X
Opening valve	<ul style="list-style-type: none"> Dismantle the opening valve into individual parts Check parts for wear Replace parts in good time 			X

6.4 ADJUSTING AND REPLACING THE TEFLON DISCS IN THE DISTRIBUTOR UNIT

To adjust the distributor unit or replace the sealing strip, proceed as follows:

- Disconnect machine from electricity supply and compressed air supply.
- Depressurise the system.
- Remove casing plates and rear cover (Fig. 25-27).



Fig. 25



Fig. 26



Fig. 27

- Release lock nuts.
- Remove electrical vibrator (Fig. 28).

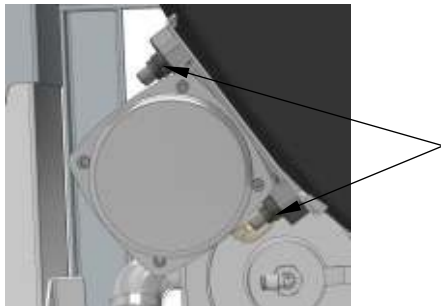


Fig. 28

As an option it is possible to uncouple the connection cable in the control and remove the vibrator completely or alternatively it is possible to only release the mechanical bolt connections and place the vibrator to one side inside.

- Release nuts on all corners of the hopper (Fig. 29).
- Lift the hopper out carefully (Fig. 30-31).

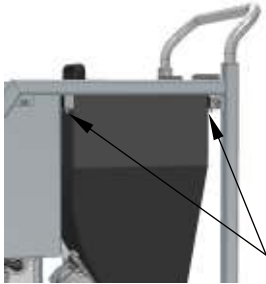


Fig. 29



Fig. 30



Fig. 31

- Pull back insulation on the distributor line and release hose clip (Fig. 32).
- Pull connecting hose away from pipe.
- Release lock nut and remove the length of pipe by turning it out of the cover plate of the metering unit.
- Release earthing cable on the cover plate.
- Remove the 6 lock nuts and washers from the cover plate of the distributor unit (Fig. 33).
- The 7th lock nut on the underside of the distributor unit must also be removed (Fig. 34).
- Remove cover plate.
- Remove the upper Teflon disc, the rotor and the lower Teflon disc (Fig. 35).
- Check the Teflon disc for damage such as holes, cracks or scratches.
- Replace damaged parts.
- Grease O-ring lightly and position correctly (Fig. 36).
- A second O-ring must be placed below the upper cover plate (caution, different diameter!).
- Refit in the reverse sequence.
- Tighten the lock nuts with a spanner so that the washers can still be moved by hand (Fig. 37).
- Check current consumption on the digital display of the frequency inverter.

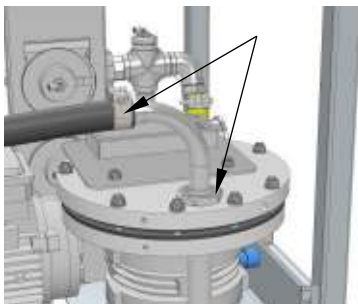


Fig. 32

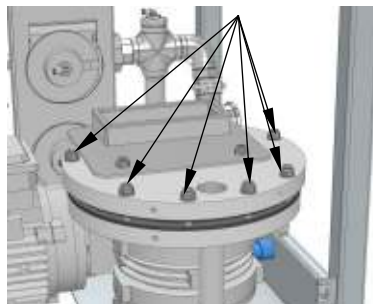


Fig. 33

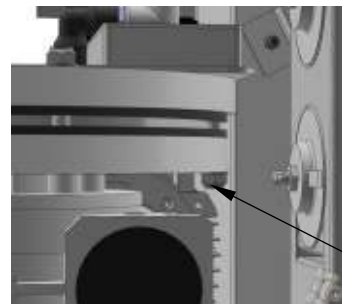


Fig. 34

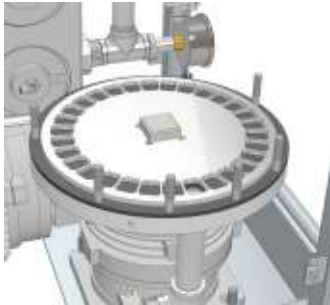


Fig. 35

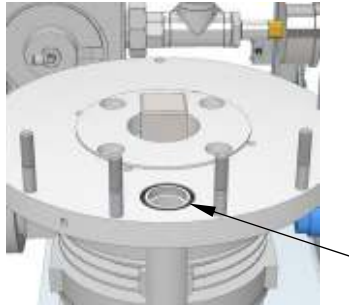


Fig. 36

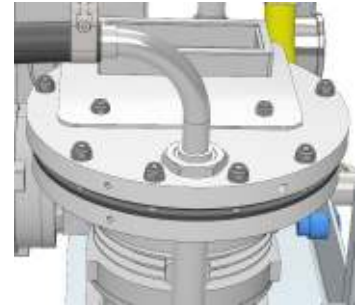


Fig. 37


- Release bolts for the control panel and remove.
- Ensure that the control panel remains connected to the device control unit via various wires. Do not pull these electrical connections too hard.
- Adjust the current consumption of the motor by tightening or loosening the hexagon nuts at the cover plate of the metering unit.
- The indicator should be between 1.6 and 2.4 A. Do not exceed a value of 3.4 A.
- After adjustment, there should only be minor air loss through the side bore of the upper cover plate, preventing pressure build-up in the rotor compartments. Some pressure loss is normal and not a cause for concern. Wear can however lead to increased air loss. The air loss also depends on the pressure settings. The higher the pressure, the greater the air loss.
- Refit the control panel in the reverse sequence.




