

USER MANUAL**GLASS CRUSHER
550A-GKF EXCELLENT SERIES**

Product Description Installation Safety Operation Service

EC DECLARATION OF CONFORMITY

We, the manufacturer: **Disperator AB**
Mälarvägen 9
SE-141 71 SEGELTORP
Sweden
Phone: +46 - 8 724 0160
E-mail: info@disperator.se

hereby declare under our sole responsibility that the machinery,

Description: **Disperator Glass Crusher**
Model / type: **550A-GKF**
Place of origin: **Segeltorp, Sweden**

to which this EC-Declaration relates, fulfills all the relevant provisions of the Machinery Directive 2006/42/EC and the EMC-Directive 2014/30/EU.

The following harmonized standards have been used:

SS-EN ISO 12100:2010
SS-EN ISO 13857:2019
SS-EN 14120:2015
SS-EN 60204-1:2018
SS-EN 61000-6-2
SS-EN 61000-6-3

This declaration relates exclusively to the machinery in the state in which it was placed on the market, and excludes components which are added and/or operations carried out subsequently by the end user.

Segeltorp, Sweden, April 15, 2024
Disperator AB


Johan Anders Wahlström
CEO

Table of Content

1. Safety Precautions	6
1.1. Safety Signs	6
1.2. Personnel Qualifications and Training	7
2. Company Profile	8
3. Product Description and Technical Specification	8
3.1. Glass Crusher Model 550A-GKF	8
3.2. Technical Specification	9
4. Storage and Displacement	10
4.1. Storage of the Machine	10
4.2. Displacement of the Machine	10
5. Included in Delivery	11
5.1. Documentation	11
5.2. Food Waste Disposer	11
6. Installation Description for the Machine	13
6.1. Assembly of the Machine	13
6.1.1. Deployment of the Machine	13
6.2. Electrical Connection	14
6.2.1. Supply Voltage	14
6.2.2. Mains Fuses	14
6.2.3. Wall/Bulkhead Mounted Electrical Security Breaker	14
6.2.4. Cable Dimension	14
6.2.5. Cable Protection	14
6.2.6. Earth Wire	14
6.2.7. Direction of Rotation for the Disposer	14
6.2.8. Check of the function of the Safety Interlock Switch	15
6.3. Start Up and Final Testing	16
6.3.1. Check before Start Up	16
6.3.2. Checks during Start-up	16
6.3.3. Final Measures	16
8. Driftinstruktioner	18
8.1. Start and Stop	18
8.2. Daily Cleaning	18
8.3. Trouble Shooting	19
8.3.1. The Machine Reduces Speed, Stops or does not Start	19
8.3.2. The Machine does not Start and makes no Sound	19

9. Service Instructions	20
9.1. Authorization	20
9.2. Exploded Views and Spare Parts List for the Disposer	20
9.3. Overhaul of the Machine	23
9.3.1. Function Checks of the Interlock Switch (3/28 and 6/1)	23
9.3.2. Check of the Automatic Function for Collection of Glass Dust	23
9.3.3. Other Checks	23
9.4. Dismantling of the Machine	24
9.5. Assembly of the Machine	28
9.6. Intervals for Overhaul and Maintenance	32
9.7. Spare Parts	33
9.7.1. Service Packages	33
9.7.2. Spare Parts and Accessories not included in Service Package	34
9.7.3. Identification Guide for 550A-GKF EXCELLENT-Series Spare Parts	35

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 comminuted 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 series, 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 kitchen 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. Glass Crusher Model 550A-GKF

A Disperator glass crusher makes the work of handling empty bottles, jars and other glass containers easier by grinding them into small particles of gravel size. Most kitchens, galleys and bars have problems with the volume of glass containers, which also gets sharp if it breaks uncontrollably.

