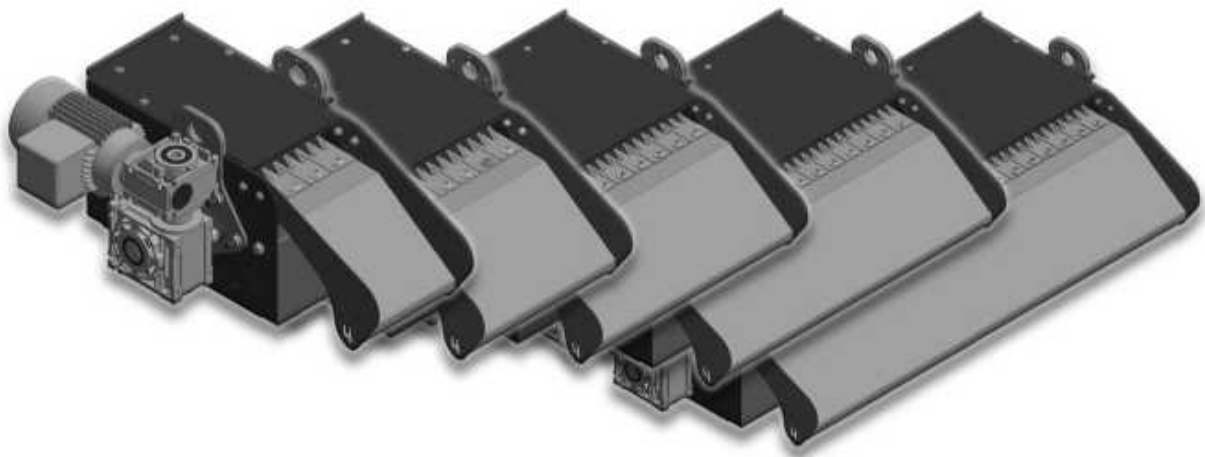


# ***KALAMIT series***



***USE AND MAINTENANCE MANUAL***

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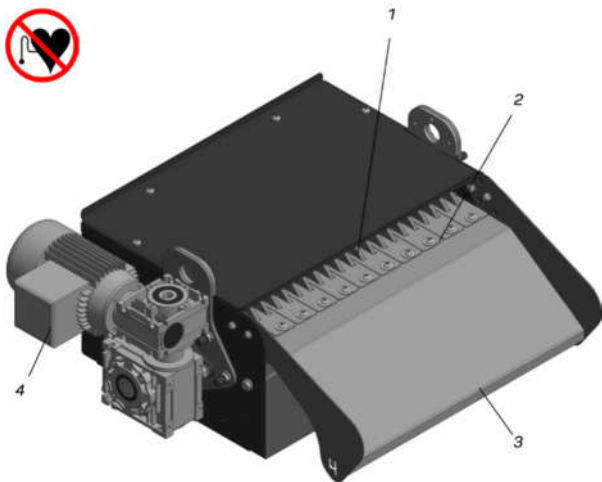
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**1.0 INTRODUCTION**

This manual contains all the information necessary for the proper use of the machine. The user is kindly requested to take careful heed of the warnings and to read it thoroughly. It is also requested that this manual be conserved in a suitable place so that it remains legible and unaltered. The contents of this manual may be changed without notice for the purpose of including variations or improvements to the units already shipped.

## 2.0 FUNCTIONAL DESCRIPTION

The Kalamit series of magnetic cleaners for cutting fluids is indicated for all machine tools used to work metal, to separate magnetic particles from emulsions and whole oils with maximum viscosity of 20° cSt at 40° C.



The cleaner works in a simple and effective manner, clearly illustrated in the diagram. The soiled fluid is conveyed by gravity or pressure to the inside of the cleaner. The rotating magnets (1) retain the magnetic particles, which are then removed by a comb blade (2) that sends the mud to the adjustable chute (3). The cleaned fluid flows through the containment tank (if requested) and then, according to the use, is relaunched by the machine tool via an electric pump (if requested). The magnetic disk cleaner does

not use disposable filters. The recovered mud is easily disposed of as differentiated waste.

The Kalamit series of magnetic cleaners for cutting fluids is indicated for all machine tools used to work metal, to separate metal particles from emulsions and whole oils with maximum viscosity of 20° cSt at 40° C, for a capacity ranging from 50 to 700 l/min. The cleaners are all made of sturdy zinc-coated sheet metal, bent and welded by a fully automated process and finished with powder coating. They consist of a support frame where the group of permanent magnets are installed, connected to a motor reducer through a command shaft. The groups are factory-supplied with a mud-scraping blade and a chute with adjustable inclination. There are also covers and flow-breaker pre-chambers, containment tanks for the filtered fluid, and many other optionals. The soiled fluid is conveyed by gravity or pressure to the inside of the cleaner. The rotating magnets retain the magnetic particles, which are then removed by a comb blade that sends the mud to the adjustable chute. The filtered fluid flows into the containment tank. The magnetic disk cleaner does not use disposable filters. The recovered mud is easily disposed of as differentiated waste.

### 3.0 HANDLING AND TRANSPORTATION

#### 3.1 GENERAL PRECAUTIONS

The product must be shipped via covered or sheeted vehicles. User is responsible for providing the necessary means to hoist and handle the parts.



**IT IS ADVISABLE TO CONTACT THE TRANSPORTATION COMPANY TO OBTAIN INFORMATION ON TRANSPORTATION METHODS AND ANY REQUESTS YOU MAY HAVE.**



Hoisting, handling, transporting and unpacking operations of the single units of the machine must only be entrusted to workers experienced in this type of operation.

