



Operating & Safety Manual

Original & Mini Cannon



WARNING

These instructions are for your personal safety. Always ensure that you have read and understood these instructions before using any Original and Mini Cannon tools.



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TABLE OF CONTENTS

TOPIC	PAGE/S
SAFETY INFORMATION & SYMBOLS	3
AVAILABLE SIZES & POWER SOURCES	5
ASSEMBLY & USE	6
PRACTICAL TIPS & SAFETY ADVICE	11
MAINTENANCE & SPARE PARTS	12
WARRANTY POLICY & PROCEDURE	13



To watch practical demonstration videos, or to download an electronic copy of these Instructions, please visit www.picotesolutions.com. Please note that videos are not intended as a replacement or alternative to this operating and safety manual, but only as an additional learning tool.

SAFETY INFORMATION



WARNING

This section contains important safety information. Failure to comply could result in serious injury or death.

Safety Symbols

Safety symbols are used throughout this manual to draw attention to potential hazards.



Danger
400 Volts

Danger risk of serious injury or death by electrocution, follow instructions



Danger
Electric shock risk

Danger risk of serious injury or death by electrocution, follow instructions



Danger risk of serious injury, follow instructions



Danger risk of serious injury from rotating parts



WARNING
Hot surface
Contact may
cause burn
Do not touch

Danger risk of serious injury from hot parts



Danger do not touch. Risk of injury, follow instructions

Personal Protective Equipment (PPE)

Always use Personal Protective Equipment when using the Cannon systems, including suitable overalls / protective clothing & footwear and the following:



Always wear suitable eye protection when using the Cannon systems to prevent sewage, chemicals or other dust from irritating your eyes.



Always wear suitable ear protection when using the Cannon systems to prevent any hearing loss.



Always wear suitable cut-resistant gloves when using the Cannon systems to prevent any hand injuries. Any open injuries or skin irritations should be covered at all times to avoid contact with sewage, chemicals, resin or dust.



Always wear a suitable respirator when using the Cannon systems to prevent any resin dust or fumes being inhaled or consumed, which can cause occupational asthma or dermatitis as well as eye irritation.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

⚠ WARNING *This section contains important safety information. Failure to comply could result in serious injury or death.*

ENVIRONMENTAL

Operational Ambient Temperature Range:	-10...50 °C (14...122 °F) frost and condensation free
Storage Ambient Temperature Range:	-20...60 °C (-4...140 °F) frost and condensation free
Maximum Humidity:	95% non-condensing

TRANSPORT

Picote Cannon and Mini Cannon should be transported in car or other vehicle laid down and secured with ratchet straps to prevent any sudden movements or accidents caused by hard braking or accident.

If using pick-up or trailer to transport Cannon products, cover the unit to protect it from raining water and dust.

STORAGE

It is recommended that Picote Cannon and Mini Cannon are stored indoors protected from rain and sunlight and in constant ambient temperature. Best way to store the machines is in the same box that the machine has been shipped.

If Picote Cannon or Mini Cannon will be stored in colder environment than +10 °C (50 °F), the Cannon should be stood at room temperature for 24hours before use.

If Picote Cannon or Mini Cannon has been stored for long periods of time (over 2-3 months), it should be checked and tested prior to use.

DISPOSAL

Metallic components (bolts, nuts, washers and pins) can be disposed in metal waste collection points. Plastic components (tube, end caps, central part, inversion heads etc.) can be disposed in plastic waste collection points.

Always follow the local waste handling rules and regulation.

AVAILABLE SIZES & POWER SOURCES

The Picote Original and Mini Cannon have been designed for installation of short Cured-in-Place (CIPP) linings and repairs for the inside of buildings. Available for the rehabilitation of pipe sizes up to DN100 (4"). Its transparent appearance and the ability to deploy a CCTV camera, inside the lining, during installation enables the engineers to successfully install linings in difficult situations. The in-built double pressure relief systems ensure the work is carried out safely.

Selecting the correct Cannon for the work

Choose your inversion head according to the size of the original host pipe.

The Picote Camlock system enables you to complete multiple installations without the need to wait for lining to cure.

