

## USER MANUAL



### FOOD WASTE DISPOSER 500V-BAS EXCELLENT SERIES

Product Description   Installation   Safety   Operation   Service



## Declaration of Incorporation of Partly Completed Machinery

Machinery Directive 2006/42/EC, Annex II, 1.B

We, the manufacturer **Disperator AB**  
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hereby declare under our sole responsibility that the following partly completed machinery,

Description: **Disperator Food Waste Disposer**  
Model / type: **530V-BAS**  
Place of origin: **Segeltorp, Sweden**

complies with the following essential health and safety requirements of Annex 1 of the Machinery Directive 2006/42/EC: 1.1.2 b, 1.1.2 c, 1.1.2 e, 1.1.3, 1.1.5, 1.2.2, 1.2.3, 1.2.4.1, 1.2.6, 1.3.2, 1.5.1, 1.5.4, 1.5.5, 1.5.6, 1.5.11, 1.5.13, 1.6.3, 1.6.5, 1.7.1, 1.7.2, 1.7.3 and 1.7.4.

Relevant technical documentation is compiled in accordance with Annex VII, Part B. On a reasoned request by a national authority, relevant elements of the technical documentation will be made available electronically.

The food waste disposer is also in conformity with the EMC Directive 2014/30/EU.

The food waste disposer is intended for assembly under sinks, washing lines or other similar assemblies with inlet for the organic waste situated above the grinding chamber of the disposer.

A protective cover must be fitted above the inlet to the disposer. When lifted, the cover shall activate an interlocking switch with direct opening action, which will break the electrical control circuit and stop the disposer. When the cover is closed it shall prevent access to the grinding chamber of the disposer by operating personnel, but the waste shall be able to flow through into the machine.

The partly completed machinery must not be put into service until the final installation or the construction in which it is incorporated has been declared to be in conformity with the provisions of the Machinery Directive 2006/42/EC and with national implementing legislation.

Segeltorp, Sweden, March 31, 2021

Disperator AB



Lars Holmqvist  
CEO

Folder: A1003885  
Document N14240EG  
no:

## Statement of Compliance

This is to verify that the food waste disposer/grinder models included in the product series 500, 500A, 500V, 500RS, 500EX, GTS-E65 and GTS-Mini manufactured by Disperator AB, Sweden, for installation as food waste handling equipment on ships and platforms, are, with respect to the size of the ground food waste, in compliance with MARPOL Annex V REGULATIONS FOR THE CONTROL OF POLLUTION BY GARBAGE FROM SHIPS, as amended in 2019.

Excerpts from applicable regulations:

### Regulation 4

*Discharge of garbage outside special areas*

- 1 Discharge of the following garbage into the sea outside special areas shall only be permitted while the ship is en route and as far as practicable from the nearest land, but in any case not less than:
  - .1 3 nautical miles from the nearest land for food wastes which have been passed through a comminuter or grinder. Such comminuted or ground food wastes shall be capable of passing through a screen with openings no greater than 25 mm.

### Regulation 5

*Special requirements for discharge of garbage from fixed or floating platforms*

- 2 Food wastes may be discharged into the sea from fixed or floating platforms located more than 12 nautical miles from the nearest land and from all other ships when alongside or within 500 m of such platforms, but only when the wastes have been passed through a comminuter or grinder. Such comminuted or ground food wastes shall be capable of passing through a screen with openings no greater than 25 mm.

### Regulation 6

*Discharge of garbage within special areas*

- 1 Discharge of the following garbage into the sea within special areas shall only be permitted while the ship is en route and as follows:
  - .1 Discharge into the sea of food wastes as far as practicable from the nearest land, but not less than 12 nautical miles from the nearest land or the nearest ice shelf. Food wastes shall be comminuted or ground and shall be capable of passing through a screen with openings no greater than 25 mm.

Stockholm, February 26, 2021



Digitally Signed By: Johansson, Roger

Location: DNV GL Stockholm, Sweden

Signing Date: 2021-02-26

Roger Johansson  
Senior Surveyor

If any person suffers loss or damage which is proven to have been caused by any negligent act or omission of the Society, then the Society shall pay compensation to such person for his proven direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question. The maximum compensation shall never exceed USD 2 million. In this provision the "Society" shall mean DNV GL AS as well as all its direct and indirect owners, affiliates, subsidiaries, directors, officers, employees, agents and any other person or entity acting on behalf of DNV GL AS.

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## 1. Safety Precautions







This manual contains instructions for installation, operation and maintenance of the food waste disposer (below also called the machine). It is therefore essential for the installer, union representatives and users of the machine to read the manual thoroughly prior to installation, commissioning, operation and overhaul & maintenance.

This manual must always be at hand where the machine is being used.

It is not only the general safety instructions in this section that need to be considered, but also the other special safety instructions given in this manual.

### 1.1. Safety Signs

The following safety signs are used in this manual and on the machine. Failure to comply with the safety regulations contained in this manual as well as on the machine may cause personal injury or damage the machine.

Read this User Manual before use	
Use protective goggles	
Use ear protection	
Warning for electric voltage	
General personal danger	
Warning for mechanically caused damage (rotating parts)	

**Warning plates located on or close to the machine must always be observed and kept legible.**

## **1.2. Personnel Qualifications and Training**

All personnel managing the below tasks for the machine as described in this manual, must have the necessary qualifications to carry out this work. Areas of responsibility, scope of authority and staff supervision must be carefully defined by the machine owner. If the personnel do not have the necessary qualifications for this, they must receive training and instructions. Such training can be provided by the manufacturer / supplier. Moreover, it is the responsibility of the machine owner to make sure that all users read and understand the content of this User Manual.

### **Moving the Machine**

Staff responsible for moving the machine must have knowledge about the handling of the lifting gear and stopping devices and have knowledge of applicable safety regulations for these. If they lack this knowledge, they must receive the required training.

### **Installation**

Personnel responsible for the installation of the machine must have knowledge equivalent to education in industrial mechanics/technician. The electric connection must be performed by trained and certified electrician.

### **Commissioning and Maintenance**

Personnel responsible for commissioning, overhaul and maintenance of the machine must be familiar with all functions, and how to operate these functions. Furthermore, they must know of all safety precautions in this manual, and which in other respects also are valid where the machine is used.

### **Operation**

All persons who operate and maintain the machine must be aware of the risks that may occur with its use and as described in this manual.

### **Service and Repair**

Responsible personnel for service and repair of the machine must have knowledge equivalent to education in industrial and design mechanics, and also know and understand the technical data of the machine described in this manual. Assisting personnel for these jobs must be trained and performed repair work must be checked by the machine owner.



## 2. Company Profile

Disperator's business idea is to provide innovative and adaptive equipment for kitchens on land as well as galleys at sea, and for the food processing industry, which enables efficient collection of communitied food leftovers for anaerobic digestion or composting in subsequent stages, which is of benefit to society.

With over 70 years of experience in the development and production of such equipment, our devotion to this has resulted in the unique operational reliability required for the extreme conditions prevailing in the marine industry. Furthermore, our innovativeness has provided commercial kitchens on land with an alternative approach to handle food waste separation at source, complying with modern demands and being economically affordable.

Our product assortment is unique! Disperator can as the only manufacturer of such equipment offer all types of installation possibilities needed in a kitchen. Our basic range of five different series of water-based food waste disposers, consisting of three to six different sizes in each serie, which may be combined with as many as 13 different mounting assemblies. Furthermore, the advantage of the basic model's design is that the waste disposers may easily be integrated into other kitchen manufacturer's mounting assembly or furniture. Thereby, each workplace in a kithen or galley can be designed to its specific requirements regarding function, ergonomics and economy. To all this there is also the different series of water-saving processor technology for collection and storage of grinded food waste in a tank, as well as disposers that grinds food waste without any flushing water at all.