Operators should also be:

- Instructed on the nature of the loads to be hoisted, the operations to be carried out and the procedures described in the Use and Maintenance Manual;
- Authorised;
- Assisted by manufacturer's employees (or employees of an authorised assistance centre) well familiarised with the machine and with its Use and Maintenance Manual;
- Sure to carry out the operations fully following the procedure indicated in the manual itself.



**DURING THE OPERATIONS, OPERATORS INVOLVED MUST WEAR PERSONAL PROTECTION EQUIPMENT, HARD HATS, GLOVES, PROTECTIVE SHOES, WORK OVERALLS AND ANY OTHER PIECE OF EQUIPMENT REQUESTED BY THE LEGISLATION IN FORCE, ACCORDING TO THE NATURE OF THE OPERATION ITSELF.**




**OPERATORS MUST ALWAYS FOLLOW THE INSTRUCTIONS AND PROHIBITIONS DESCRIBED BY THE CURRENT LEGISLATION IN FORCE REGARDING HOISTING AND TRANSPORTATION OPERATIONS.**

Among others, the following general rules of behaviour should be respected:

- Move away from loads prior to hoisting and lowering;
- Never stand beneath suspended loads;
- Prevent access of anyone not directly involved in the operation;
- During the operations, keep a safe distance from the hoisted weight.

The product must be shipped via covered or sheeted vehicles. User is responsible for providing the necessary means to hoist and handle the parts.

	<b>FAILING TO FOLLOW THE PRECAUTIONS INDICATED ABOVE MAY LEAD TO SERIOUS ACCIDENTS WITH CONSEQUENT DAMAGE TO THE MACHINES AND INJURY OF THE OPERATORS.</b>
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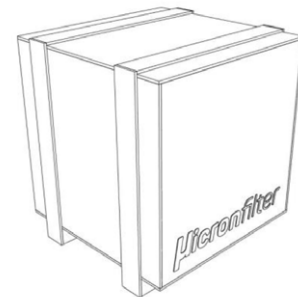
When the machine is received, the final user is in charge of checking the packaging list containing the details of the load, as well as the integrity of the materials and the parts, immediately reporting to the Manufacturer should any damage be identified.

The User is also in charge of providing proper power feed according to its technical features.



	<b>ONCE ARRIVED AT ITS DESTINATION, THE MACHINE MUST BE HANDLED WITH EXTREME CARE.</b>
---	--

### 3.2 TRANSPORTATION METHOD TRANSPORTATION IN WOOD CRATES

The machine is divided in parts and is wrapped in thermoplastic material to ensure the protection of the parts. It comes packaged in a wooden crate or cage (according to its destination or to contract terms).

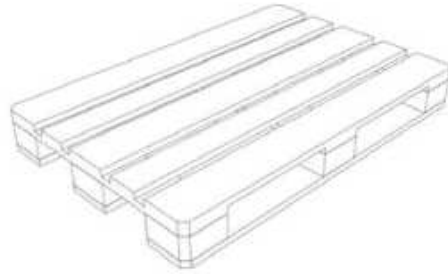


When the machine arrives, make sure its single units have not been damaged during transportation and that all parts described in the shipping list are present, including the Use and Maintenance Manual, if included in the packaging.

	<b>THE MEANS USED TO HANDLE THE MACHINE MUST BE SUITABLE FOR THE HOISTING OF ITS SINGLE PARTS.</b>
	<b>THIS OPERATION MUST BE CARRIED OUT BY SUITABLY TRAINED PERSONNEL (SLINGERS, CRANE OPERATORS, FORKLIFT OPERATORS ETC). THERE MUST BE AN OPERATOR IN CHARGE OF SIGNALLING, AS THE SIZE OF THE UNITS BEING HANDLED MAY REDUCE VISIBILITY FROM THE CRANE OR FORKLIFT.</b>

### TRANSPORTATION ON PALLET

This transportation method includes anchoring the machine or its parts to a pallet using straps and then covering the parts with thermoplastic material, to protect them during transportation.



**ATTENTION! DO NOT LOAD UNCOVERED LORRIES WITH PALLETS CONTAINING UNPROTECTED PARTS AND ALWAYS CHECK THE POINT WHERE THE FORKS ENTER BENEATH THE PALLET.**

### 3.3 HANDLING PACKAGED EQUIPMENT



**HANDLING AND TRANSPORTING EQUIPMENT MUST BE IN CHARGE OF SUITABLY TRAINED PERSONNEL.**

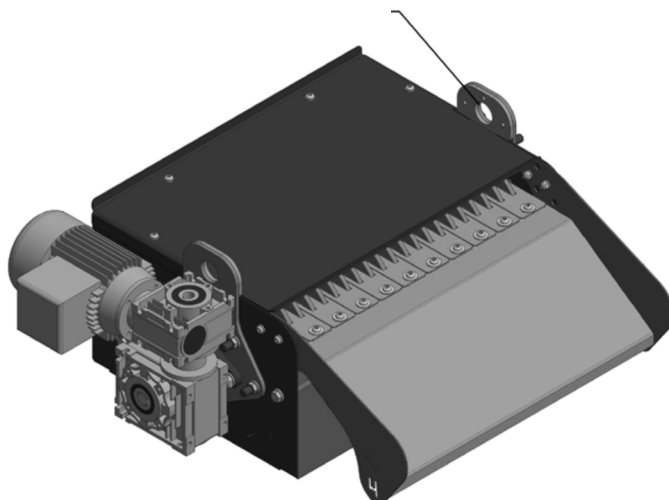
### 3.4 REMOVING FROM THE PACKAGING AND HANDLING

1. Remove the polyethylene protection.
2. Remove any wooden blocks nailed to the base of the pallet, from the cage or the crate, and strappings, if present.
3. Hoist the machine using the 2 lifting points outside the collection tank, as indicated in the figure below.



