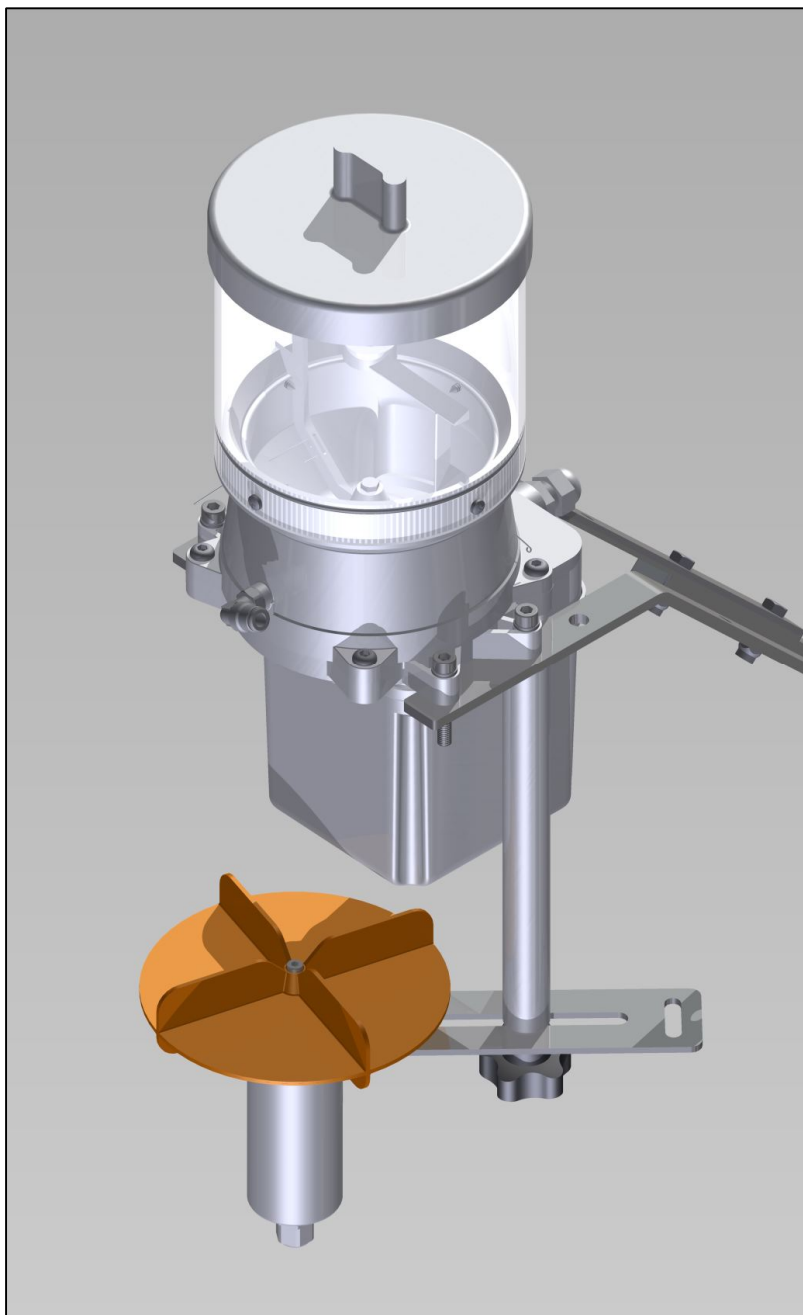


# TECHNICAL AND MAINTENANCE MANUAL SPREADER



USER INSTRUCTION

A00171499 Rev. 0 del 17/01/2018

## Contents

|                                                        |    |
|--------------------------------------------------------|----|
| 1. INTRODUCTION.....                                   | 3  |
| 1.1 WARRANTY.....                                      | 3  |
| 1.2 REQUEST FOR TECHICAL SUPPORT.....                  | 3  |
| 1.3 SCOPO E USO PREVISTO / CAMPO DI APPLICAZIONE ..... | 4  |
| 2. OPERATOR'S SAFETY REQUIREMENT .....                 | 4  |
| 2.1 TERM OF USE.....                                   | 4  |
| 2.3 WARNINGS .....                                     | 5  |
| 2.4 ELECTRICAL DANGER .....                            | 5  |
| 2.5 WORK STATION.....                                  | 5  |
| 2.6 SHEARING RISK – RESIDUAL RISK.....                 | 6  |
| 3. DESCRIPTION .....                                   | 6  |
| 3.1 OVERALL DIMENSION.....                             | 7  |
| 3.2 CONDITION FOR USE.....                             | 8  |
| 4. TRANSPORT AND STORAGE.....                          | 8  |
| 4.1 UNPACKING / PRELIMINARY INSPECTION .....           | 8  |
| 4.2 INSTALLATION.....                                  | 8  |
| 4.3 MOUNTING ON THE FEEDER.....                        | 9  |
| 4.4 PROPELLER ASSEMBLY/DISASSEMBLY.....                | 9  |
| 4.5 FRONTAL AND CIRCULAR SPREADING ADJUSTMENT.....     | 10 |
| 4.6 MOTOR DISASSEMBLY .....                            | 11 |
| 4.7 ELECTRICAL CONNECTION AND COMMISSIONING.....       | 11 |
| 4.8 REGULAR CHECK.....                                 | 13 |
| 5. MAINTENANCE .....                                   | 13 |
| 5.1 LONG TERM STORAGE .....                            | 13 |
| 5.2 SPARE PARTS .....                                  | 13 |
| 5.3 MACHINE SCRAPPING .....                            | 14 |
| 6. WIRING DIAGRAM.....                                 | 15 |

## 1. INTRODUCTION

This booklet describes the user and maintenance instructions for Spreader.

The user is expected to read carefully the entire manual and to ensure that all information in it is fully understood.

**ACQUA&CO shall not accept any direct and indirect liability resulting from negligence and failure to comply with the rules described in this booklet. Moreover, it shall not be liable for any damage caused to people, animals or things by an incorrect installation and/or improper use of the equipment.**

When purchasing the equipment, make sure that it is complete and intact. Any complaints should be submitted in writing within 8 (eight) days from receipt of the equipment.