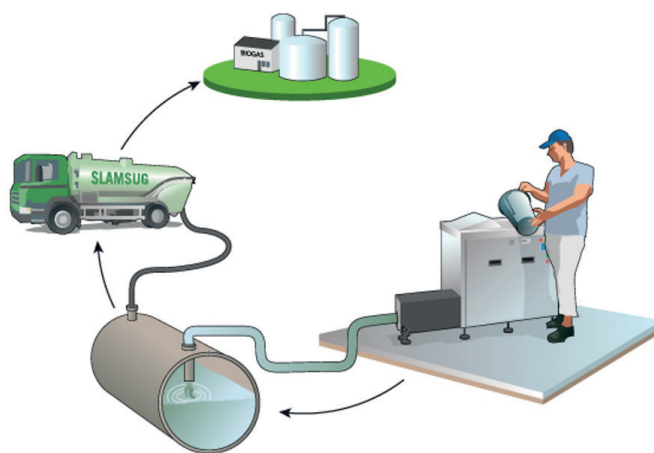
## 3. Product Description and Technical Specification

### 3.1. Food Waste Disposer 500V-BAS EXCELLENT-Series

The immediate and efficient removal of the heaviest part of kitchen waste - the food scraps - is a necessity in any commercial kitchen. When using a Disperator waste grinder, the food waste can easily collect and reduce the total amount of waste hygienically and without heavy lifting or manual transfer to a waste storage - in volume, but especially in the handling of the total weight in different transport phases!

Disperator food waste disposers are used in kitchens and marine galleys around the world, providing an efficient and immediate removal of food waste whenever the need arises and thereby improving hygiene in the working environment, eliminating bad odors and bacteria formation and minimizing manual handling.

Regardless of the selected disposer model, the disposal procedure is the same. Food waste is fed down into the machine and with water ground into small particles for further transport in the sewer to a sealed and odorless special tank where the slurry and grease are separated from much of the liquid which flows out into the municipal sewer. Alternatively, all the sludge with liquid runs off in the municipal sewer to a water treatment plant. The tank is emptied by a vacuum truck approximately every four weeks or according to the driving schedule that applies in your municipality. Depending upon preference, the tank may be placed outdoors buried in the ground, as well as placed indoors. In water treatment plants as well as in anaerobic digestion facilities the slurry is converted into a valuable renewable energy resource (i.e. biogas), and often the digested residue which is left after biogas production can also be used as fertilizer on farmland. Biogas is today one of our society's most environmentally clean and desired energy forms, as fuel for vehicles as well as to produce heat and electricity.



Disperator's broad assortment of different technical solutions for source separation of food waste can be adapted to your specific kitchen and your specific working environment, regardless of size or layout, and regardless of the specific municipal's food waste handling rules in your community!

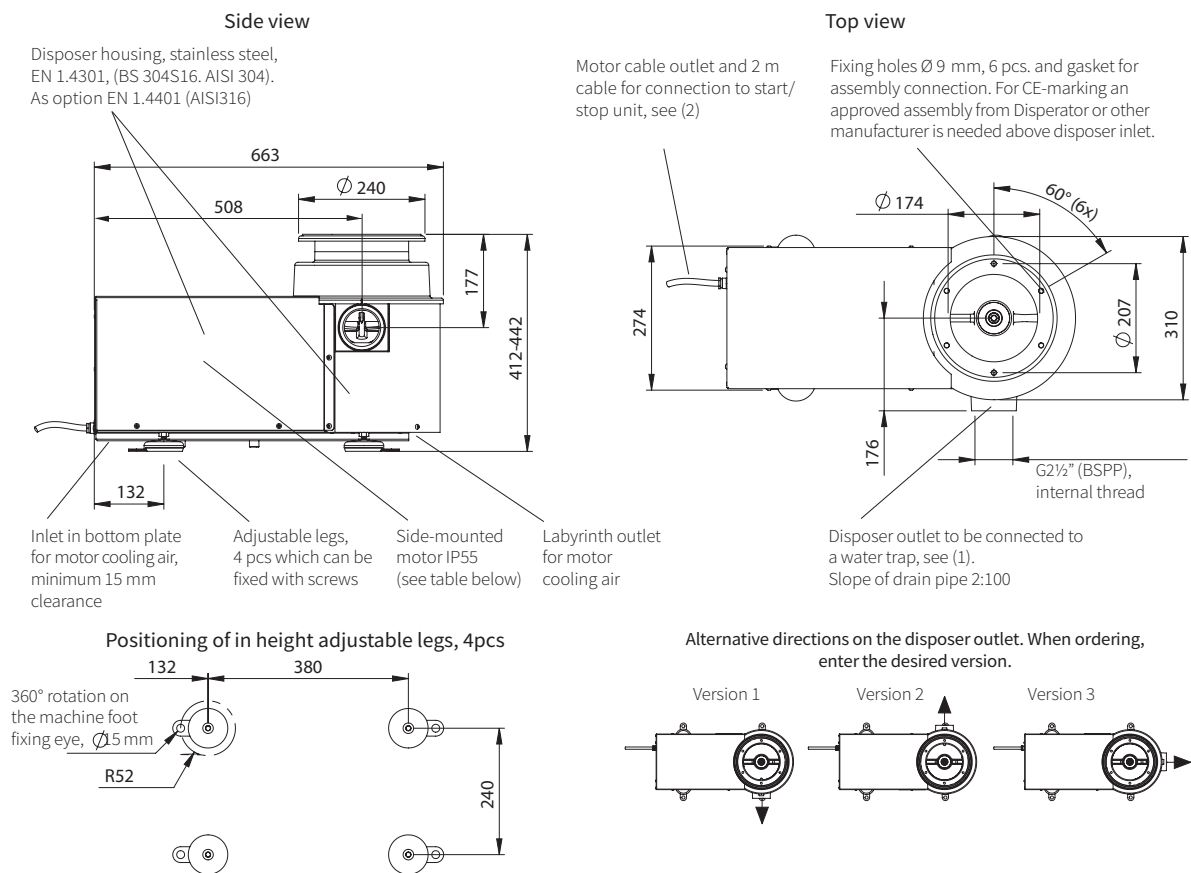
Our product range is designed with the user's needs in focus and meets today's requirements for handling of food waste. The high-quality grinding unit of specially alloyed steel together with the unique and well-proven sealing design between the grinding unit and motor provides the user with many years of operational reliability and low maintenance cost. The disposer's life span is extended further by the outer housing of stainless steel EN 1.4301 (AISI 304) and protection class IP55 for electrical components as standard.

The wide range of disposer sizes, and where each size fits all models of assemblies, makes it easy to customize each installation of disposer to fit all workplaces in kitchens onshore as well as at sea. The Excellent 500-Series disposers may be installed under sinks and washing lines, into tabletops and working benches or as freestanding separate units. Installation into an existing kitchen furniture manufactured by another supplier is also possible. For CE-marking an approved assembly with protection above disposer inlet is needed from Disperator or other manufacturer.

Standard delivery includes a complete start/stop unit with contactor and motor overload protector, and a complete solenoid valve with line strainer, which for some of the assembly models need to be installed and connected on site in the kitchen. Cold water will automatically flow when the disposer starts, flushing the food waste into the grinding chamber, and then into the sewer system or a storage tank.

Food waste disposers within the Disperator Excellent-Series have the Declaration of Compliance issued by DNV, verifying compliance with applicable sections of IMO MARPOL consolidated edition 2017 ANNEX V for disposal of ground food waste into the open sea

## 3.2. Technical Specification



All measurements in mm

Technical specification 530V-BASIC	
Normal capacity, kg / hr	700
Electrical power, kW	2,5
Rated current, A to be set on the disposer motor protector for the following voltages:	
400 V / 3 ph. / 50 Hz	5,0
440 V / 3 ph. / 60 Hz	5,0
Other 3-ph. voltages available.	
Control voltage	For marine installation the same as motor voltage. For land installation 230V / 50Hz.
Fuse rating, slow	16 A
Characteristic for automatic fuse	D (slow)
Gross / net weight, kg	89 / 57
The disposer works in the temperature range -5°C to +40°C	

Subject to change without notice

- (1) Installation material needed but not incl. in standard delivery are:
- main electrical safety switch placed on wall/bulkhead for incoming electricity,
  - hose with protective steel-covered stocking (minimum inner-Ø 9mm) for cold flush water,
  - vacuum valve for flushing water pipe when flushing nozzle in hopper is used,
  - water trap, G2½" (BSPP), external thread for connection to disposer outlet,
  - torque protection bar, 2 pcs. for fixing the machine in wall/bulkhead (as an alternative to fixing the legs in the floor/floorboard).
- Can be ordered from DISPERATOR.
- (2) For connection to start/stop unit including contactor and overload protector (IP66) placed on wall/bulk head. Start/stop unit to be connected to main electrical safety switch, see (1), but not to earth leakage circuit breaker.
- (3) User manual with installation and service instructions, laminated operating instructions and laminated safety instructions as well as electrical documentation are included in delivery.