**USE ONLY THE LIFTING POINTS INDICATED IN THE FIGURE TO LIFT AND HANDLE THE MACHINE.**

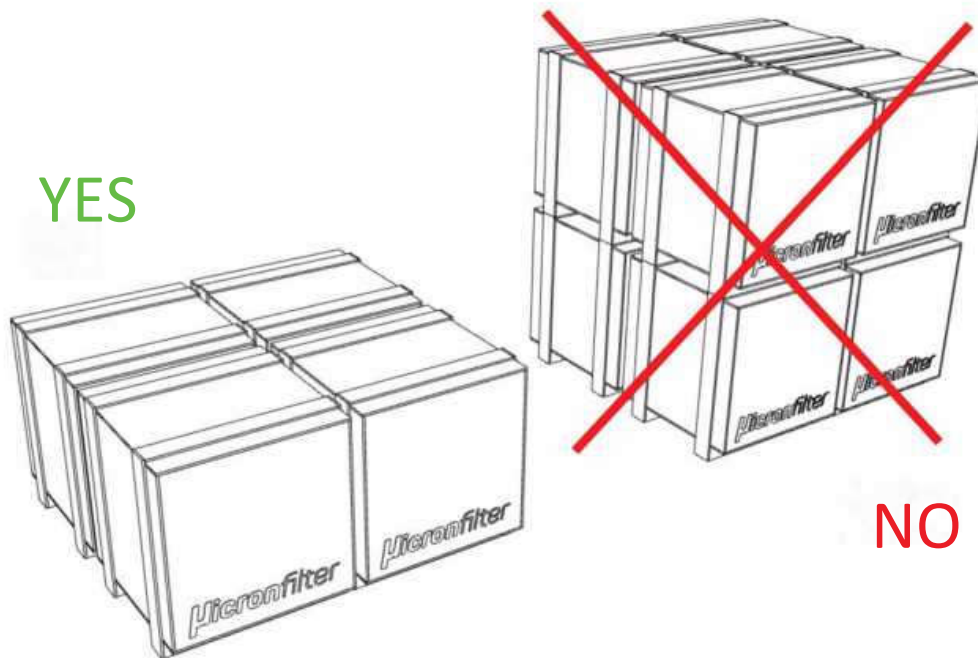
LIFTING POINTS



### 3.5 STORAGE

The machine can be stored when it is received, taking the following conditions into account:

- The packaging should be intact when the machine is received. If this is not the case, check the integrity of the machine and replace the packaging;
- Make sure the storage place is a closed place;
- Cover the units with plastic tarp to protect the machine from dust, humidity and any other elements that may jeopardise proper operation once the machine is delivered;
- Make sure the surface on which the machine is set to rest can safely support it and is completely flat.





## 4.0 INSTALLATION

	<p><b>THE CLEANER MUST BE INSTALLED BY SPECIALISED PERSONNEL</b></p>
--	--

The place where the cleaner is to be installed must be spacious enough to make it possible to access the machine comfortably and safely, for all routine or extraordinary maintenance operations.

### 4.1 POSITIONING THE CLEANER

Make sure the place where the cleaner is to be installed is perfectly flat. Lift the cleaner using the hooks and place it in its seat, in the tank.

### 4.2 CONNECTION TO THE WATER MAINS

Use a hose connection (not included in the standard supply) to connect a flexible tube to the entrance of the cleaner (see figure on the side). Alternatively, this connection can be made using hydraulic components (tubes, elbows etc), suitably sized.



### 4.3 CONNECTION TO THE POWER MAINS

	<p><b>ALL ELECTRIC CONNECTIONS FOR THE CLEANER MUST ONLY BE CARRIED OUT BY SKILLED ELECTRICIANS, WITH THE POWER CUT OFF FROM THE EQUIPMENT.</b></p> <p><b>PRIOR TO MAKING THE ELECTRIC CONNECTIONS FOR THE CLEANER, CHECK THE WIRING DIAGRAM ATTACHED TO THIS MANUAL.</b></p>
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Make sure the connection voltage is equal to the voltage of the power grid (check the plate attached to the terminal of the motor reducer).