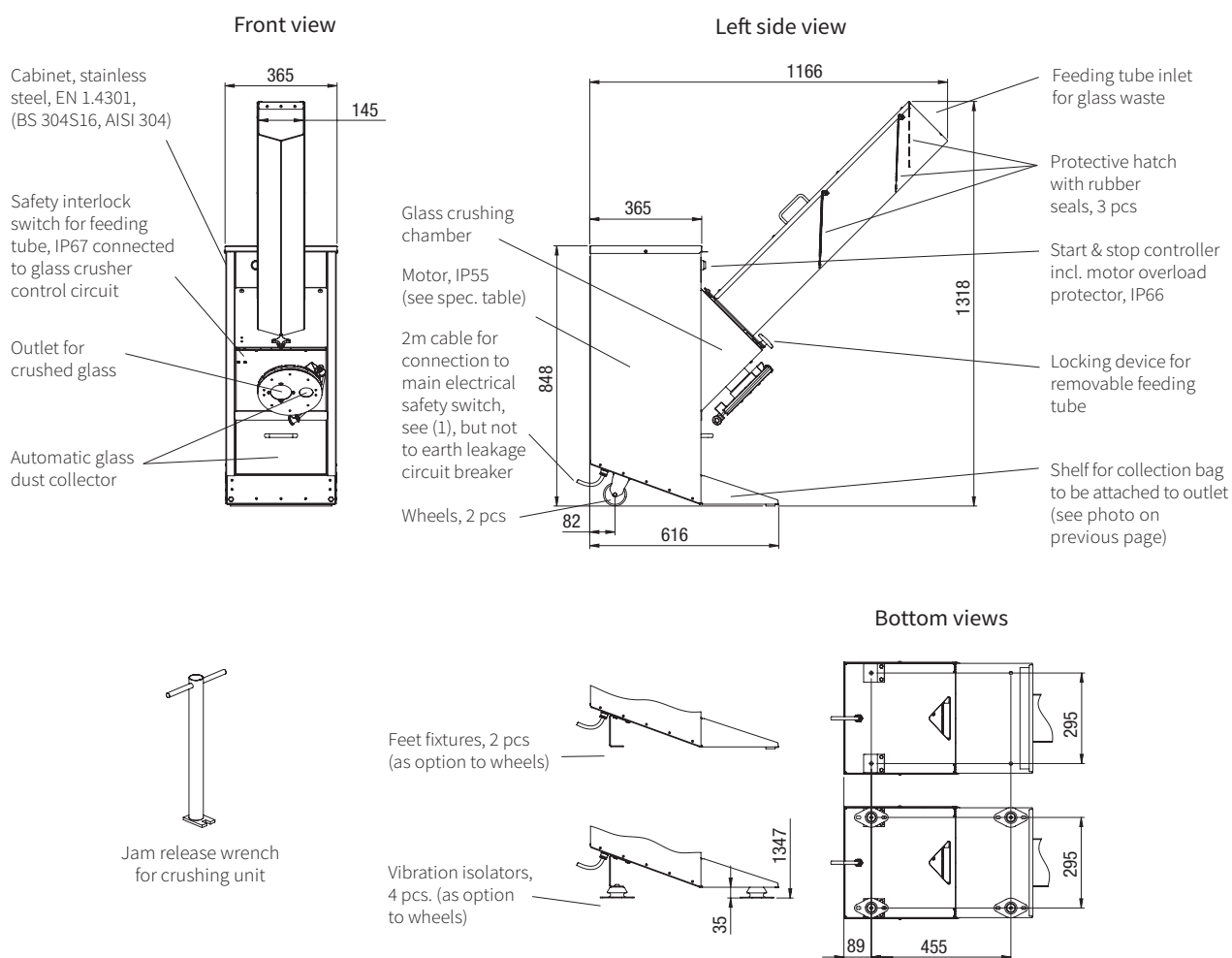
Collecting and transporting glass waste is time consuming due to the large volume. Floor space that could be used better is occupied by a mountain of empty bottles. These problems diminish when a Disperator glass crusher is used.

Model 550A-GKF is easy to install in a kitchen, galley or waste room. Alternatively, the glass crusher can be installed on a lower floor near the waste collection area, and fed with empty bottles through a tube from bar or kitchen on the floor above.

Disperator glass crusher 550A-GKF is designed to provide long service life in environments where reliability and efficiency are essential.

3.2. Technical Specification

CE



All measurements in mm

Technical specification		550A-GKF
Normal capacity	10-20 bottles per minute depending on bottle size	
Electrical power, kW	1,25	
Rated current, A to be set on the glass crusher motor protector for the following voltages:		
230V / 3ph. / 50Hz	6,4	
400V / 3ph. / 50Hz	3,7	
415V / 3ph. / 50Hz	3,7	
440V / 3ph. / 60Hz	3,2	
Other voltages available		
Control voltage	Marine installation the same as motor voltage. Land installation 230V / 50Hz	
Fuse rating, slow	16 A	
Characteristic for automatic fuse	D (slow)	
Gross / net weight, kg	137 / 82	
Transport volume, m³	0.9	

- (1) Installation material needed but not incl. in standard delivery is main electrical safety switch for incoming electricity. Can be ordered from DISPERATOR.
- (2) 10 pcs. collection bags, 1 pc. elastic fixing cord and 1pc. dust collector bag included in delivery.
- (3) User manual with installation and service instructions, electrical wiring diagram, laminated operating instructions and laminated safety instructions 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

For land use the glass crusher is delivered with two wheels which are mounted at the back of the bottom plate. Upon delivery, the glass cross can be moved by gently lifting its inlet feeding tube so that the front of the machine is lifted from the floor, whereupon the machine can be rolled to its final installation site.