## 4. Storage and Displacement

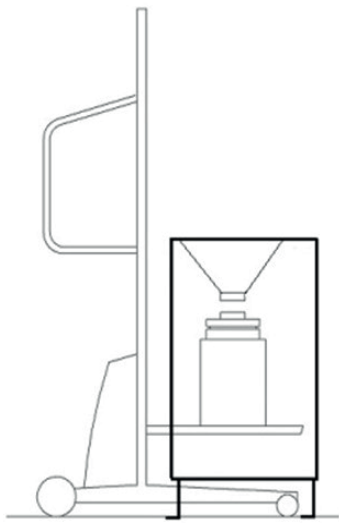
### 4.1. Storage of the Machine

If the machine will be stocked before installation and use the following applies:

- The machine should be stored in a dry and clean room where the relative humidity may not exceed 60%.
- Recommended storage temperature of -20 °C to + 60 °C.

### 4.2. Displacement of the Machine

The machine should not be lifted or moved by hand. During installation, we recommend using a pallet jack or forklift.




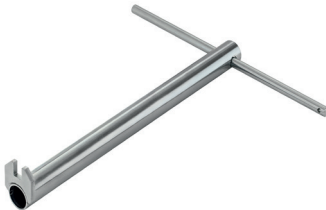
## 5. Included in Delivery

### 5.1. Documentation

- This User Manual
- Safety Instruction (laminated),
- Operating Instruction (laminated),
- Electric documentation (connection & wiring diagram and component layout diagram)

### 5.2. Food Waste Disposer

<p>Disposer with motor size and voltage according to the delivery note, including rubber gasket to be placed between disposer and cone</p>	
<p>Start/stop control unit including contactor with motor overload protector and control voltage according to the delivery note</p>	
<p>Complete solenoid valve G½" (BSPP), internal thread and coil with operating voltage according to the delivery note</p>	

<p>Line strainer G½" (BSPP), internal thread</p>	
<p>Jam release wrench, 1pc. for release of disposer grinding unit, if a non-grindable object by mistake happens to fall therein</p>	

## 6. Installation Description for the Machine

### 6.1. Assembly of the Machine

#### 6.1.1. Mounting the disposer in an Existing Assembly

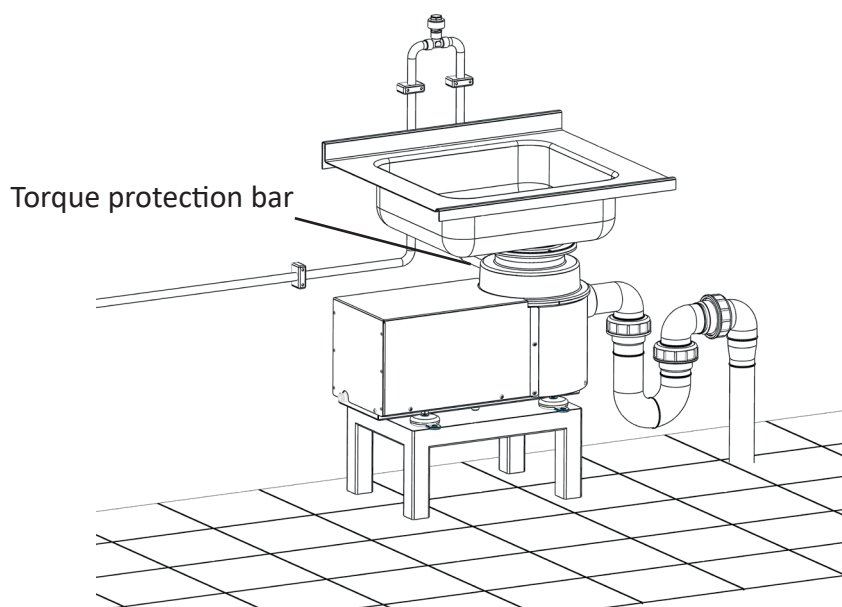
To minimize the risk of damage, at least two people must be present when the grinder is fixed to its assembly.

Measure the available clear height (X mm) between the mounting and the floor / floorboard. Adjust the four legs that are mounted on the disposer's mounting plate so that the disposer has the correct height. Correct height is obtained by removing 2 mm from height X.

When the disposer is in place, screw it on with the 3 mm rubber gasket between the disposer and the assembly. Tighten the screws (6 screws with nut) alternately and evenly until the rubber gasket is compressed a few millimetres.

#### 6.1.2. Fixation of the Machine

If the disposer can turn in the assembly, or if it is placed freely, for example next to a peeling machine, the machine must be fixed with a torque protection bar against the wall / bulkhead according to the figure below. When starting or stopping quickly when stuck (for example if cutlery accidentally ends up in the disposer), the engine torque can otherwise turn the disposer so that the outlet pipe / water trap is upset out of position and there is a risk of leakage. If the torque protection bar is not suitable due to too great a distance to the shot, the feet can be welded directly to the floor. If torque protection bar cannot be arranged at the installation site, it is available as an option at Disperator.



#### 6.1.3. Protective lid Connected to Interlock Switch

To comply with the CE mark, the disposer inlet must have an interlock switch connected to a protective lid mounted above the feed inlet, or similar safety device.



## 6.2. Connection of flushing water

For the machines ordered for connection to flushing water according to the requirements of standard EN 1717 (in the UK also WRAS), or to be installed in countries where this standard must be complied with, the machine's draft flushing water is delivered according to these requirements to prevent contamination by suction in drinking water pipes.

This standard EN 1717 defines five liquid categories that are or could come into contact with drinking water. Category 5 is the category with the highest protective requirements and which applies in all kitchens where food is handled, regardless of whether food waste management equipment is there or not. If stated when ordering, all Disperator's machine models can be delivered in accordance with the requirements for category 5, ie. the category with the highest protection against contamination of drinking water pipes.

Connection of flushing water to the delivered machine may only be carried out by a qualified VA installer and in accordance with current local VA regulations. DISPERATOR takes no responsibility for, according to standard EN 1717, a machine that is incorrectly connected to the drinking water line.

The machine's automatic rinsing water control is to be connected to cold rinsing water (hot water is not needed).

### 6.2.1. Water pipe DN15

To provide the correct amount of flushing water to the machine, the incoming water pipe (incl. accessories and protection devices against suction, cut-off valves, etc.) must have the same dimension as the connection to the machine assembly, ie. DN15. No throttling may exist up to the flushing water connection on the machine.

### 6.2.2. Line Strainer DN15 and Solenoid Valve DN15

The delivered line strainer, DN15 must be mounted in the flow direction before the solenoid valve, DN15 in the incoming cold water pipe to the machine. Also make sure that the line strainer and solenoid valve are mounted in the correct flow direction (see the arrow on these components), and that the nut on the line strainer (which is to be opened when cleaning the line strainer) is directed downwards. Line strainer and solenoid valve have G½" (BSPP), internal thread.

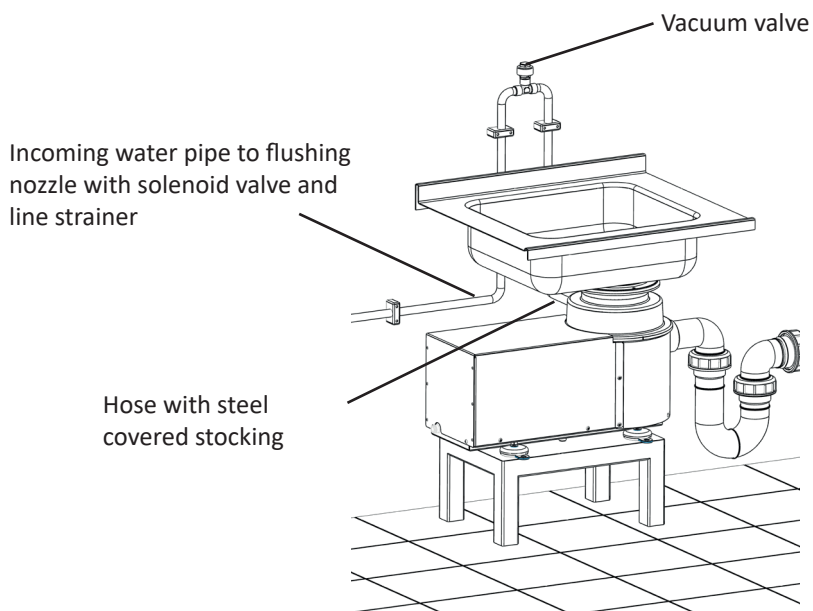
For funnel mounting that is welded into other manufacturers' table tops / workbenches, and for freestanding cabinet and table mounting, these components are pre-assembled from the factory on the assembly for connection to cold water supply. Connection to these assemblies is R½" (BSPT), external thread.