Its use is conditional to compliance with the local legislation provisions.

### 1.1 WARRANTY

ACQUA&CO warrants its machines for a period of 12 (twelve) months from the delivery date of the material. Within the above period, ACQUA&CO commits itself to provide spare parts free of charge for those components declared defective in material and workmanship at its sole discretion. Excluding any liability for direct or indirect damage, this warranty is deemed to be limited to material defects (electrical parts excluded) and shall no longer be valid if the returned parts are found to be disassembled, tampered or repaired outside the factory. The returned material, even if under warranty, must be shipped with prepaid freight.

The warranty shall not cover the following:

- Any failure caused by the user's negligence.
- Any failure to comply with requirements and limitations specified in this manual.
- Previous repairs carried out by unauthorised staff.
- Previous repairs carried out with non original ACQUA&CO spare parts.
- Consumables

### 1.2 REQUEST FOR TECHICAL SUPPORT

In order to request more detailed information or to solve any problem encountered that is not addressed in this manual, please contact **our CUSTOMER CARE DEPARTMENT**:

#### ACQUA&CO

Via Augera 5/a42023 Cadelbosco Sopra  
(Reggio Emilia) Italy  
Tel. +39 0522 918701-2-3 R.A  
Fax +39 0522 918790  
E-mail: [info@acquaeco.com](mailto:info@acquaeco.com)  
[www.acquaeco.com](http://www.acquaeco.com)

#### INNOVAQUA SPAIN

Cañada del Río 48 - 41740 Lebrija  
(Sevilla) ESPAÑA  
Tel: +34 955970798  
Fax: +34 955971303  
E-mail: [innovaqua@innovaqua.com](mailto:innovaqua@innovaqua.com)  
[www.innovaqua.com](http://www.innovaqua.com)

## 1.3 SCOPO E USO PREVISTO / CAMPO DI APPLICAZIONE

The spreader is a Mirafeed accessory that allows to spread the feed (powder or pellet) in the water surface of the tank.

It is fixed to the Mirafeed in a specific position that permit the feed to fall down on the spreader high velocity propeller. The propeller will strike the feed and throw it in the desired direction.

The spreader must be connected to 24 V AC in the control box together with the Mirafeed. This connection allow you to sincronize the two motors.

**NOT continuous operation:** it is cyclically timed at least every hour.

This industrial-type machine should be installed in a technical area that is suitably identified by signs and not accessible to the public, adjacent to duly fenced fish tanks/basins/lakes (also outdoors), where unauthorised people are not allowed and access is restricted to specialised operators.

If used in public areas, a suitable protection must be installed since the device contains a moving internal part.

## 2. OPERATOR'S SAFETY REQUIREMENT

The following rules must be read carefully and become an essential part of the daily practice for the operation and maintenance of the equipment to prevent any type of personal accident and/or damage to property.

### 2.1 TERM OF USE

#### SYMBOLS DESCRIPTION

The machine is provided with a few plates showing the following symbols that indicate any dangers found on the machine:

1. Read carefully the contents of this booklet before operating the machine.
2. Symbol for general danger. When indicated, it shows a potential danger.
3. Symbol for danger. Shearing of hands, keep away from moving parts.
4. Symbol for electrical danger. If indicated, it shows the presence of voltage.
5. Sign of prohibition.
6. Wear safety gloves.



1



2



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### 2.2 GENERAL SAFETY RULES



When using electrical equipment and tools it is necessary to adopt suitable safety precautions to reduce the risk of fire, electrical shock and personal injury. Therefore, before using this equipment, read carefully and learn by heart the following safety regulations. After reading it, keep this booklet carefully for future reference. The Manufacturing Company does not accept any liability resulting from failure to comply with any safety and accident prevention regulations as described in this booklet.

- Before starting to work, make sure that the machine is perfectly intact.  
Any part that is found defective, damaged or broken must be repaired or replaced by qualified and authorised personnel.  
Repairing or having parts repaired by staff that is not authorised by the Manufacturing Company will void the warranty and make equipment unsafe and potentially dangerous.
- If the spreader is accidentally dropped, check its integrity.
- **CAUTION: in case of doubt as to the safety of the machine, do not use it.**
- Do not use the spreader for purposes other than those provided for and to perform works that it could not reasonably withstand.
- Any type of check, control, cleaning, maintenance, changeover and replacement of parts must be carried out after shutting down the machine and isolating its connections.
- Personnel authorised by the Manufacturing Company must perform all repairs.
- The spreader must not be moved using its power supply cable.
- Regularly check the integrity of the cable. Replace the cable if it is not intact.  
This operation should be carried out by qualified and authorised personnel.
- Protect the cable from high temperatures, lubricants and sharp edges.  
Moreover, prevent it from twisting and forming knots.
- It is absolutely prohibited to allow children and/or any unauthorised, not qualified and/or people with health problems to use the spreader.
- Do not tamper and/or try to remove the spreader's guards.
- Do not operate the machine other than as described in this booklet.

## 2.3 WARNINGS

- Before starting the machine assembly operations, make sure the working area is clean and orderly, use compliant and suitable material and equipment wearing safety gloves and shoes.
- For your own safety, our machines must always be suitably protected from electrical failures by specific control panels or protection switches (differential, thermal-magnetic, etc.).
- Always make sure that a switch or a socket has been installed near the machine to disconnect it during maintenance.
- Our machines are covered by warranty only if they are **OPERATED INTERMITTENTLY**, driven by a suitable timer, if regular maintenance operations are carried out, and if deposits and anything else may affect its correct operation are removed.

## 2.4 ELECTRICAL DANGER

The machine is installed in a dry place, although in potential contact with humidity; it is designed to be supplied with a low 24V AC voltage therefore, **theoretically**, it should not pose any serious health risks.

Such condition only applies if the power supply system is well designed and provided that any upstream failure cannot cause a downstream danger.

## 2.5 WORK STATION

The machine is also suitable for outdoor installation. Pay attention to any extreme conditions that are likely to cause service life and safety limitations.

If necessary, provide a suitable sunlight and weather proof cover and adequate lighting to perform any operation and maintenance.