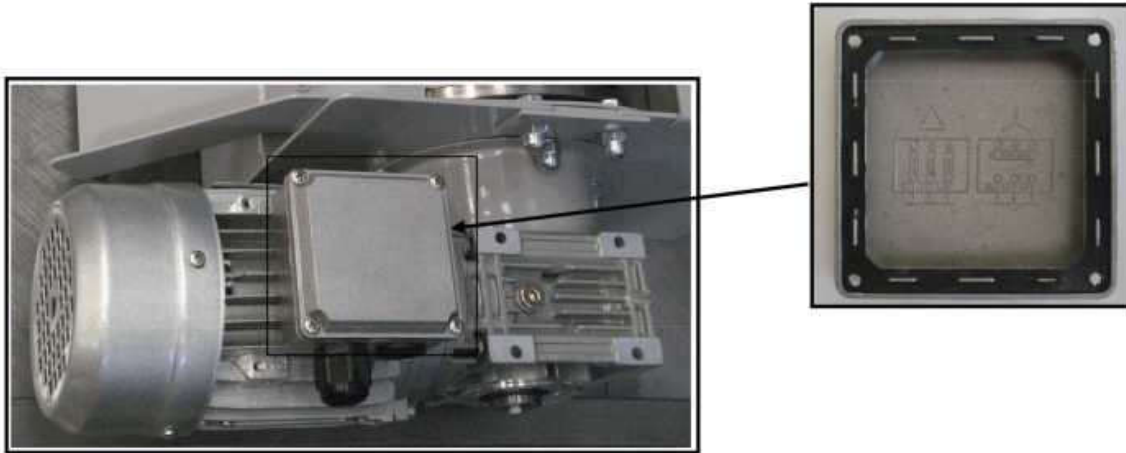
Check the information on the plate on the cleaner (verify the electric characteristics in the table below) in order to choose the proper connection materials (sections, cables etc).

Cleaner	Kalamit 75	Kalamit 150	Kalamit 250	Kalamit 350	Kalamit 500
Voltage	230/400 V	230/400V	230/400V	230/400V	230/400V
Frequency	50 HZ	50 HZ	50 HZ	50 HZ	50 HZ
Total rated power	0.12 kW	0.12kW	0.12kW	0.12kW	0.12kW
Current at full power	0.62A	0.62A	0.62A	0.62A	0.62A
Motor reducer	Double	Double	Double	Double	Double
Number of poles	6	6	6	6	6
Reduction ratio	1/600	1/600	1/600	1/600	1/600



#### 4.4 WIRING DIAGRAM

When the lid of the motor reducer is removed (fig. 1), it is possible to directly access the terminal board, where it is possible to create a star/triangle connection as indicated in fig. 2



### 5.0 PRELIMINARY OPERATIONS AND USE

#### 5.1 VERIFYING MOTOR ROTATION

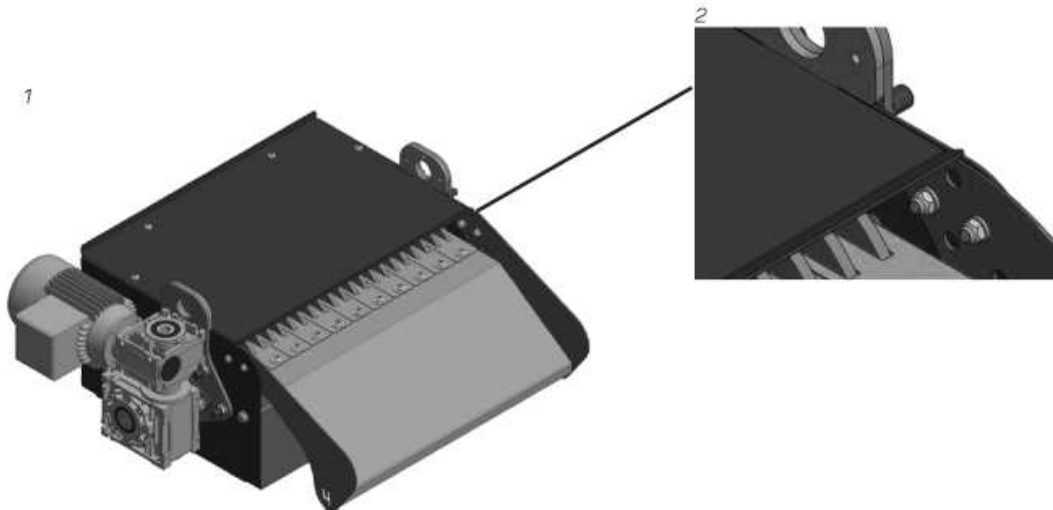
1. Turn the power switch to ON.
2. Press the "I" button of all circuit breakers (if present) inside the electric panel (where provided).
3. Close the door of the electric panel and turn the door locking switch to the "I" position.
4. Make sure the rotation direction of the motor corresponds to the direction indicated by the arrows on the motors.

If this is not the case:

1. Turn the power switch to OFF.
2. Turn the door locking switch in the electric panel to the "O" position.
3. Open the electric panel of the cleaner.
4. Invert two of the three phases in the terminal board of the desired utility.
5. Close the electric panel again.
6. Turn the power switch to ON.
7. Turn the door locking switch in the electric panel to the "I" position.
8. Make sure the rotation direction of the motor corresponds to the direction indicated by the arrows on the motors.

## 5.2 CHUTE REGULATION

It is possible to adjust the inclination of the cleaner chute (fig. 1) by loosening the four M6 fixing nuts on the series of chute holes (fig. 2). In general, the highest position of the chute corresponds to drier mud, but it is advisable to try different regulations until you find the proper balance between optimal unloading and desired humidity of the mud.



## 5.3 START UP

Turn the power switch to ON.

Turn the door locking switch in the electric panel to the “I” position.

## 5.4 STOP

Turn the door locking switch in the electric panel to the “O” position.

## 5.5 PUTTING THE MACHINE TO REST

If the machine is expected to remain inactive for a long time, it is advisable to:











Run the cleaner before stopping it until all working detritus is discharged and then empty the tank (if present) of cooling fluid and clean the tank. This will prevent the fluid to degrade due to the proliferation of bacteria.