### 6.2.3. Hose with Protective Steel-Covered Stocking for Flushing Water, minimum inner-Ø 9 mm

Between the incoming water pipe mounted on the wall/bulkhead, and the connection for flushing water on the machine assembly, a hose with protective steel-covered stocking (with minimum inner-Ø 9 mm) must be fitted. This hose absorbs the compressive push in the pipe when the flushing water is turned on and absorbs any small vibrations which may occur during the grinding process of the disposer. This hose is not included in standard delivery but is available as an option from Disperator.

## 6.2.4. Other orders / installations for which standard EN 1717 does not apply

In cases where standard EN 1717 does not apply (eg countries outside the EU or marine installations) it is still recommended that a vacuum valve (non-return valve), G½" (BSPP), be installed on top of the lyre-shaped incoming water pipe according to the figure below. The vacuum valve protects the water pipe against re-suction in the event of overflow. Vacuum valve is not included in standard delivery but can be ordered as an option from Disperator.



The picture above shows an example of the location of a vacuum valve above a standard installation of a cabinet.

## 6.3. Connection of Machine Outlet to Water Trap and Sewer Pipe

Connection of water trap and sewer pipe to the delivered disposer must be done by an authorized installer of sewer supply and in accordance to valid local regulations. The water trap is not included in standard delivery but is available as an option from Disperator.

### 6.3.1. Dimensions

The water trap and the sewer pipe must have the same dimensions as the outlet flange of the disposer (i.e. DN50 for models 510, 515 and 520, and DN65 for models 530, 550 and 575), in order to allow free wastewater flow from the disposer. No throttling in the water trap and sewer pipe may exist.

### 6.3.2. Depth and Threshold of Water Trap

The depth of the water trap (measurement "d" in figure below) must be as small as possible in order to obtain the best possible flow with the largest amounts of food waste. The water trap must also be deep enough, so that the water threshold "d1" is approximately 100 mm for models 510, 515 and 520 and approximately 160 mm for models 530, 550 and 575.

### 6.3.3. Curves and Bends

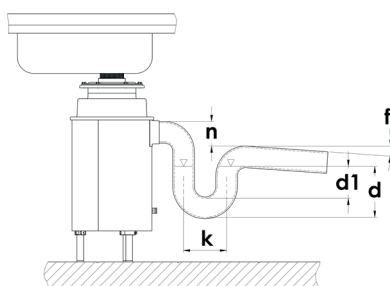
The water trap, and all bends in the sewer pipe, must be drawn without sharp bends or curves, according to local standards. The distance "k" in the figure below must be 100-120 mm for models 510, 515 and 520 and 130-150 mm for models 530, 550 and 575.

### 6.3.4. Level Difference of Water Trap

The level difference (measurement "n" in figure below) must be at least equal to the inner sewer pipe diameter, which is dependent on the wall thickness of the water trap (however approximately 50 mm for disposer models 510, 515 and 520 and approximately 65 mm for models 530, 550 and 575).

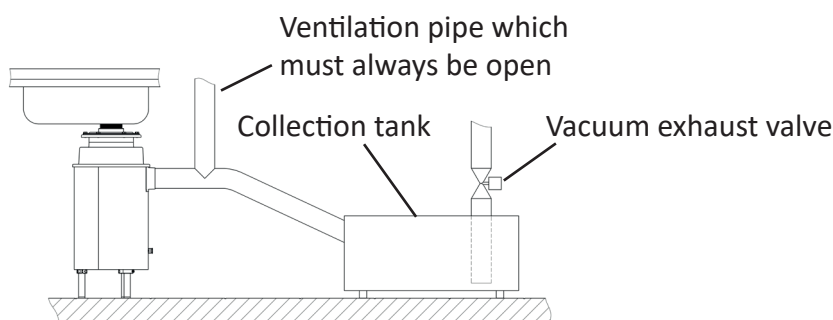
### 6.3.5. Slope of Sewer Pipe

The inclination of the sewer pipe (measurement "f" in figure below) should normally be 2:100 (minimum 1,5:100, maximum 3:100). Horizontal sewer pipes must always be avoided. Also greater inclination than mentioned above must be avoided, as the water then flows faster and away from the waste.



### 6.3.6. Vacuum Evacuation

For installations where the disposer is evacuated by means of a vacuum, a water trap must not be connected to the outlet of the disposer. Instead, the disposer is connected directly to the collection tank of the vacuum system. It is important that the sewer pipe, between the disposer and the collection tank, has a ventilation pipe that is always open (as shown in the figure below). A ventilation pipe must be fitted even if the collecting tank has automatic airing.



We emphasize that all users of vacuum evacuation are recommended to use an air inlet between the outlet of the disposer and the vacuum valve to reduce the risk of the grease content of the disposer's sealing packings being emptied during the vacuum evacuation.

As a complementary offering for those customers who do not accept an open-air inlet pipe, certain customers are using the solution described below, specifically with disposer for batch processing, such as the Disperator models MI hoppers and MB cabinets. In addition, we give the following alternative recommendation on the requirements for vacuum evacuation systems:

To prevent the seals from running dry, an automatic aeration valve can be installed in the line between the disposer outlet and an automatic vacuum valve. This vent valve opens at a certain pressure difference against an adjustable spring force and has a certified flow rate during evacuation. As soon as the vacuum valve closes, the air inlet valve also closes. The valve protects seals, carrier, and motor, blocks bad odors and avoids operating errors. This recommendation ensures that the service life of the disposer is maximized with regular maintenance.

## 6.4. Electrical Connection

The electrical connection of the delivered machine must be done by an authorized electrician and in accordance to valid local regulations.

The wiring made at the factory, and the electrical connections to be done during installation, are shown in the electrical wiring diagram attached to this manual. The machine's specific electrical data are given in this manual, section 3.2 above, as well as on its serial number plate located on its outer cover (in cabinet assemblies there is also an additional plate inside the cabinet).



### 6.4.1. Supply Voltage

Check that the supply voltage to be connected corresponds to the specified voltage on the machine's serial number plate.

### 6.4.2. Mains Fuses

Check that the supply voltage for the delivered machine is fused and protected as specified in section 3.2 of this manual.

### 6.4.3. Wall/Bulkhead Mounted Electrical Security Breaker

A separate wall / bulkhead mounted main electrical security breaker (circuit breaker) must be connected in the incoming power line to the machine. The electrical security breaker is not included in standard delivery but is available as an option from Disperator.

### 6.4.4. Cable Dimension

Use connection cable having 1.5 mm<sup>2</sup> wires for machines having a rated current up to 14A. For machines having a rated current above 14A, use 2.5 mm<sup>2</sup> wires. The rated voltage and current is specified on the machine's serial number plate.

### 6.4.5. Cable Protection

All electrical cables must be protected against damage by being securely fastened, for example to kitchen furniture or wall/bulkhead. If there is a risk that the cables can be damaged, for example by passing trolleys, then the cables must be protected by a flexible sleeve or conduit. The cables must never be kept on the floor/floor plate.



### 6.4.6. Earth Wire

- a) The earth wire must be longer than the main voltage wires, when connecting to the cable terminal block. This gives earth protection in case the voltage wires become unfixed in the cable nipple, allowing them to be pulled from their terminals.
- b) The machine must not be connected via residual current device, RCD (also called earth leakage circuit breaker). The reason is that the currents in all 3-phase motors during start-up are out of balance until the motor comes up to speed, why the RCD without intended reason will trip. Note also that when the machine's electrical connection is permanently installed through a wall / bulkhead mounted electrical security breaker (see item 6.4.3. above), usually under current rules in most countries no RCD is required.



### 6.4.7. Direction of Rotation for the Disposer

The disposer operates correctly irrespective of the motor's rotational direction. It is therefore irrelevant in which sequence the electrical phases are connected to the disposer motor.

## 6.5. Start Up and Final Testing

Fasten the laminated operating and safety instructions (included in delivery) in a place on the wall / bulkhead where they are easily seen by the operator before the start of the machine.