## 2.6 SHEARING RISK – RESIDUAL RISK

The machine is accessible for maintenance purposes.

A propeller is constantly rotating at high velocity to spread and dispense the feed.

No protection is provided, otherwise the machine cannot work properly.

**DO NOT PUT YOUR FINGERS AND HANDS ON THE PROPELLER DURING WHILE THE MACHINE IS WORKING**

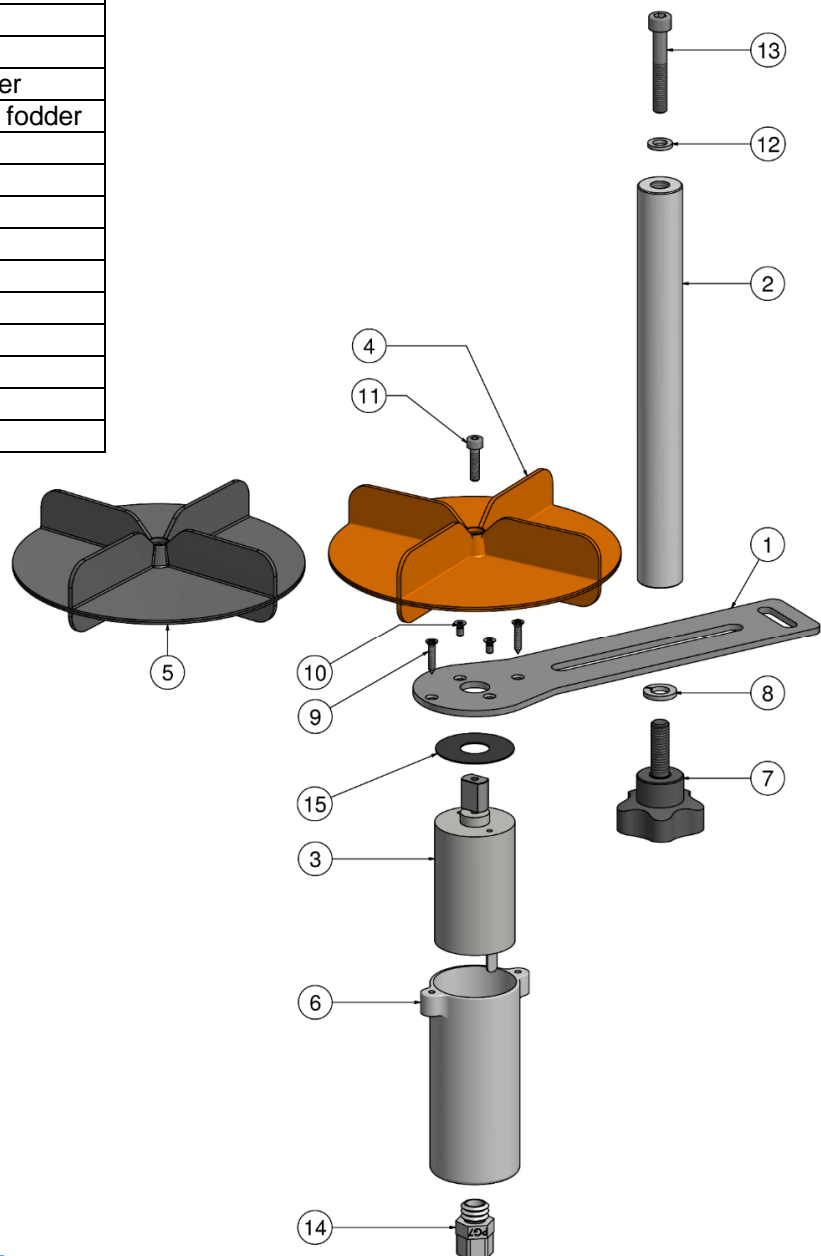
**DO NOT PLACE ANYTHING ON THE PROPELLER OTHER THAN FEED OR OTHER SUBSTANCES FOR WHICH IT HAS BEEN DESIGNED AND SOLD.**



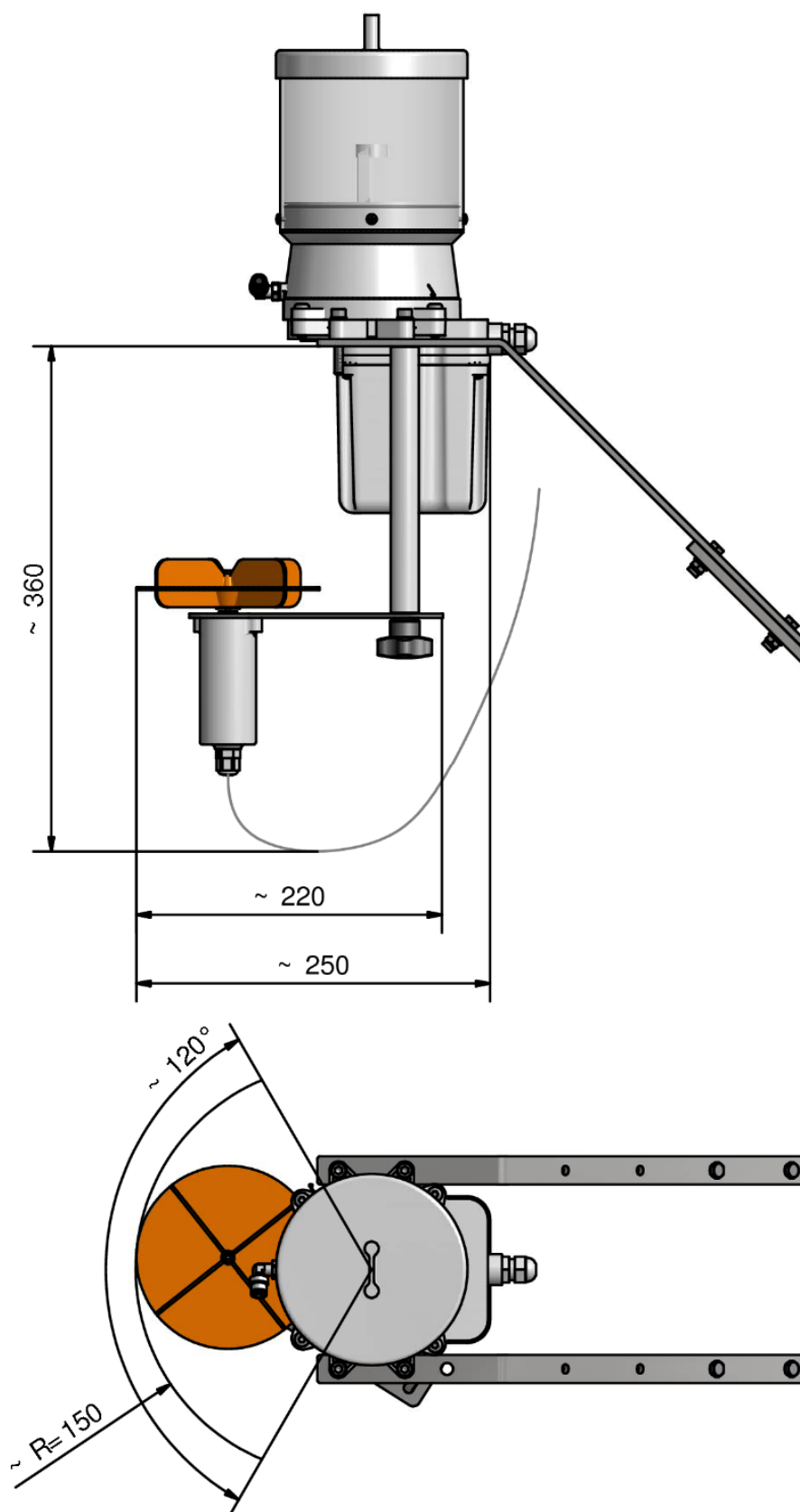
**IT IS STRICTLY PROHIBITED TO WORK ON THE FEEDER WHEN THE MACHINE IS OPERATING.**