**WHEN THE MUD IS LEFT FOR LONG INSIDE THE MAGNETIC SEPARATOR, IT DRIES TOO MUCH AND “TURNS INTO CEMENT”, IN PARTICULAR WHEN THE RESIDUES ARE VERY FINE (SUCH AS GRINDING MUD). THIS MAY DAMAGE DISKS AND MOTOR REDUCER WHEN THE EQUIPMENT IS TURNED ON AGAIN.**





## 6.0 MAIN WARNINGS REGARDING MACHINE USE

	<p>Personnel/Operators are forbidden from removing the protections installed on the machine/equipment.</p>
	<p>It is forbidden to use the machine, which has an electric motor, in the presence of natural gas, benzene vapours or other flammable vapours.</p>
	<p>It is forbidden to approach, trespass or remain in the area where this symbol is displayed.</p>
	<p>It is forbidden to operate this piece of equipment if you are not a qualified operator.</p>
	<p>It is forbidden to carry out maintenance operations in the presence of moving equipment.</p>
	<p>Persons with heart conditions are absolutely forbidden from entering when this sign is displayed.</p>

	<p>Indicates danger with risk of accident, including death, for the Operator. Pay maximum attention to the text indicated by this symbol.</p>
	<p>Indicates the presence of magnetic or electromagnetic fields at a close distance, which may compromise the good functioning of the control panel.</p>
	<p>Indicates a danger due to the presence of moving parts. The Operator must pay maximum attention to the signs and the areas where this symbol is displayed, and always respect the safety distances indicated.</p>
	<p>Indicates a danger due to the presence of submerged moving parts. The Operator must pay maximum attention to the signs and the areas where this symbol is displayed, and always respect the safety distances indicated.</p>
	<p>Indicates a danger with risk of having one's limbs dragged due to the presence of moving belts or chains. Pay maximum attention to the signs and the areas where this symbol is displayed.</p>
	<p>Indicates a danger with risk of having one's limbs caught due to the presence of moving parts. Pay maximum attention to the signs and the areas where this symbol is displayed.</p>
	<p>Indicates a danger with risk of amputation due to the presence of sharp moving parts. Pay maximum attention to the signs and the areas where this symbol is displayed.</p>
	<p>Indicates a danger with risk of crushing due to the presence of moving parts. Pay maximum attention to the signs and the areas where this symbol is displayed.</p>
	<p>Indicates a danger with risk of electric shock due to the presence of live parts. Pay maximum attention to the signs and the areas where this symbol is displayed.</p>
	<p>Indicates a danger with risk of burns due to the presence of high temperatures. Pay maximum attention to the signs and the areas where this symbol is displayed.</p>

### 6.1 METHODS OF USE AND LIMITATIONS


The Kalamit cleaners were devised for the filtration of cooling and lubricating fluids with maximum viscosity of 20 cSt at 40° C.

	<p><b>THE CLEANERS WERE NOT DEvised TO CLEAN FLUIDS DIFFERENT THAN WHOLE OILS OR EMULSIFIERS</b></p>
	<p><b>THE CLEANERS WERE NOT DEvised TO CLEAN FLUIDS CONTAINING CORROSIVE (ACID OR BASIC) SUBSTANCES, OR POTENTIALLY EXPLOSIVE SUBSTANCES.</b></p>
	<p><b>THE CLEANERS WERE NOT DEvised TO BE USED IN POTENTIALLY EXPLOSIVE PLACES</b></p>
	<p><b>THE COMPANY CANNOT BE HELD LIABLE FOR DAMAGE TO PEOPLE OR THINGS CAUSED BY IMPROPRE USE OR BY VARIATIONS OF DESIGN PARAMETERS</b></p>

*Note: Any use that compromises the function, integrity, safety of the machine's structure, of either its mechanical or electrical equipment or any component used for control or connection is considered improper. The Micronfilter s.r.l. technical service is always available for any additional information on the use of the product.*

### 6.2 RESIDUAL RISKS INVOLVING THE MACHINE

*Considerations regarding safety conditions and residual risks.*

	<p><b>THIS PIECE OF EQUIPMENT WAS DESIGNED WITH MAXIMUM POSSIBLE LIMITATION OF SOURCES OR SITUATIONS OF DANGER. SUCH SITUATIONS CAN ONLY HAPPEN WHEN THE INSTALLATION INSTRUCTIONS ARE NOT FOLLOWED OR WHEN THE PRODUCT IS USED IMPROPERLY.</b></p>
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#### DANGERS DERIVING FROM CONTACT BETWEEN THE PRODUCT AND OBJECTS OR PEOPLE

*The rotary movement of the magnetic drum may be dangerous. This movement can cause serious injury to any Operator who comes into contact with it. The protections ensure enough safety in normal working conditions. It is obligatory to pay maximum attention.*

### SAFETY RULES FOR ELECTRIC EQUIPMENT

The causes of electric shocks are well known and it is not difficult to prevent them, as long as attention is constant. To reduce the number of electric accidents, the personnel involved must be informed on the potential risks and instructed on how to use safety procedures.

### DUTIES OF THE PEOPLE IN CHARGE

The people in charge must be informed of the potential risks existent in the system and control the personnel working with electric equipment. This control action consists of identifying possible risk conditions and investigating problems found by the personnel during maintenance interventions. Every defective part must be repaired or replaced immediately. The person in charge must insist on the use of safety measures, without tolerating or accepting deviations, as these may cause injury to people and damage to the machinery.