### 6.5.1. Check before Start Up

Disconnect the power on the main electrical security breaker (placed on the wall/bulkhead) and lock it with a padlock if you need to leave the machine before this section 6.5 is completed.

Check that the rotary shredder in the inlet opening of the disposer turns freely 360° in both directions by hand, and make sure that no foreign object has been dropped into the grinding unit during installation.

### 6.5.2. Checks during Start Up

- a) Start the disposer and determine that the grinder rotate.
- b) Check for automatic flushing water. The water should come directly when starting the machine.
- c) Check assembly, flushing water connections and drain connections for possible leaks.
- d) Make sure that the safety interlock switch works properly according to section 6.4.8 above.

### 6.5.3. Final Measures

If the machine fails to operate, see section 8.3. "Trouble shooting" in this manual.

Before the documentation and the jam release wrench for the disposer grinding unit are handed over to the staff responsible for the machine in the kitchen/ galley, instruct this staff about the operation and daily maintenance of the machine, especially about what is said under section 7 and 8 of this manual.



## 7. Safety Instructions

### **Read these safety instructions before using the machine!**

1.



#### 1.1 For continuously fed machine with open inlet for food waste

- There is a rotating disc under the machine inlet for food waste. Do not insert hand into this inlet when the machine is running.
- Use protective goggles when bones and silmilar types of hard food waste are fed into the machine.

#### 1.2 For batch fed machines with tightly sealed top cover above the inlet for food waste

There is a rotating disc under the machine top cover. Do not open this protective cover when the machine is running.

2. If the machine is running even though the interlock (protective cover) above the machine inlet is open, press the red stop button, disconnect and lock the main electrical safety breaker on the wall/ bulkhead with a padlock, and call for service.



3.

During all overhaul and service work on the machine, the main electrical safety breaker on the wall/bulkhead must be locked in the OFF-position with a padlock.

4.



Depending on how the machine is assembled to the surrounding kitchen/galley furniture, it may emit a noice level of more than 70dB(A). Use hearing protection when bones and sililar types of hard food waste are fed into the machine.

5.

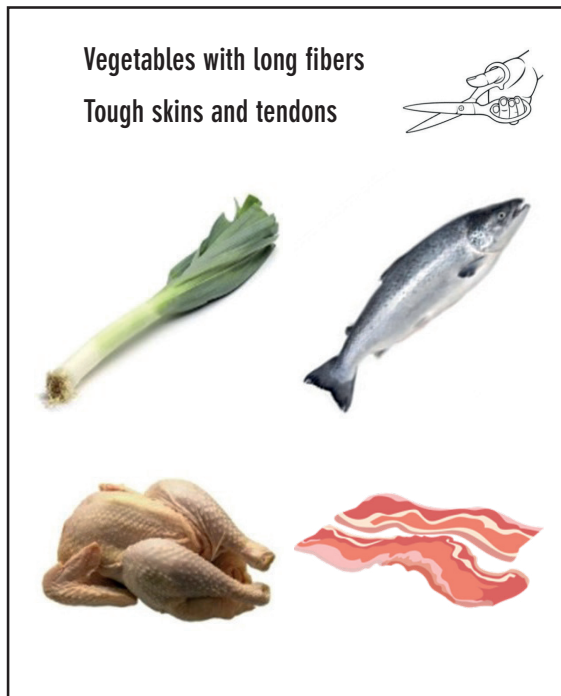


Immediately press the red stop button if e.g. cutlery or other non-grindable items are found in the food waste or accidentally are dropped into the machine, or if unfamiliar noises are heard. See section 8.3, "Trouble shooting" in the user manual.

## 8. Operating Instructions

**The machine is intended for collection of food waste only!  
Also note the following:**

1. Food waste that is difficult to grind, such as vegetables with long fibers, tough fish skins and sinewy meat, should when being fed into the machine be divided into pieces of 3-5 cm (1-2 inch) and mixed with other food waste.



2. Dry and sticky food waste (such as steamed rice, pasta, mashed potatoes, bread) should soak in water before being fed into the machine.



For processors in the GTS-series, extra flushing water can if needed also be added by pressing the blue button.

3. Hard shells in various forms (e.g. from clams, oysters, crabs etc.) must not be fed into the machine as it among other things causes drainpipe blockages.



Also larger amounts of eggshells must not be fed into the machine as it also causes drainpipe blockages.



- 4.1 For continuously fed machines with open inlet for food waste and having a motor power of 2.5kW or more, also larger amounts of bones, and larger sized bones, can be mixed with other food waste when being fed into the machine.



- 4.2 For batch fed machines of 2.5kW or more, and with tightly sealed top cover above the inlet for food waste, also any single larger sized bone can be mixed with other food waste when being fed into the machine.



## 8.1. Start and stop



1. Press green button (1) – disposer and flushing water starts
2. Feed food waste into disposer in an even and continuous manner.
3. When the grinding is completed the disposer motor's idle sound is heard.
4. Wait for 15 secs. Press red stop button (0) – disposer and flushing water stops within 5 secs.

## 8.2. Daily cleaning of the disposer

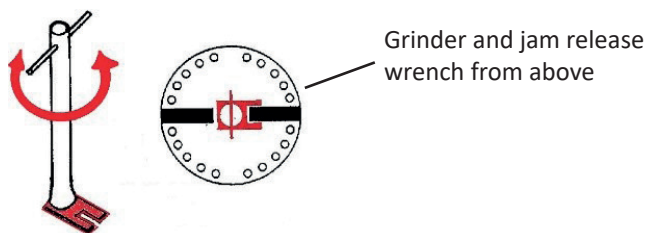
1. Press green button (1) – disposer and flushing water starts. Flush clean sink/washing line in which the disposer is mounted.
2. Press red stop button (0) – disposer stops within 5 secs.
3. Use main electrical safety breaker placed on the wall to disconnect electrical supply. Lock the breaker with a padlock if you temporarily need to leave the disposer before cleaning is completed according to step 6 below.
4. Use protective gloves.
5. Clean sink/washing line. Use a mild detergent if necessary.
6. Connect the electrical supply on the main electrical safety breaker placed on the wall.
7. Press green button (1) to start and empty the disposer from waste and water.
8. Press red stop button (0) – disposer stops within 5 secs.

## 8.3. Trouble Shooting

### 8.3.1. Disposer Reduces Speed, Stops or does not Start

A humming sound might be heard from the disposer motor

1. Press the red stop button (0).
2. Use the main electrical security breaker placed on the wall/bulkhead to disconnect electrical supply. Lock the breaker with a padlock if you temporarily need to leave the machine before step 11 below is completed.
3. Use protective gloves. Open the protective cover above the disposer inlet. Check if something is jammed in the disposer grinding unit.
4. If something is jammed, place the jam release wrench on the center washer. The recess on the lower plate of the wrench should grab one of the two bars on the disc of the grinding unit, see picture below.

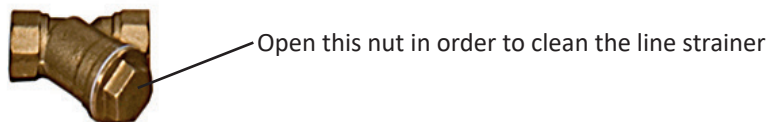


5. Release the disc of the grinding unit by rotating the wrench backwards and forwards until this shredder disc rotates freely a complete turn in both directions. If needed, extend the bar on the wrench and hit the bar with a hammer/rubber mallet.
6. Remove the jam release wrench.
7. Remove any non-grindable object from the disposer grinding unit, e.g. cutlery.
8. Close the protective cover above the disposer inlet, and make sure that it is completely closed. Also make sure that the related interlock switch connects.
9. Check wall fuses/automatic breakers. Change/reset if needed.
10. Reset motor overload protector by pressing in the red button (0) on the start & stop unit.
11. Connect the electrical supply on the main electrical security breaker placed on the wall/bulkhead.
12. Press the green button (1) to start and empty the machine.
13. Press the red button (0) - the machine stops.



### 8.3.2. Machine Starts but there is no Flushing Water

1. Is the shut off valve in the water supply pipe open? If not, open this valve.
2. Is a clicking sound heard when activating the solenoid valve (starting the machine)? If not, change the coil.
3. Is the line strainer clogged? Turn off water supply, open nut on strainer and clean. Close nut on strainer carefully without damaging the seal, and make sure it is tight when the machine is restarted.