## 3. DESCRIPTION

|    |                                         |
|----|-----------------------------------------|
| 1  | Support plate                           |
| 2  | Round bar                               |
| 3  | Electrical motor                        |
| 4  | Orange propeller for 0-1mm fodder       |
| 5  | Black rubber propeller for 1-9mm fodder |
| 6  | Motor protection cover                  |
| 7  | Adjusting and fixing knob               |
| 8  | Washer                                  |
| 9  | Protection screw                        |
| 10 | Motor screw                             |
| 11 | Propeller screw                         |
| 12 | Washer                                  |
| 13 | Spreader fixing screw                   |
| 14 | PG9                                     |
| 15 | Motor gasket                            |



### 3.1 OVERALL DIMENSION



### 3.2 CONDITION FOR USE

The Mirafeed Feeder must be used taking the following conditions into account:

Power supply voltage:.....**24V AC**

Frequency:.....50/60 Hz

Permitted voltage variation.....±5%

Protection rating:.....IP 44

A sunlight and weather-proof cover should be provided.

Air temperature.....da 5°C a +40°C

**Strictly intermittent service,**

**Maximum working time.....15 minutes**

**Minimum pause time.....30 minutes**

Fodder dimension for plastic propeller:.....0÷9 mm

Fodder dimension for rubber propeller: .....19÷mm

### 4. TRANSPORT AND STORAGE.

The Spreader device is delivered with its power supply cable and electrical box inside cardboard boxes suitable for transport and storage.

In case of storage, it is recommended to avoid placing heavy material onto the machine to prevent any crushing or damage

#### 4.1 UNPACKING / PRELIMINARY INSPECTION

Upon receipt, make sure that the delivered goods match those ordered.

Ensure that the goods show no damage caused by transport.

Any damage detected upon receipt must be documented and notified to the sender within 8 (eight) days from arrival.

The cardboard packaging, if not reused for other purposes, must be disposed of in compliance with regulations in force in the place of use.

**CAUTION: in case of doubt as to the safety of the machine, do not use it.**

#### 4.2 INSTALLATION



**Installation must be carried out by qualified and authorised operators only.**

**During installation, comply with all safety provisions issued by relevant bodies in the country of use and resulting from common sense. The machines installed in public places must be identified by suitable signs and fencing.**

The Spreader is warranted for intermittent operation only, followed by appropriate pause periods to allow internal motor cooling down.

**Suggestions for electrical guards:**

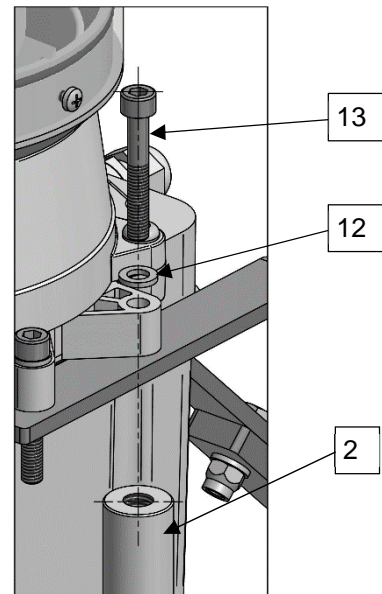
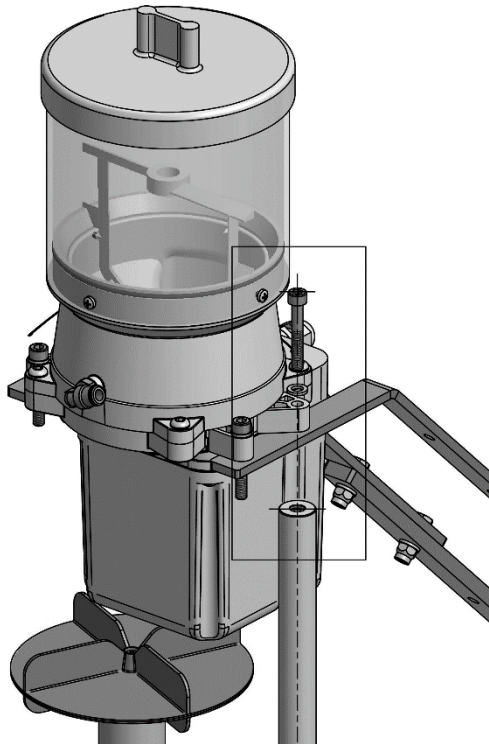
The key point for the safety of the electrical system as a whole is protecting it from the main electrical failures due to:

- 1) Overvoltage and voltage drops.
- 2) Indirect contacts.
- 3) Current surges.