Pos.	Area identification	Risk	Symbol
I	<b>Magnetic drum</b>	<ul style="list-style-type: none"> <li>Limb crushing</li> <li>Limb dragging</li> <li>Burns to the limbs</li> </ul>	
II	<b>Motorisation</b>	<ul style="list-style-type: none"> <li>Electric shocks</li> <li>Burns to the limbs</li> </ul>	

<i>Should one or more protections be absent</i>		
<i>Type of risk</i>	<i>Consequences to people</i>	<i>Risk conditions</i>
<ul style="list-style-type: none"> <li>Introducing limbs in point I</li> <li>Introducing limbs in point II</li> </ul>	<i>Type of consequences:</i> <ul style="list-style-type: none"> <li>Shearing</li> <li>Crushing</li> </ul>	<ul style="list-style-type: none"> <li>Machine in function</li> <li>Failure to respect safety regulations</li> <li>Non-instructed personnel</li> <li>Voluntariness</li> <li>Absence of PPE</li> </ul>




### 6.3 RoHS European Directives

Micronfilter s.r.l. hereby declares that its products are expressly manufactured according to the requests of directive 2011/65/EU regarding restrictions of use of potentially dangerous materials, called RoHS, with particular reference to the limitation of the following dangerous substances:

Lead (Pb) - Mercury (Hg) - Cadmium (Cd) - Hexavalent chromium (Cr VI) - Polybrominated biphenyls (PBBs) - Polybrominated phenyl ethers (PBDEs).

As for the conformity of each single part, it is not technically possible to analyse each in turn. Micronfilter s.r.l. therefore trusts the declaration of conformity issued by each single supplier.

## 7.0 SCHEDULED MAINTENANCE AND INSPECTIONS

	<p><b>DO NOT PERFORM ANY MAINTENANCE PROCEDURES WITH THE FILTER RUNNING OR CONNECTED TO ANY ELECTRICAL POWER SOURCE. PADLOCK THE CONTROLS DURING MAINTENANCE TO AVOID UNDESIRED START UPS.</b></p>
	<p><b>NEVER USE ANY INFLAMMABLE FLUIDS WHEN CLEANING THE FILTERS.</b></p>
	<p><b>SCHEDULED MAINTENANCE PROCEDURES MUST BE CARRIED OUT BY SKILLED PERSONNEL FAMILIAR WITH THE PROCEDURES AND PRECAUTIONS TO BE ADOPTED.</b></p>

1. Clean the scraping blade of the magnetic separator to remove mud residues and use clean cooling fluid to wash the disk area and the mud chute. Working residues that remain too long within the scraping blade may solidify and block the disks.

2. At regular intervals, it is necessary to check the regulation of the scraping blade. In general, the distance between the blade combs and the disks must be somewhere between 0.2 and 0.5 mm. As the blades and disks get worn, this distance increases, therefore reducing the efficiency of the equipment. When this happens, replace the scraping blade.

3. Keep the cooling flaps of the motor reducer clean. The fan cover for the motor must always be kept clear from occlusions, to make sure the cooling process is effective.

4. The cleaners are equipped with self-aligning supports for the shaft. Once a year, the bearings must be greased using the nozzle provided (see figure).



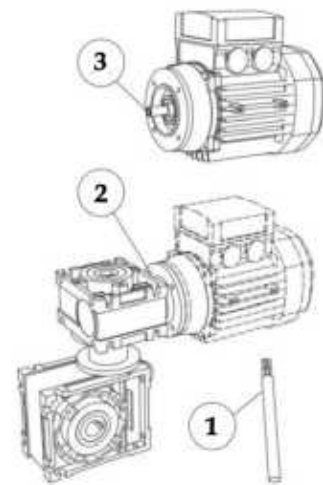


## 7.1 REPLACING THE MOTOR

Motor replacing operations on the reducer:



- Place the door-blocking switch on the electric panel of the system on O;
- Disconnect the cables involved (1);
- Loosen the screws that fix the motor (2);
- Slide the motor out (3);
- Insert the new motor;
- Lock the screws that fix the motor;
- Reconnect the cables involved;
- Clean the working area;
- Resume the work cycle.




## 8.0 MARK AND CERTIFICATIONS

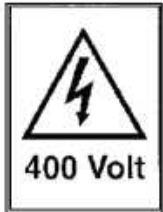
The Kalamit filters were examined in accordance with the EEC Machine Directive 2006/42 and its modifications, the EMC 2004-108 regarding Electromagnetic Compatibility. Its certification is made known by the placing of the CE mark on the machine and by the declaration of conformity that is annexed to this manual.

N.B.

The EC mark and the declaration of conformity are issued exclusively for machines complete with each single part (filter frame with relative protections, tank, pump and cabled electric board). The filter is to be considered part of a more complex machine, in which it is destined to be incorporated. For this reason it is not complete with all safety devices requested by directive EC 2006/42 and its modifications. It is therefore FORBIDDEN to start the "machine part" supplied before the machine in which it will be incorporated, and of which it will become a part, has been identified and declared to be in conformity to directive 2006/42 and its modifications.

## 9.0 SYMBOLS AND CAUTION SIGNS

These symbols  , together with the relative warning messages, indicate the potential for risk that comes from the non-compliance with the requirements to which they have been linked, as specified below.