4. Have timer relay settings been changed by mistake, or is timer out of order?

### 8.3.3. Machine does not Start and makes no Sound

1. Check that the protective cover above the disposer inlet is in place and properly closed.
2. Check that the main electrical security breaker on the wall/bulkhead is in ON-position.
3. Make sure the wall fuses / automatic breakers are in order and switched on.
4. Check that the motor overload protector for the disposer is reset by pressing in the red button (0) on the start & stop unit.

If the fault cannot be remedied, please contact authorized service personnel or Disperator AB / local representative. Always provide the machine's serial number when contacting Disperator.

## 9. Service Instructions

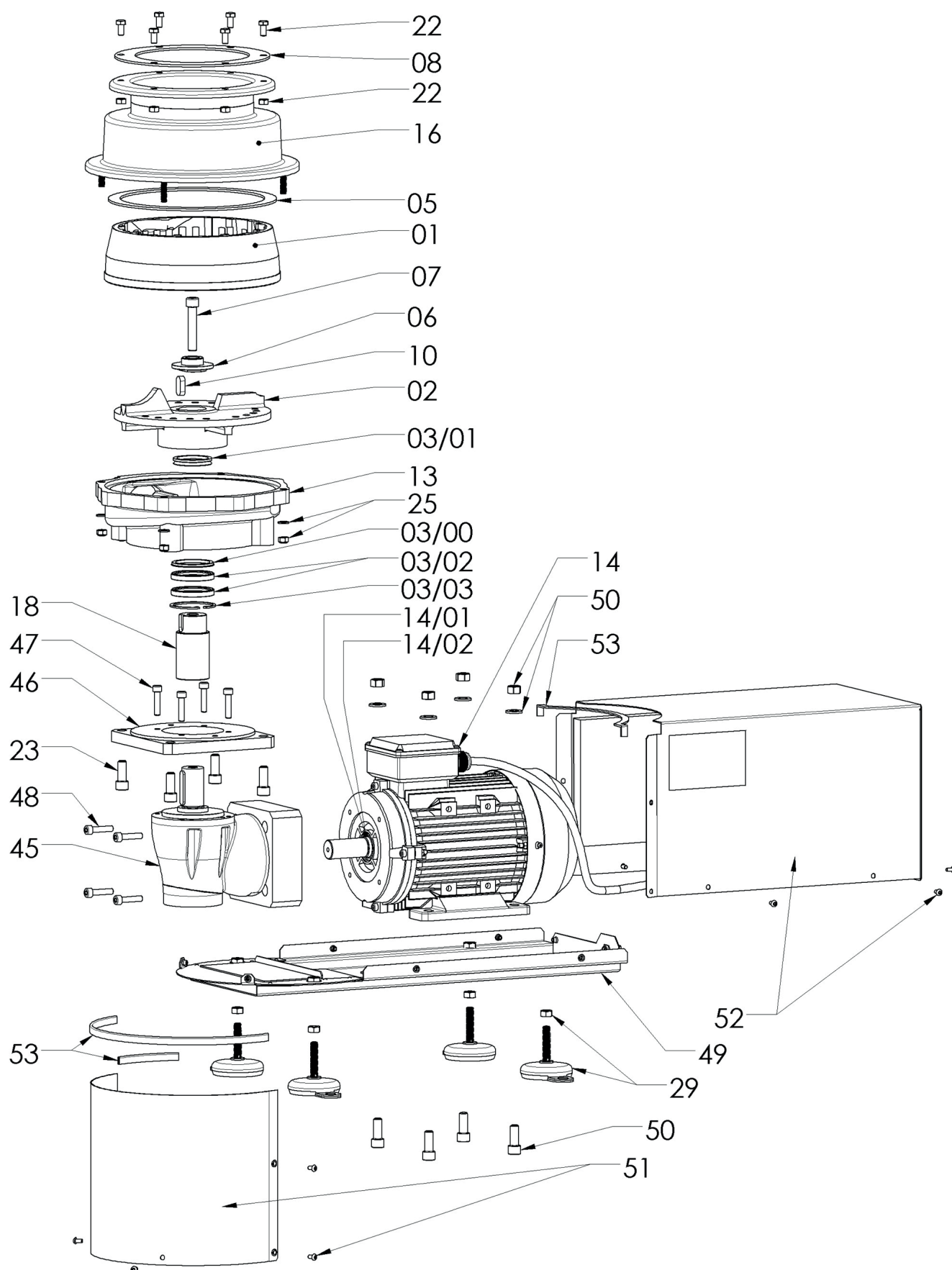
### 9.1. Authorization

Disconnection and reconnection of the machine to incoming water & sewer service and electricity may only be carried out by authorized personnel and in accordance with valid local regulations.

Upon delivery of the machine, its electrical documentation is attached to this user manual.



## 9.2. Exploded Views and Spare Parts List for the Disposer



**SERVICE PACKAGE 1 - Parts to be replaced during disassembly and for overhaul maintenance**  
**The parts in service package 1 are not sold separately**

Spare Part No:	Qty:	Denomination:
03/00	1	Washer for V-ring seal
03/01	1	V-ring seal
03/02	2	Axel seal with stainless spring
03/03	1	Locking ring, SgH
05	1	Seal for stationary shredder
07	1	Axel screw
08	1	Seal for hood flange
10	1	Key for carrier
22	6	Screw and nut for mounting the disposer
23	4	End shield mounting screw
25	4	Nut and washer for hood assembly
Not depicted parts		
04	1	Special grease for seals and carrier
09	1	Rubber sealing compound

**SERVICE PACKAGE 2 - Parts that together with parts in SERVICE PACKAGE 1 must be replaced due to wear**

Spare Part No:	Qty:	Denomination:
01	1	Stationary shredder
02	1	Rotary shredder
03/00	1	Washer for V-ring seal
03/01	1	V-ring seal
03/02	2	Axel seal with stainless spring
03/03	1	Locking ring, SgH
05	1	Seal for stationary shredder
06	1	Axle washer
07	1	Axel screw
08	1	Seal for hood flange
10	1	Key for carrier
18	1	Carrier
22	6	Screw and nut for mounting the disposer
23	4	End shield mounting screw
25	4	Nut and washer for hood assembly
Not depicted parts		
04	1	Special grease for seals and carrier
09	1	Rubber sealing compound
18/02	1	Disassembly screw for carrier

**OTHER PARTS - Parts that should be replaced as needed**

Spare Part No:	Qty:	Denomination:
13	1	End shield
14	1	Motor
14/01	2	Axle seal, 1 pcs. motor drive side, 1 pcs. motor fan side
14/02	2	Bearing, 1 pcs. motor drive side, 1 pcs. motor non drive side
16	1	Hood
29	4	Adjustable leg
45	1	Right-angle gear
46	1	Adapter plate
47	4	Screw for mounting the adapter plate
48	4	Screw for mounting the right-angle gear
49	1	Mounting plate
50	4	Screw, nut and washer for motor
51	1	Housing above right-angle gear, incl. sound damping and mounting screws
52	1	Housing above motor, incl. sound damping and mounting screws
53	1 set	Rubber strips for housing over right-angle gear and housing over motor
<b>Parts depicted on the next page</b>		
08/1	1	Noise damping seal (alternative to spare part No. -08)
35	1	Solenoid valve, ½" BSP, Female incl. coil, cable plug and fixing washer
36	1	Coil for solenoid valve
37	1	Line strainer, G½" (BSPP), internal thread
38	1	Start/stop unit including contactor with motor overload protector
38/1	1	Contactor with coil
38/2	1	Start contact
38/3	1	Motor overload protector
39		Timer
<b>Not depicted parts</b>		
28	1	Torque protection bar for fixing disperator to the wall / bulkhead
31	1	Jam release wrench for rotary shredder

**Always state machine serial number and spare part number (see above) when ordering spare parts.**

**NOTE! That the correct quality and strength of all nuts and screws used are important.  
Disperator can not guarantee the safety if other screws and nuts than those ordered from us are used.**

		
08/1	35	36
		
37	38	38/1
		
38/2	38/3	P39

## 9.3. Overhaul of Protection Cover with Switch, Assembly and Connections

The below designations within brackets refers to the position numbers on the exploded view drawing with associated spare part list of the disposer in section 9.2.

The following checks of the machine must be done in accordance with the table in section 9.6, "Overhaul and Maintenance Intervals" – i.e. make sure that:

- all screws and nuts (22) between disposer and assembly are tightened and in good condition,
- disposer connection to the sewer pipe is sealed and fixed,
- the flushing water connection for disposer is sealed and fixed,
- all cable glands are tight and fixed,
- the disposer is securely fixated either to the wall/bulkhead or the floor/floor plate.