For marine installation of the glass crusher, foot fixtures or vibration insulators are available (as alternative to the wheels) to fix the machine in the floorboard. Please see section 3.2, Technical Specification above. In this case, the machine should not be lifted or moved by hand. During installation, we recommend using a pallet jack or forklift, and during service a lifting trolley for component parts (like the crusher placed inside the cabinet).


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>Glass crusher for connection voltage according to the supplied delivery note. For a detailed description of the machine, see also section 3.2 on page 8 of this manual.</p> <p>Complete control system according to the attached electrical wiring diagram and component layout diagram. Start/stop unit including contactor with zero voltage release, resettable motor overload protector, and control coil.</p> <p>Including interlock switch that closes the control circuit if the inlet feeding tube for glass waste is in place.</p>	
<p>Jam release wrench for release of glass crusher grinding unit, if a non-grindable object by mistake happens to fall therein.</p>	
<p>Bag, 1 pc. for the container of the automatic glass dust collector.</p>	

<p>Reinforced plastic bag (start package of 10 pcs.) for connection to the machine's outlet for collection of crushed glass.</p>	
--	--

6. Installation Description for the Machine

6.1. Assembly of the Machine

6.1.1. Deployment of the Machine

Move the machine to its installation place as described in section 4.2. above.

6.2. Electrical Connection

The electrical connection of the delivered machine must be done by an authorized electrician and in accordance with 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).



6.2.1. Supply Voltage

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

6.2.2. Mains Fuses

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

6.2.3. 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.

6.2.4. Cable Dimension

Use connection cable having 1.5 mm² wires for machines having a rated current up to 14A. For machines having a rated current above 14A, use 2.5 mm² wires. The rated voltage and current is specified on the machine's serial number plate.

6.2.5. 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.



6.2.6. 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.



6.2.7. 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.

6.2.8. Check of the function of the Safety Interlock Switch

The inlet feeding tube is fixed with a knob against the front panel of the glass crusher.

- a) Check the function of the safety interlock switch (the key switch) by loosening the knob so that the inlet feeding tube is released. The electrical connection must be broken when there are a number of threads turns left on the knob, i.e. before the inlet feeding tube is released. Check that the machine idle run stops before the inlet feeding tube can be released and removed.
- b) If necessary, fine-tune the positioning of this switch and make sure it is properly fixed.
- c) Ensure that the key mounted on the inlet feeding tube can easily move in and out of this switch.
- d) Also make sure that the important O-ring on the inlet feeding tube, that will seal against the crushing unit and protect the switch from crushed glass, is in place and in good condition.

6.3. 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.



6.3.1. Check before Start Up

Loosen the knob and lift off the inlet feeding tube from the front panel of the machine.

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

Refit the inlet feeding tube.

6.3.2. Checks during Start-up

1. Attach a collection bag to the glass crusher outlet using the pre-mounted elastic cord (see photo in section 5.2. above). Make sure the bag closes tightly against the O-rings on the outlet.
2. Start the glass crusher to determine that the rotary shredder is spinning.
3. While the glass crusher is running, check its automatic function for collecting glass dust by placing a thin flat paper over the entire opening of the inlet feeding tube. The paper should then remain on the tube by the created under-pressure in the crusher. If the paper drops from the tube, it leaks somewhere along the O-ring between the inlet feeding tube and the crushing unit. Then check:
 - a) that this O-ring is correctly mounted on the tube,
 - b) that this O-ring is undamaged,
 - c) that this O-ring's sealing function is not disturbed by foreign objects.
4. Make sure that the safety interlock switch works properly according to section 6.2.8 above.

6.3.3. 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 crushing unit are handed over to the personnel responsible for the machine, instruct these personnel about the operation and daily maintenance of the machine, especially about what is said under section 7 and 8 of this manual.



Read these safety instructions before using the machine!



1. There is a rotating disc under inlet feeding tube. Do not insert hands into the tube when glass crusher is running.



2. Even if there in the inlet feeding tube are a number of protective covers with sluices that protect against glass splinters, do not hold your face in front of the tube opening.

3. Immediately press the red stop button if e.g. metal caps or other non-crushable materials accidentally are dropped into the crusher, or if unfamiliar noises are heard. See section 8.3. "Trouble shooting" in the user manual.



4. If the glass crusher is running even though the inlet feeding tube above the crusher is removed, press the red stop button, switch-off and lock the main electrical safety switch and call for service.