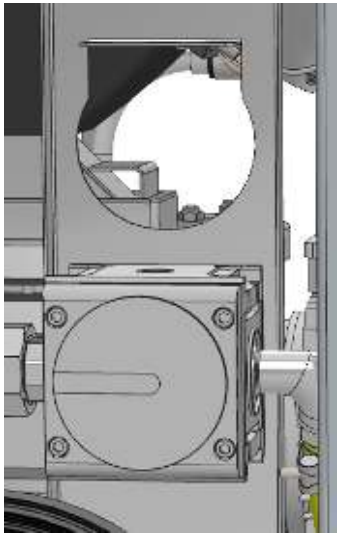
NOTE

If you cannot eliminate the fault following the above instructions, please contact our Customer Service Department.



7 TROUBLESHOOTING


	<p>⚠ WARNING</p>
<p>All tasks described in this chapter must be performed by suitably trained and qualified personnel. Ensure that all safety instructions are known and fulfilled.</p>	

Fault	Possible cause	Remedy	Who
Pellet flow stopped	No pellets in container	<ul style="list-style-type: none"> Top up with pellets. 	Operator
	Blasting hose is kinked	<ul style="list-style-type: none"> Check hose and release kink. 	Operator
	Blasting hose is blocked	<ul style="list-style-type: none"> Turn the dry ice consumption regulator to 0 and check whether air still comes out of the gun. Check blasting pressure if it does not come out; it should be at least 2.5 bar (36.259 psi) Press trigger on the gun until air escapes from the nozzle. Turn the dry ice consumption regulator to Maximum for about 5-10 seconds and then back to the amount required for blasting. 	Operator
	Analogue pressure gauge  Dry ice consumption regulator Regulation of max. blasting pressure of 10 bar Fig. 38		
No pellet jet	<ul style="list-style-type: none"> Check whether the container vibrates. If the dry ice is old, increase the vibration rate. If the dry ice is sticky and therefore no longer flows, remove the lumps in the dry ice container by hand (wear protective gloves!). 	Operator	
Blasting gun is iced up	<ul style="list-style-type: none"> Check compressed air supply for dew point, oil content and moisture. 	Operator	
Poor dry ice quality	<ul style="list-style-type: none"> Check the contents of the dry ice container (too old, too much moisture). If it is iced up, clean the container and the upper distributor plate with a cloth and dry it. 	Operator	
The distributor unit no longer works	The ASCOJET is iced up	<ul style="list-style-type: none"> Clean the container and the plates. 	Operator
	A foreign body has dropped into the container	<ul style="list-style-type: none"> Check container and distributor unit. Remove the foreign object. Check machine for damage. Replace possibly defective parts. 	Operator

Fault	Possible cause	Remedy	Who
System does not respond when you pull the gun trigger	Poor power supply	<ul style="list-style-type: none"> ▪ Check power supply. 	Operator
	Short-circuit in the control cable or the connection sockets	<ul style="list-style-type: none"> ▪ Check all cables and plugs. ▪ Replace defective parts. 	Operator
	Motor overload	<ul style="list-style-type: none"> ▪ Reset the system by disconnecting the power supply for about 60 seconds. ▪ Check whether the machine is iced up. 	Operator
Jet pressure dropping	Malfunction of the compressor or air treatment	<ul style="list-style-type: none"> ▪ Check air supply. 	Operator
	Malfunction of the opening valve 	Check, open and clean the valve (Fig.39). Use repair kit from the replacement part package. Cleaning the opening valve: <ul style="list-style-type: none"> ▪ Both opening valves are fitted to the machine in such a way that they can be opened and cleaned without any need for removal. ▪ Release the four bolts on the opening valve in question and dismantle the individual parts of the valve carefully. Replace the parts in accordance with the repair kit and close the valve again.	Operator

8 DECOMMISSIONING, DISMANTLING, DISPOSAL

	 WARNING
	<p>All of the work involved in decommissioning, dismantling, and disposal must only be carried out by trained and qualified specialists.</p>

	NOTE
	<p>ASCO products are designed according to ecological principles and therefore contain top-quality materials. Be sure to dispose of and recycle all materials in accordance with the current environmental directives and local regulations for safe waste disposal.</p>