Picote Cannons are operated with compressed air. The maximum operation pressure is 2 bars (29 psi).

Weight of the empty Original Cannon is 6.2 kg (14 lbs) and when full of resin impregnated felt the max. weight is 15 kg (33 lbs).

Weight of the empty Mini Cannon is 4.8 kg (10.5 lbs) and full of resin impregnated felt the max. weight is 10 kg (22 lbs).



ORIGINAL CANNON	REACH
DN100 (4")	7 m / 23 ft
DN70 (3")	10 m / 33 ft
DN50 (2")	15 m / 49 ft

MINI CANNON	REACH
DN100 (4")	3.5 m / 11.5 ft
DN70 (3")	5 m / 16.5 ft
DN50 (2")	7.5 m / 24.5 ft

ORIGINAL & MINI CANNON RANGE

First, make sure you have all the required parts.



Please read safety information on page 3 before assembly and use.

ORIGINAL CANNON



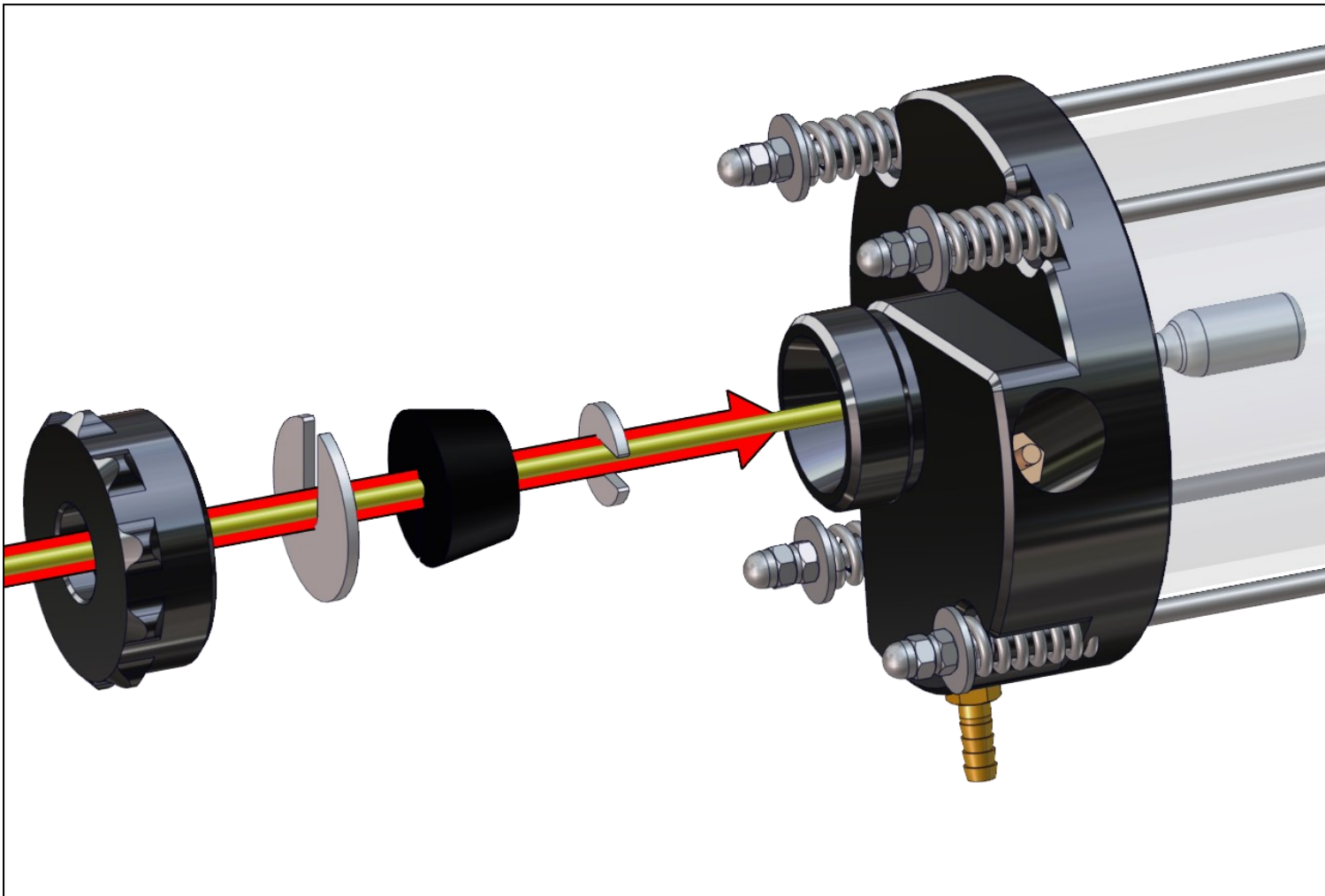
MINI CANNON



236000001	Original Cannon
236000003	Mini Cannon

User Instructions — CCTV Camera

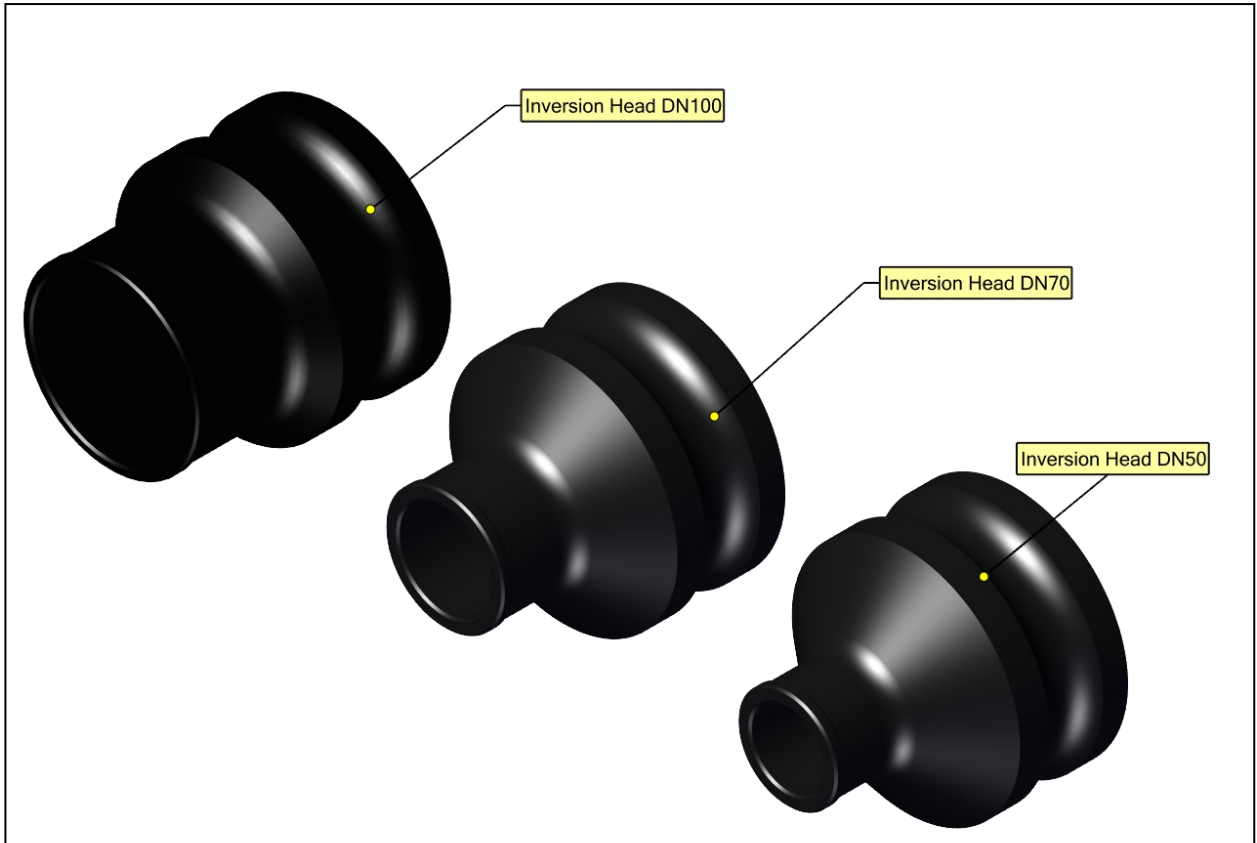
Remove the washers, felt plug and the cap from the Air Inlet Cap (Rear Cap) and insert the camera inside the cannon. Push the camera cable in the centre of the felt plug.