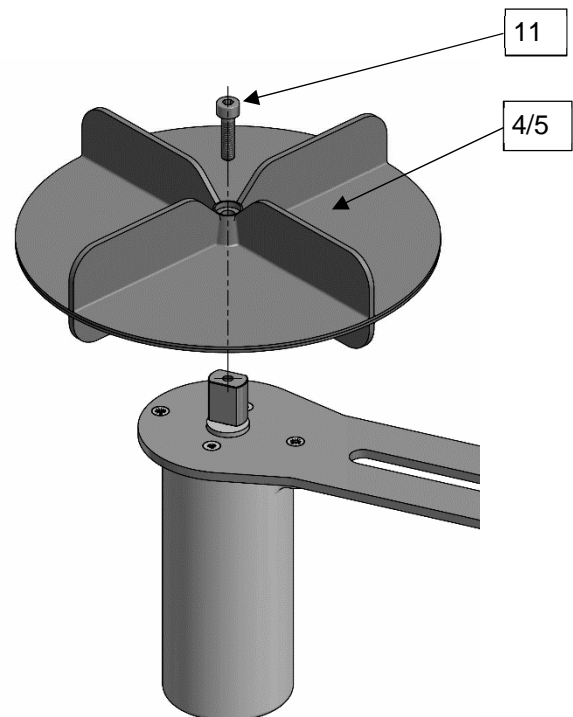
### 4.3 MOUNTING ON THE FEEDER

Fix the spreader on the feeder by screw (13) and washer (12) to the round bar (2)  
Now the spreader and the feeder are locking on the support



### 4.4 PROPELLER ASSEMBLY/DISASSEMBLY

- 1) Unscrew the screw (11).
- 2) Remove the propeller (4- 5).
- 3) Reassemble the propeller with the screw (11).

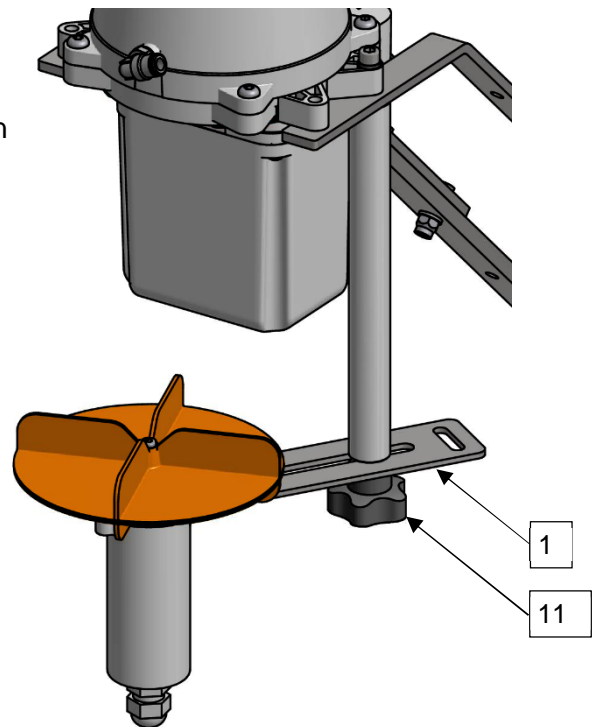


## 4.5 FRONTAL AND CIRCULAR SPREADING ADJUSTMENT

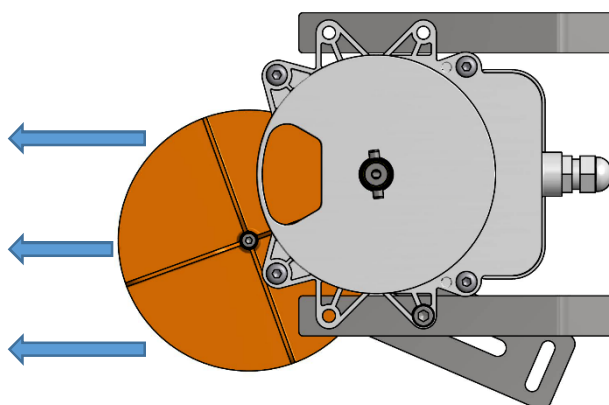
The spreader can spread the feed in frontal direction or in circular direction covering 360°, depending on the application, with simple adjustments.

To position the spreader propeller in frontal or circular direction you need to unscrew the knob n.11; now the plate n.1 is free to move back and forth and to rotate.

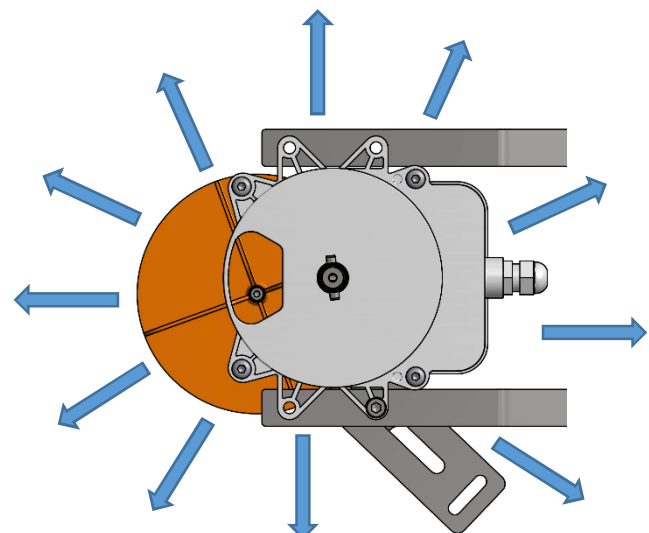
Adjust the position of the propeller to the desired one then screw the knob n.11 to fix the position.