Sticker indicating that on the control panel there are live parts with 400V



Sticker indicating the anchorage points to hoist the filter



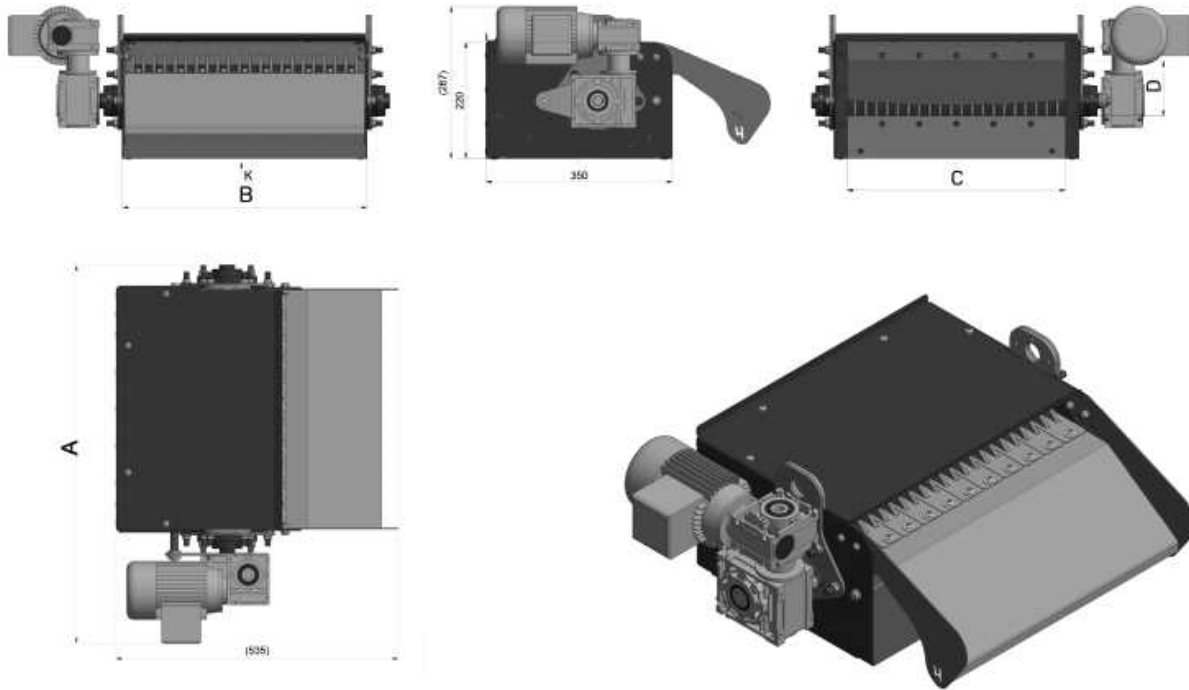
Sticker indicating the rotation direction of the motor.



EC label (only for complete filters) indicating series, model and serial number of the product supplied, in addition to significant information on the technical features and performance figures of the equipment.

## 10.0 TECHNICAL INFORMATION ON THE FILTER

### 10.1 DIMENSIONS



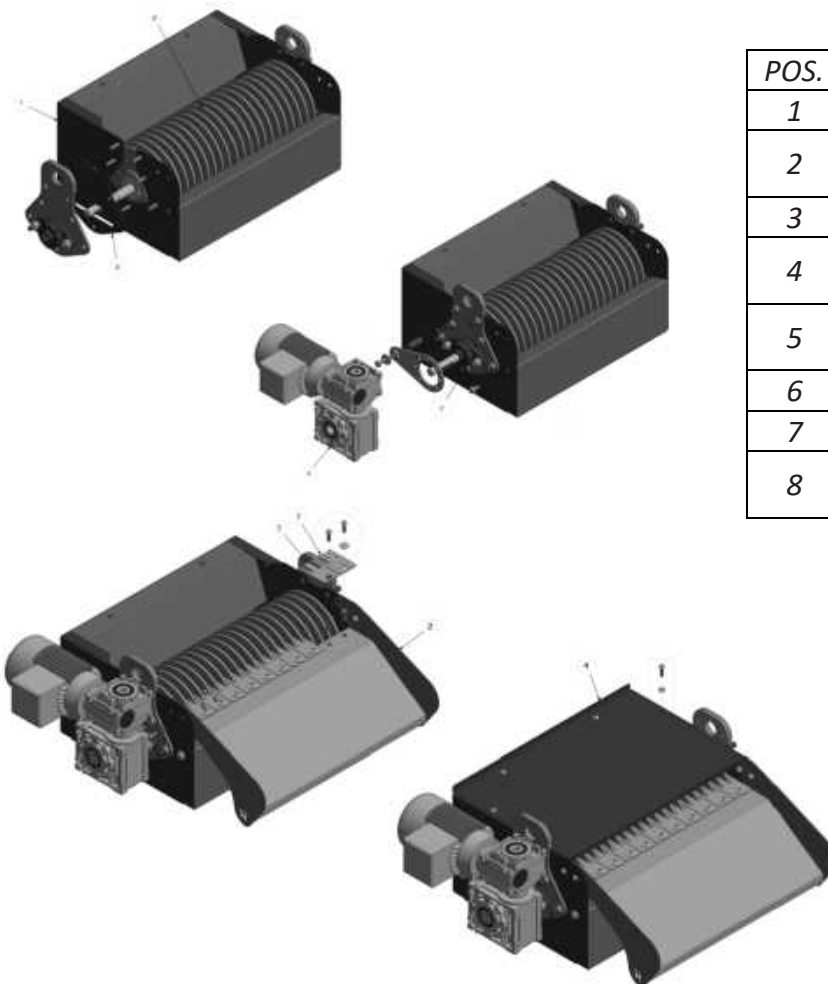
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>KALAMIT 75</b>	436	180	130	103
<b>KALAMIT150</b>	556	300	250	103
<b>KALAMIT 250</b>	716	460	410	103
<b>KALAMIT 350</b>	916	660	610	103
<b>KALAMIT 500</b>	1196	940	890	103