User Instructions—Choosing Inversion Head



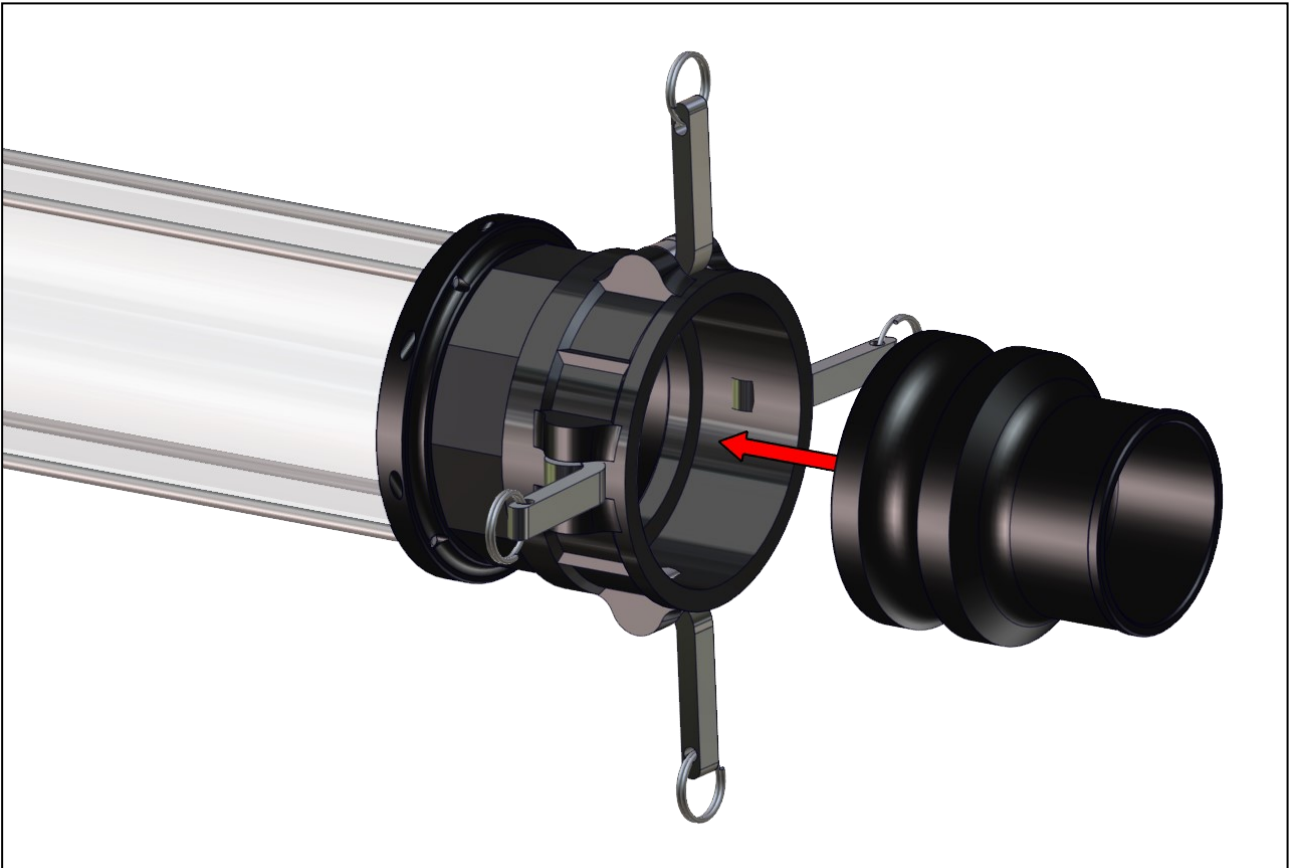
Step 1. Choose inversion head according to liner.
Combine with Quick Lock Cap.