**Note:** Suggested position can be changed according to application and type of feed.



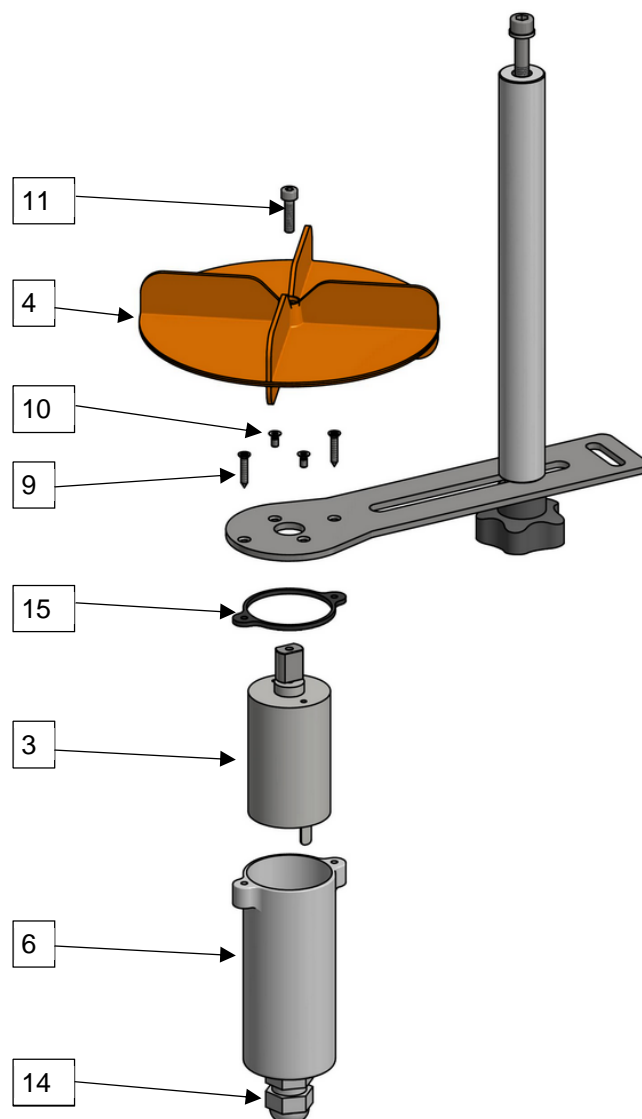
Frontal spreading



Circular spreading

## 4.6 MOTOR DISASSEMBLY

- 1) remove the screw (11) and propeller (4-5)
- 2) Loose PG9 (14).
- 3) Remove the screw (9).
- 4) Extract the motor protection (3).
- 5) Remove the screw (10).
- 6) Extract Motor (3) and the gasket (15)
- 7) Disconnect and replace the motor(3).
- 8) Perform all the previous steps contrariwise for the re-assembly



## 4.7 ELECTRICAL CONNECTION AND COMMISSIONING

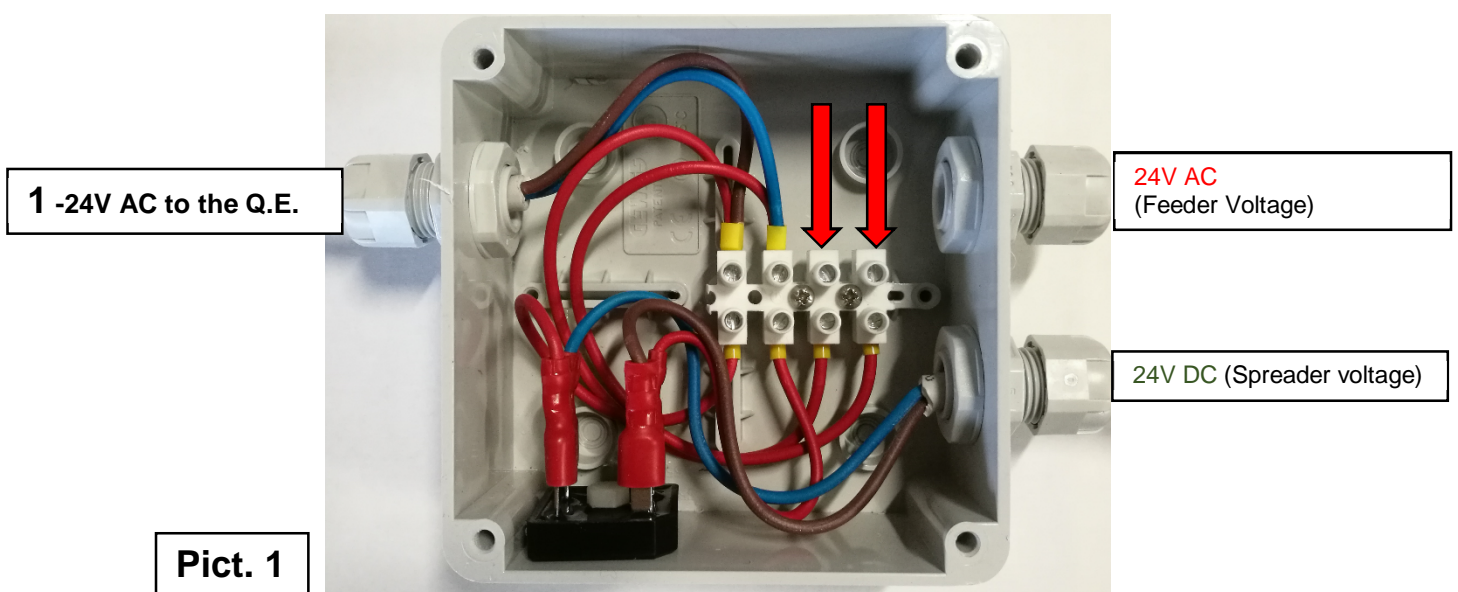
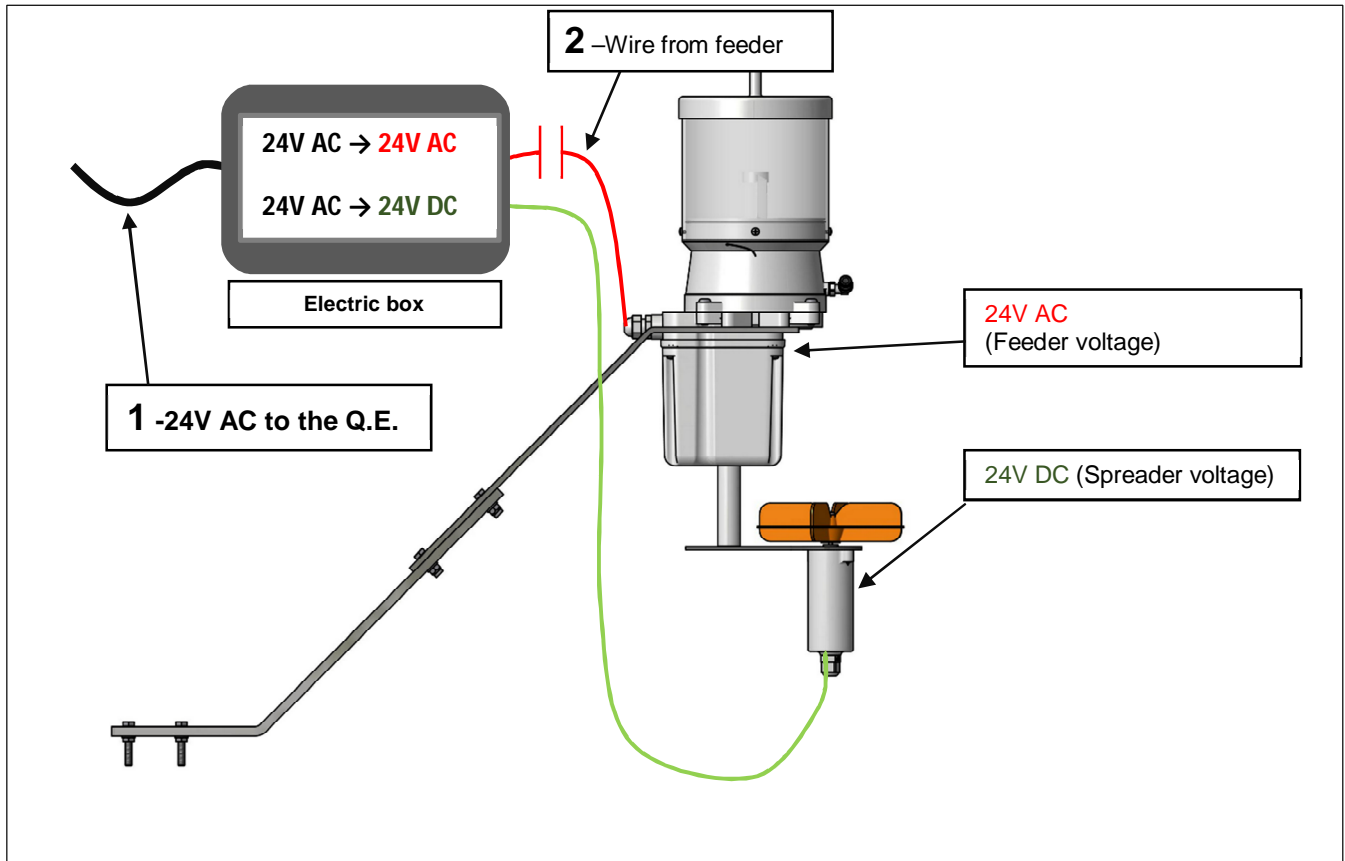