## 9.4. Dismantling of Disposer

The below designations within brackets refers to the position numbers on the exploded view drawing with associated spare part list of the disposer in section 10.2.

1. Use the main electrical security breaker on the wall/bulkhead to disconnect electrical supply and lock the breaker with a padlock.
2. Disconnect the disposer connection cable from the contactor motor overload protector.
3. Disconnect the drain pipe from the outlet of the end shield (13). The easiest way to do this is to unscrew the water trap.
4. Loosen the disposer from the torque protection bar (28, if any), and then the disposer from the assembly (6 nuts, 22). Carefully remove the disposer from the table.
5. Remove the housing above the motor (52) and housing above the right-angle gear (51).
6. Loosen 4pcs. nuts (25) and remove the hood (16). These 4 pcs. of nuts (25) must be replaced when reassembly as they are locknuts. Remove the seal (05) on the stationary shredder. This seal must always be replaced before reassembly.
7. Pry the stationary shredder (01) loose from the end shield (13) using a crowbar that levers against the large tooth on the inside edge and is supported by the rotary shredder (02) close to one of the two shredder blades. See photo below.

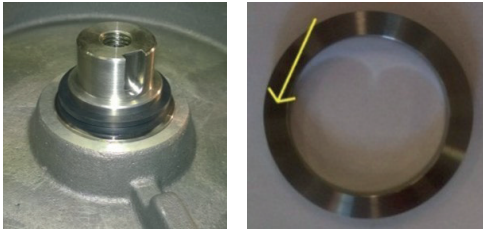


8. Loosen the axle screw (07). If the rotating shredder (02) keeps turning, and cannot be held still manually, use a pipe wrench to hold one of its shredder blades.
9. Remove the rotary shredder (02) by placing two crowbars opposite one another under the edge of the shredder, supported by the side of the end shield (13). See photo below.





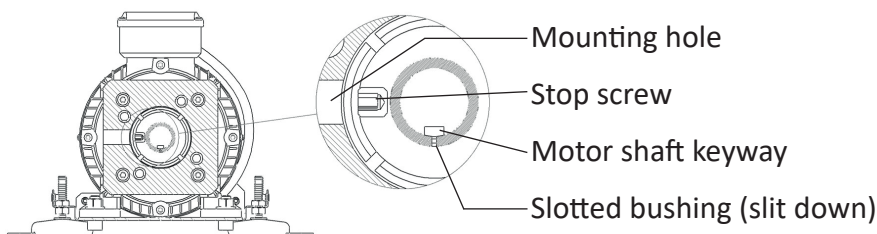
10. Remove the V-ring seal (03/01) and loosen the 4 fixing screws (23) of the end shield (13). Remove end shield. Inspect the washer (03/00) for possible wear caused by the V-ring seal. Replace the washer if necessary.



11. Turn the end shield (13) upside down and remove the locking ring (03/03) by means of a circlip pliers. See photo below. With some adequate protection in between (e.g. a piece of wood as in the below photo), apply pressure to the washer (03/00) in order to get the two axle seals (03/02) out. After this disassembly, check the sealing surface of the washer again. Inspect the carrier surfaces of the axle seals (18). During normal operation, two smaller grooves are created in the carrier. If the grooves are noticeable, asymmetrical or more than two, replace the carrier.
12. Terminate dismantling here if carrier (18), right-angle gear (45) and motor (14) are not to be replaced. Start the reassembling of the disposer from section 10.5.12 below.  
**The V-ring seal (03/01) and the two axle seals (03/02) with special grease (04) together with stationary seals (05) and (08) must be replaced at each dismantling.**
13. In Service Package 2 a disassembly screw (18/02) for the carrier (18) is included. Use this screw on top of the carrier and screw it down. This will remove the carrier from the motor axle. If needed, use the rotary shredder (02) as a handle to prevent the motor axle from rotating.
14. Read the enclosed right-angle gear manual before disassembling the right-angle gear from the motor.

## 9.5. Assembly of Disposer

1. Clean all components carefully. Wipe the surface of the motor and the right-angle gear. Also wipe the motor axle and the slotted bushing in the right-angle gear so that they are clean. If a new motor has been mounted, make sure that motor axle key is removed, check that the motor axle is not damaged, if there are degrees, carefully remove them.
2. Turn the axle of the right-angle gear so that the stop screw is in the middle of the mounting hole. With the stop screw in this position, make sure that the slotted bushing is at the bottom and turned according to picture below.



3. With the motor in the horizontal position, turn the motor axle so that the keyway is in the middle of the slot in the bushing. Motor axle and bushing must be free of grease.
4. Move the right-angle gear if it does not slide easily, loosen the stop screw further. Note, the motor must be in a horizontal position when doing this, otherwise there is a risk that the bushing will not end up in the correct position.
5. Fit the four screws (48), use thread locking fluid (Loctite 243), tighten the screws crosswise with torque 17 Nm.
6. Then tighten the stop screw to 45 Nm. Install the plastic plug in the mounting hole.
7. Mark the bottom position of the carrier (18) on the axle of the right-angle gear, 54 mm from the top of the axle.
8. Make sure that the axle key is in the correct position. Lubricate a thin layer of Disperator special grease (04) on the axle of the right-angle gear.
9. Wipe the inside and outside of the carrier (18).
10. Gently mount the carrier (18). Press the carrier to the mark (54 mm) on the right-angle gear axle. If the carrier cannot be pushed all the way by hand, axle screw (07) is used as a push-down tool. Use the rotary shredder as a handle to prevent the carrier from rotating.
11. Mount the adapter plate (46) with the four screws (47), tightening torque 17 Nm.
12. Wipe the inside of the axle seal (03/02) on the end shield (13).
13. Place the washer (03/00) in the end shield with the flange facing towards the right-angle gear.
14. Grease the sealing face of end shield (13) with special grease (04).
15. The seals shall be placed with the groove and stainless spring upwards towards the washer (-03/00). To avoid damaging the seals (03/02, 2pcs) press each seal one at the time into position using a tool that has the same outer diameter as these seals.
16. The seals are fixated by fitting the locking ring (03/03) into the groove in the end shield (13). Tap on this ring to ensure that it is seated properly in the groove in the end shield.
17. Grease the axle seals (03/02) and pack the space between the two seals with special grease (04). Use a soft brush.



18. Apply a thin layer of special grease (04) on the carrier (18). Use a soft brush.
19. Fit the end shield (13) with the outlet facing in the same direction as the connection box on the motor. Care should be taken not to damage the lips of the axle seals. Tighten all four screws (23), the torque should be 81Nm.
20. Grease the V-ring seal (03/01) and washer (03/00) using special grease (04). Fit the V-ring seal over the carrier (18) with the seal lip against the washer (03/00).

21. Fix the carrier key (10) with grease (04).



22. Wipe the axle hole in the rotary shredder (02) clean. Also make sure that the mating surfaces on the end shield (13) and the stationary shredder (-01) are clean.  
23. Fit the rotary shredder (02) on the carrier (18).  
24. Wipe the carrier (18) clean from excess grease.  
25. Apply a layer of rubber sealing compound (09) over the joint between shredder and carrier axle. Make sure that the thread is free from sealing compound.  
26. Fit the washer (06) and tighten the axle screw (07), make sure that sealing compound is clamped between the axle washer and around the entire head of the shaft screw. The torque should be 57Nm.  
27. Apply a thin continuous string of rubber sealing compound (09) in the seat of the end shield (13).



28. Carefully position the stationary shredder (01) with the large tooth at the outlet of the end shield (13).  
29. Tap the stationary shredder (01) with a plastic hammer to fix it in the end shield (13) and make sure that the stationary shredder is in the correct place.  
30. Secure the stationary shredder (01) to the end shield (13) by hammering 6 punch marks around the joint between these two articles.



31. Put the rubber seal (05) on the stationary shredder (01). Make sure that it is centered.



32. Wipe the surface of the hood (16) that faces the rubber seal clean.  
33. Carefully fit the hood (16) so that its outside arrow mark is positioned centrally to the waste outlet on the end shield (13).