User Instructions — Changing the inversion head.



Step 2. Open the Camlock and insert the inversion head.



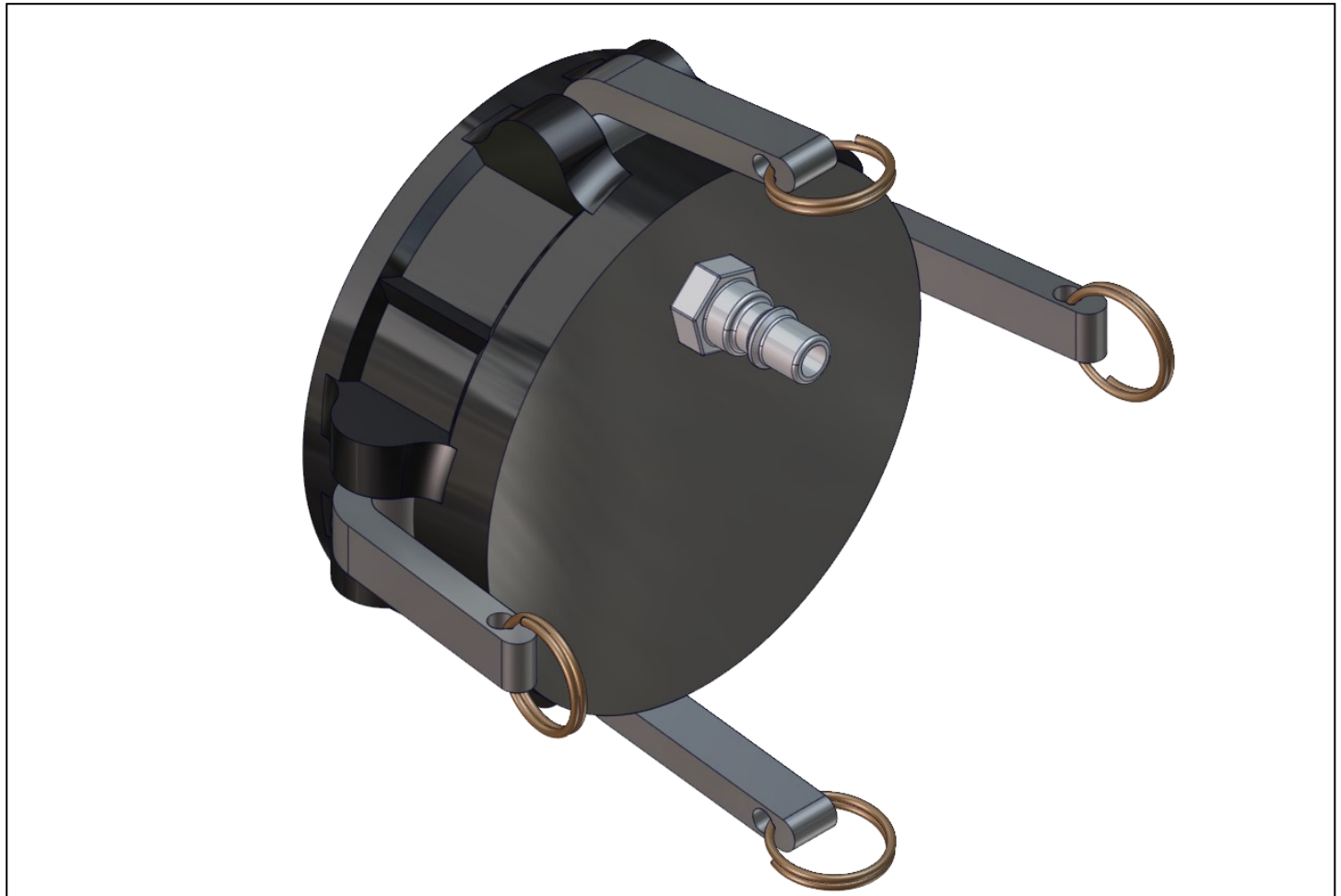
Step 3. Close the Camlock handles.