*Note: Upon request, Kalamit filters can be supplied with plates for fluid entrance with 1 or more connections and with different diameters.*

### 10.2 TECHNICAL TABLE

<i>Cleaner</i>	<i>Capacity in emulsion l/min</i>	<i>Capacity in whole oil l/min</i>	<i>Total installed power kW</i>	<i>Acoustic pressure dB (A)</i>
<b>KALAMIT 75</b>	75	37.5	012	<70
<b>KALAMIT150</b>	150	75	012	<70
<b>KALAMIT 250</b>	250	125	012	<70
<b>KALAMIT 350</b>	350	175	012	<70
<b>KALAMIT 500</b>	500	250	012	<70

### 10.3 LIST OF THE MAIN PARTS OF THE CLEANER



<i>POS.</i>	<i>DESCRIPTION</i>
1	Frame
2	Chute with adjustable inclination
3	Support
4	Protection with jet-breaking blade
5	Motor reducer with sealing disk
6	Gasket
7	Comb
8	Magnetic disk and spacers unit

## 11.0 KALAMIT MAGNETIC FILTER

SYMPTOM	CAUSE	SOLUTION
<i>Motor does not work</i>	<ul style="list-style-type: none"> <li>• No power</li> <li>• Blown motor</li> </ul>	<ul style="list-style-type: none"> <li>• Check power current</li> <li>• Check phase continuity and any phase that may have short-circuited</li> </ul>
<i>Reducer does not work</i>	<ul style="list-style-type: none"> <li>• Blown motor</li> <li>• Switch between motor and reducer is broken/absent</li> <li>• Defective reducer</li> </ul>	<ul style="list-style-type: none"> <li>• Check the motor</li> <li>• Disassembly and inspection</li> <li>• Disassembly and inspection</li> </ul>
<i>Motor reducer transmission failure</i>	<ul style="list-style-type: none"> <li>• Motorised shaft connection switch</li> <li>• Hardened muds or chips</li> </ul>	<ul style="list-style-type: none"> <li>• Disassembly and inspection</li> <li>• Disassembly and inspection</li> </ul>
<i>Very noisy motor reducer</i>	<ul style="list-style-type: none"> <li>• Bearings are worn</li> <li>• Gears are worn/broken</li> </ul>	<ul style="list-style-type: none"> <li>• Disassemble and check bearing replacement</li> <li>• Disassemble and check bearing replacement</li> </ul>
<i>Electric protections have tripped</i>	<ul style="list-style-type: none"> <li>• Motor absorption is excessive</li> <li>• Motor temperature is high</li> </ul>	<ul style="list-style-type: none"> <li>• Check voltage/power current and phases</li> <li>• Check for unexpected work conditions</li> </ul>
<i>Magnetic drum does not turn</i>	<ul style="list-style-type: none"> <li>• Motorised shaft connection switch</li> <li>• Hardened muds or chips</li> </ul>	<ul style="list-style-type: none"> <li>• Disassembly and inspection</li> <li>• Disassembly and inspection</li> </ul>
<i>The combs do not discharge the muds</i>	<ul style="list-style-type: none"> <li>• Combs are worn</li> <li>• Material has hardened on the combs</li> <li>• The material being worked is not magnetic iron</li> </ul>	<ul style="list-style-type: none"> <li>• Replacement</li> <li>• Disassembly and cleaning</li> <li>• Test</li> </ul>

## 12.0 MACHINE DEMOLITION


*In this operation it is necessary to carefully consider the nature of the material introduced in the filtration units, as their deposits will be abundant both in the tanks and in the piping.*


*It is therefore necessary to carefully clean all parts destined to elimination.*

*The manufacturing of this machine did not use any materials whose elimination might be a problem.*

*Start by separating the materials, which usually are:*

- *Ferrous, magnetic (the latter are present in some systems).*
- *Copper, especially in electric systems and in motors*
- *Aluminium*
- *Stainless steel*
- *Bronze and other alloys*
- *Plastic*
- *Rubber and rubber products*
- *Other non-metal products*

	<p><b>WARNING</b></p> <p><b>THE MATERIALS MUST BE COLLECTED AND DISPOSED OF ACCORDING TO THE REGULATIONS IN FORCE IN THE COUNTRY WHERE IT IS BEING DISPOSED</b></p>
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	<p><b>THE MANUFACTURER CANNOT BE HELD LIABLE FOR ANY DAMAGE TO PEOPLE OR THINGS DERIVING FROM THE REUSE OF SINGLE MACHINE PARTS FOR FUNCTIONS OR ASSEMBLY SITUATIONS DIFFERENT THAN THE ORIGINAL ONES FOR WHICH THE MACHINE WAS DESIGNED.</b></p>
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*Finally, the different parts must be disposed of at suitable places, fully respecting the laws in force in the country where the machine is being displaced, in terms of waste management and separate waste collection, taking into account the materials that make up the pump.*



## **MADE IN ITALY**

*All products and parts by Micronfilter s.r.l. are entirely manufactured in Italy.*



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