34. Secure the hood with 4 washers and 4 new lock nuts (25) The torque should be 21 Nm.
35. Mount hood over right-angle gear (51) and hood over motor (52), make sure that rubber strips (53) are placed correctly.
36. The disposer is now ready to be remounted.
37. Make sure that the seal for the hood (08) is placed correctly before you move the disposer into place. Use 6pcs of screws and nuts (22). See section 6.1.1 for the correct procedure.
38. Reconnect drain piping according to section 6.3. Make sure that the disposer is securely fixated so it can withstand the start torque and the torque which occurs if the disposer ever gets stuck (see section 6.1.2). Connect the electricity according to section 6.4.
39. Start up the disposer according to the startup procedure described in section 6.5.

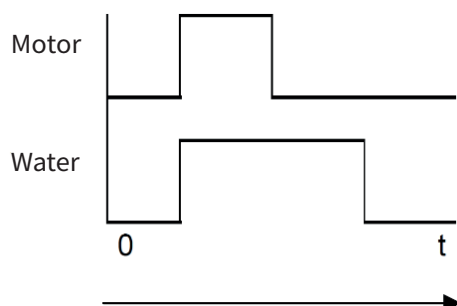
## 9.6. Timer control and Settings

For cases where the machine comes installed with a timer. See below for timer function and settings that matches the machine.

### Timer control TIM-00-01-01

*For automatic stop of the waste disposer with a continued water flushing period afterwards.*

- The operator starts the disposer manually by pressing the start button. A timer regulates the simultaneous running period of the motor and flushing water. A second timer regulates the period the flushing water will continue to run after the period the first timer has stopped the disposer motor. The required running time for both timers are adjustable.
- By automatically extending the period that the water flows through the system after the waste disposer has stopped, flushed food residues are removed without manual monitoring. The operator can leave the disposer for other tasks immediately after starting the disposer.
- Timer control TIM-00-01-01, motor and control voltage must be specified when ordering.



### Settings

#### KM01

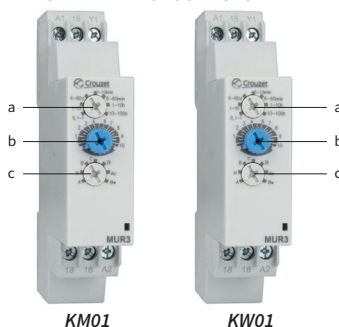
- a) TIMER RANGE: 1-10 min.
- b) TIME SETTINGS: 1 (1 min)
- c) TIMER FUNCTION: B

RUNTIME FOR DISPOSER AND WATER FLUSHING TIME CAN BE SET 1 – 10 min.

#### KW01

- a) TIMER RANGE: 6-60s.
- b) TIME SETTINGS: 3 (18s)
- c) TIMER FUNCTION: C

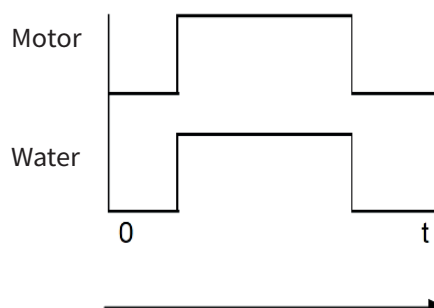
CONTINUOUS WATER FLUSHING PERIOD AFTER DISPOSER STOP CAN BE SET 6 – 60s.



### Timer control TIM-00-02-01

*For automatic shutdown of the waste disposer and flushing water.*

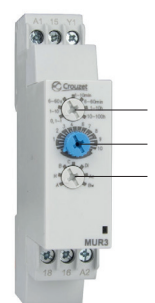
- The operator starts the disposer manually by pressing the start button. The pre-set timer regulates the simultaneous running of the disposer motor and flushing water. The required running time is adjustable.
- This function is helpful when the operator has to leave the waste disposer before the grinding process is complete.
- Timer control TIM-00-02-01, motor and control voltage must be specified when ordering.



### Settings

- a) TIMER RANGE: 1-10 min.
- b) TIME SETTINGS: 1 (1 min)
- c) TIMER FUNCTION: B

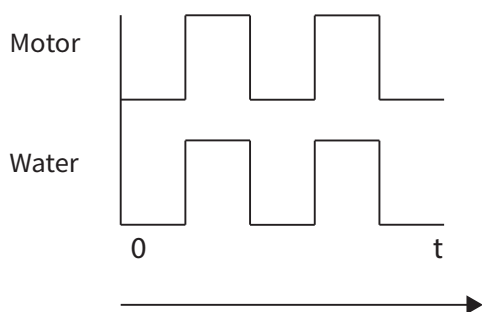
RUNTIME FOR DISPOSER AND WATER FLUSHING TIME CAN BE SET 1 – 10 min.



## Timer control TIM-00-03-01

*For repetitive run periods for the disposer and flush water.*

- The operator starts the disposer manually by pressing the start button. The motor and flushing water start and run simultaneously and at a preset interval in repetitive cycles. The function is stopped by pressing the stop button. Operation and pause intervals are adjustable and can be of different lengths.
- As the disposer is faster than the operator, this timer function is for example valuable in a dishwashing area, where the operator for a longer period is removing food waste from dishes. Among other things it saves fresh flushing water.
- Timer control TIM-00-03-01, motor and control voltage must be specified when ordering.



### Settings

#### **Ton**

a) TIME SETTINGS: 6-60

RUNTIME FOR DISPOSER AND WATER FLUSHING  
TIME CAN BE SET 0.1s - 100h.

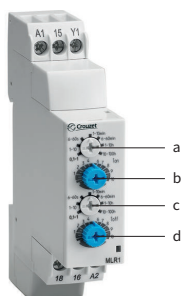
b) Ton: 5 (1-10 THE SCALE IN SECONDS) (6s x 5 = 30s).

#### **Toff**

c) TIME SETTINGS: 6-60

PAUSTIME FOR DISPOSER AND WATER FLUSHING  
TIME CAN BE SET 0.1s - 100h.

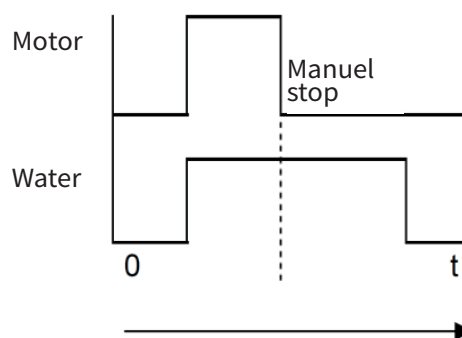
d) Toff: 5 (10 x THE SCALE IN SECONDS) (6s x 5 = 30s).



## Timer control TIM-00-04-01

*For automatic delayed stop of the flushing water after manually stopping the disposer.*

- The operator starts or stops the disposer manually by pressing the appropriate button. A timer regulates the period the water flushes after the operator has pressed the stop button.
- By automatically extending the period that the water flows through the system after the waste disposer has stopped, flushed food residues are removed without manual monitoring.
- Timer control TIM-00-04-01, motor and control voltage must be specified when ordering.



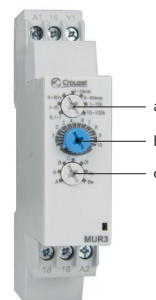
### Settings

a) TIMER RANGE: 6- 60s

b) TIME SETTINGS: 3 (18s)

c) TIMER FUNCTION: C

CONTINUOUS WATER FLUSHING PERIOD AFTER DISPOSER STOP  
CAN BE SET FROM 6 - 60s.



## 9.7. Overhaul and Maintenance Intervals

*For maintenance work, at least Service pack 1 is recommended.*

Description:	Interval:	Refers to:
Cleaning of the machine	After daily use	See section 8.2 in this user manual
Check of the line strainer in the flush water pipe	First time after a month use, then when needed	See section 8.3.2, item 3 in this user manual
General overhaul	First time after a month use, then once a year.	See section 9.3 in this user manual in terms of: <ul style="list-style-type: none"> <li>• Overhaul of protection safety,</li> <li>• Overhaul of assembly and connections,</li> <li>• Overhaul of all mechanical and electrical connections,</li> <li>• when needed, training of personal.</li> </ul>
Preventive service	Recommended every other year or if necessary.	<ul style="list-style-type: none"> <li>• General overhaul as above.</li> <li>• Servicepack 1 according to section 9.2.</li> </ul>
Replacement of parts due to wear	Recommended every three years or if necessary.	<ul style="list-style-type: none"> <li>• Preventive service as above.</li> <li>• Servicepack 2 according to section 9.2.</li> </ul>
Exchange of other parts	When needed	