**NOTE: THE ELECTRICAL CONNECTION OF THE MACHINE MUST BE CARRIED OUT BY SPECIALISED PERSONNEL.**

**IT IS UP TO THE INSTALLER TO PERFORM THE CONNECTIONS IN COMPLIANCE WITH LEGISLATION IN FORCE IN THE COUNTRY OF INSTALLATION.**

- Make sure that the mains voltage and frequency match the data stated on the motor plate.
- Bring a power supply cable compatible with power consumption inside the electrical box.
- It is absolutely necessary connect the spreader with the Mirafed to a timer for intermittent operating from the control panel that can be set in seconds or at least in minutes.

- The spreader is provide with an electric box
- Connect the Wire (1) to the electric board to the **24V AC**.
- Connect the Wire (2) of the feeder in the box (**PICT. 1**).





**RESIDUAL RISK:** the sudden re-start of the machine can be a source of danger for operators working nearby it.

The spreader contains an high speed propeller:

- **NEVER PUT YOUR FINGERS, HANDS, HAIR, CLOTHES OR ANY OTHER OBJECT IN THE TANK OR NEAR THE DISC WHEN THE MOTOR IS RUNNING.**
- **NEVER PLACE ANYTHING OTHER THAN FEED INTO THE TANK AND NEAR THE DISC WHEN THE MOTOR IS RUNNING.**

#### 4.8 REGULAR CHECK

**Before carrying out checks make sure that voltage is disconnected and that unintentional connections are not possible.**

It is recommended to regularly check:

- The conditions of cables and cable guides - especially in the attachment points - and of components protecting the electrical motor.
- Check the propeller wear status
- The cleaning conditions of the outer casing for hygiene-related reasons
- That filaments or foreign bodies do not prevent the free rotation of the disc
- That the outer part of the motor is free from deposits that can stick to the casing; this will make the machine cool down easier

**Every week check the propeller and screws clamping.**

### 5. MAINTENANCE



**All cleaning and checking operations must be strictly carried out after shutting down the machine and isolating the connection with a padlockable switch .**

The electrical motor is a synchronous single-phase motor that does not require maintenance as it is equipped with permanently lubricated bearings. As far as repairs are concerned, the replacement of broken parts must be carried out at authorised support centres or by qualified staff. It is recommended to develop a scheduled maintenance plan paced with harvest and downtime.



The use and disposal of electrical components must comply with environmentally-friendly provisions in force in the country of use.

#### 5.1 LONG TERM STORAGE

If a long downtime of the Feeder is expected, it is advisable to clean it carefully with a sponge and store it in a sheltered indoor area.

If stored in a warehouse, do not place any weight or other boxes on top of its packaging boxes.

#### 5.2 SPARE PARTS

In case of breakages or replacement of spare parts, apply to authorised support centres.