User Instructions — Using Curing Caps.



Use Cannon Fast Caps with Camlock system to enable fast installation of multiple linings.



Using the Cannon products



Before starting work

Check the internal condition of the pipe and measure the length of it. Select the correct size inversion head and where required, place the CCTV camera inside the cannon. The CCTV camera can be installed inside the Cannon after lining has been inverted through the pipe, however, will have to be de-pressurized during the process. Ensure inflow of compressed air and check the operating pressure. The Cannon has built-in pressure relief system which prevents the pressure rising above **2 bars (29 psi)**. Cut the felt lining to the correct length and impregnate evenly with the resin. Place the impregnated lining inside the Cannon.

During use

Carefully release the pressure inside the Cannon and check that the lining runs smoothly inside the pipe. Regulate the air flow to control the speed at which the lining is inverted through the pipe. To ensure the lining accurately forms to the drain shape, decrease the operating pressure as the lining negotiates tight corners. If the CCTV camera was placed inside the Cannon you can see how the lining is progressing and check the quality of the end result.

After use

When the lining has been successfully installed inside the pipe, remove the Cannon. Use the Quick Lock Cap to ensure the lining stays pressurized until it is fully cured.

PLEASE NOTE: The Picote Sentinel System can be used to monitor the pressure of the compressor and electricity network. It alerts if either one is lost, warning the engineers and allowing them to react accordingly.

RECOMMENDATIONS

Evenly impregnate the felt lining with the resin.

Control the air pressure and inversion speed during installation—slow down when going around the bends.

When using CCTV camera, place it inside the Cannon before the impregnated lining.

Use Quick Lock Caps to enable the installation of multiple linings in short period of time.

Use the Picote Sentinel System to warn engineers if pressure and/or electricity is lost allowing them time to react accordingly.

Test the pressure valve operation weekly.

Please read safety information on page 3 before assembly and use.

MAINTENANCE

CARING FOR THE CANNON:

Safety:

Original and Mini Cannon safety pressure relief system needs to be checked regularly. If the pressure relief system does not activate at 2 bar (29 psi) the equipment needs to be sent nearest Picote Service Centre for repair.

Original & Mini Cannon need to be sent for calibration and inspection annually. Only trained personnel are permitted to calibrate the safety system of the Cannon products.

Cleaning:

Easiest way to keep the Original & Mini Cannon operational is to keep them clean. If any resin is released inside the Cannon remove it immediately while still wet using acetone or a similar organic solvent.

SPARE PARTS

900000648	Felt Plug
900000504	Inversion Head DN50-DN60 (2")
900000505	Inversion Head DN70 (3")
900000506	Inversion Head DN100 (4")
2360000004	Cannon Fast Cap

Please contact your reseller for more information.

TRAINING

For information about product training and support contact Picote Solutions or your authorized Picote reseller.

WARRANTY POLICY AND PROCEDURE

Limited Warranty:

Picote warrants to the original End User that the Product purchased by such End User will operate in accordance with and substantially conform to their published specifications when shipped or otherwise delivered to the End User and for a period of one (1) year, except electric motors for which the warranty period shall be six (6) months, provided, however, that Picote does not warrant any claim or damage under this

Warranty if such claim or damage results from:

1. Consumable parts or normal wear and tear resulting from use of the Products,
2. Product overload or overheated motor,
3. Regular periodic maintenance of Products,
4. Misuse, neglect, or improper installation or maintenance of the Products, or use of Products not for their intended purpose,
5. Products that have been altered, modified, repaired, opened or tampered with by anyone other than Picote or an authorized Picote Service Centre, or unsuitable or unauthorized spare parts, accessories or third party products when using the Products or;
6. the use of the Products not in compliance with their respective Documentation, user manuals, safety and maintenance instructions, and any usage restrictions contained therein, or
7. accident, fire, power failure, power surge, or other hazard.

Otherwise, the Products are sold AS IS. End User is responsible for using the Products within their specifications and instructions as contained in the Documentation.

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