**NOTE: Use original spare parts only.**

### 5.3 MACHINE SCRAPPING

- If you decide not to use the machine anymore, it is recommended to make it inoperative by removing the electrical power supply cable.
- Always keep it outside the reach of children.
- Since the machine is a special waste, it must be disassembled and the parts of the same material collected for disposal in compliance with legislation in force.
- Do not use any scrapped items as spare parts.

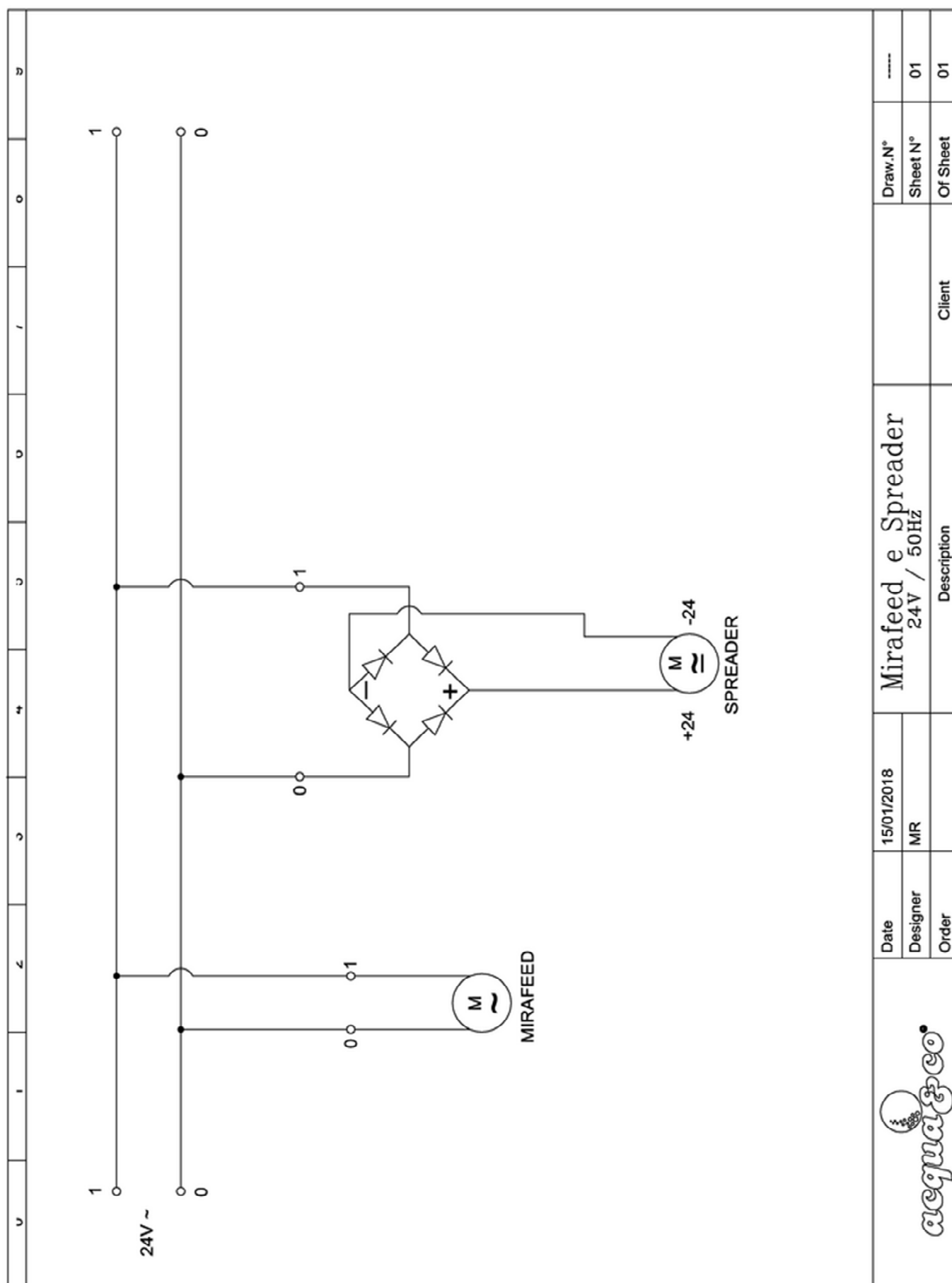
#### INFORMATION FOR USERS

**In compliance with Directives 2002/95/EC, 2002/96/EC and 2003/108/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment as well as waste disposal.**



The symbol of a crossed-out wheeled bin on the equipment or on the package means that any end-of-life product must be disposed of separately from other waste. The separated collection of this end-of-life equipment is arranged and managed by the Manufacturer. The user who wants to throw away this equipment should contact the Manufacturer and use the system adopted by him to ensure the separate collection of the end-of-life equipment. A suitable separate waste collection allowing the unused equipment to be sent for recycling, treatment and compatible environmental disposal contributes to avoid possible negative environmental and health-related effects while favoring the reuse and/or recycling of materials the equipment is made from. Any incorrect disposal of the product by its owner will lead to the enforcement of administrative penalties provided for under the legislation in force.

## 6. WIRING DIAGRAM



## DECLARATION OF CONFORMITY

within the meaning of Art. 4 Par. 2 of Directive 2006/42/EC

The Legal Representative of the Company **ACQUA&CO** with registered office in Via Augera 5/a, CadelboscoSopra (RE) Italy declares on its own sole responsibility that the produc:

### SPREADER

Complies with the requirements of the EEC Directive(s):

|             |                                          |
|-------------|------------------------------------------|
| 2006/42/EC  | Machinery Directive,                     |
| 2006/95/EC, | Low Voltage Directive,                   |
| 2004/108/EC | Electromagnetic Compatibility Directive, |

It is prohibited to commission the machine under this declaration before the system of which it will be part, together with the control panel and all necessary (mechanical and electrical) connections, have been declared compliant with the provisions of the above-mentioned Directives.

Person in charge of the technical documentation:

Mr/Mrs: Engineer Marco Bassi  
Of the Company: Acqua&Co S.r.l.

Place: Cadelbosco di Sopra RE  
Data: 18/01/2018

Legale Rappresentante  
(Giovanni Magnanini):