5. The main electrical safety switch on the wall/bulkhead must be locked in the OFF-position, with a padlock during all maintenance and service work.




6. The glass crusher emits noise of more than 70 dB (A). Therefore, the operator must have hearing protection when using the machine.

8. Driftinstruktioner

The glass crusher is intended for crushing pure glass only

- What can be crushed: wine, beer, champagne bottles, jars and containers of glass
- What cannot be crushed: materials that can cause explosion, spread infection or chemical pollution (e.g. lamps containing mercury)
- Non-crushable materials: metal, stone, wood, plastic, rubber, strings and the like

8.1. Start and Stop

1. Attach a collection bag of strong plastics to the machine outlet. Use the pre-mounted elastic cord, and make sure the bag fits tightly against the seals on the outlet.
2. Press the green button (1) - the glass crusher starts.

3. Depending on size, feed the bottles one by one into the inlet tube at every 5 - 10 sec.
4. When the crushing is completed only the machine's idle sound is heard.
5. Press the red button (0) - the glass crusher stops within 5 sec.

8.2. Daily Cleaning

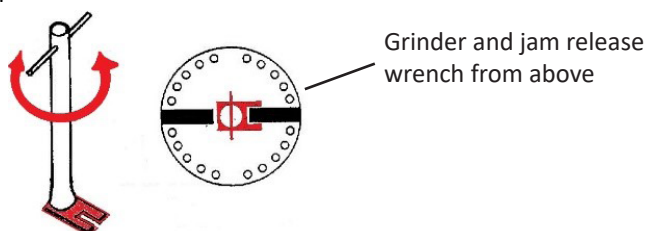
1. Use protective gloves.
2. Remove the bag with crushed glass, and instead place a bucket under the machine outlet.
3. Start glass crusher with green button (1).
4. Insert a hose in the inlet tube opening, and rinse with warm water to remove beverage residue and prevent bad odors.
5. If needed, empty the bucket and repeat item 4 above.
6. Press the red button (0) - the glass crusher stops within 5 sec.
7. Use the main electrical safety breaker (placed on the wall/bulkhead) to disconnect electrical supply. Lock the breaker with a padlock if you need to leave the machine temporarily before item 11 below is completed.
8. Loosen the knob and lift off the inlet tube from the machine front panel. Make sure that the area around the O-ring seal on the tube, and also the area around the front panel opening to the interlock switch, is clean and free from crushed glass.
9. Remove any foreign objects (e.g. bottle caps, plastics etc.) that may remain in the glass crushing unit of the machine.
10. When the inlet tube is refitted and fixed with the knob on the front panel, also check that the O-ring seal is intact and that the key on the tube easily slides into the interlock switch.
11. See section 9.3.2 of the user manual, and check that the machine's automatic function for collecting glass dust works.
12. Use the main electrical safety breaker to connect the electrical supply

8.3. Trouble Shooting

8.3.1. The Machine Reduces Speed, Stops or does not Start

A humming sound might be heard from the motor of the machine.

1. Press the red stop button (0).
2. Use main electrical safety switch on wall/bulkhead to disconnect electrical supply. Lock the switch with a padlock if you temporarily leave the machine before the measure of this error has been completed as per item 14 below.
3. Use protective gloves.
4. Loosen the knob and lift off the inlet feeding tube from the front panel of the machine.
5. Check if any foreign object blocks the crushing unit so that the rotary shredder cannot be turned by hand. If something is jammed, place the jam release wrench on the center washer. See picture below.



6. Release by rotating the wrench backwards and forwards until the shredder rotates freely a whole lap in both directions. If needed, extend the bar on the wrench and hit the bar with a hammer.
7. Remove the jam release wrench.
8. Remove any non grindable objects from the crushing unit, e.g. metal caps.
9. Make sure that the area around the O-ring on the inlet feeding tube, and also the area around the front panel opening to the safety interlock switch is clean and free from crushed glass.
10. Refit the inlet feeding tube and fix it by turning the knob. At the same time ensure that the key mounted on the tube can easily slide into the safety interlock switch in the front panel and connect.
11. Check wall fuses/automatic breakers. Change/reset these if needed.
12. Reset motor protector by pressing in the red button on the start & stop unit.
13. Connect the electrical supply on the main electrical safety switch on the wall/bulkhead.
14. Press the green button (1) to start and empty the machine.



8.3.2. The Machine does not Start and makes no Sound

1. Is the inlet feeding tube correctly mounted and fixed with the knob so that the interlock switch is closed?
2. Check that the main electrical safety switch on the wall/bulkhead is in ON-position.
3. Make sure the wall fuses/automatic breakers are functioning and switched on.
4. Check that the motor protector is reset by pressing the red stop button.

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

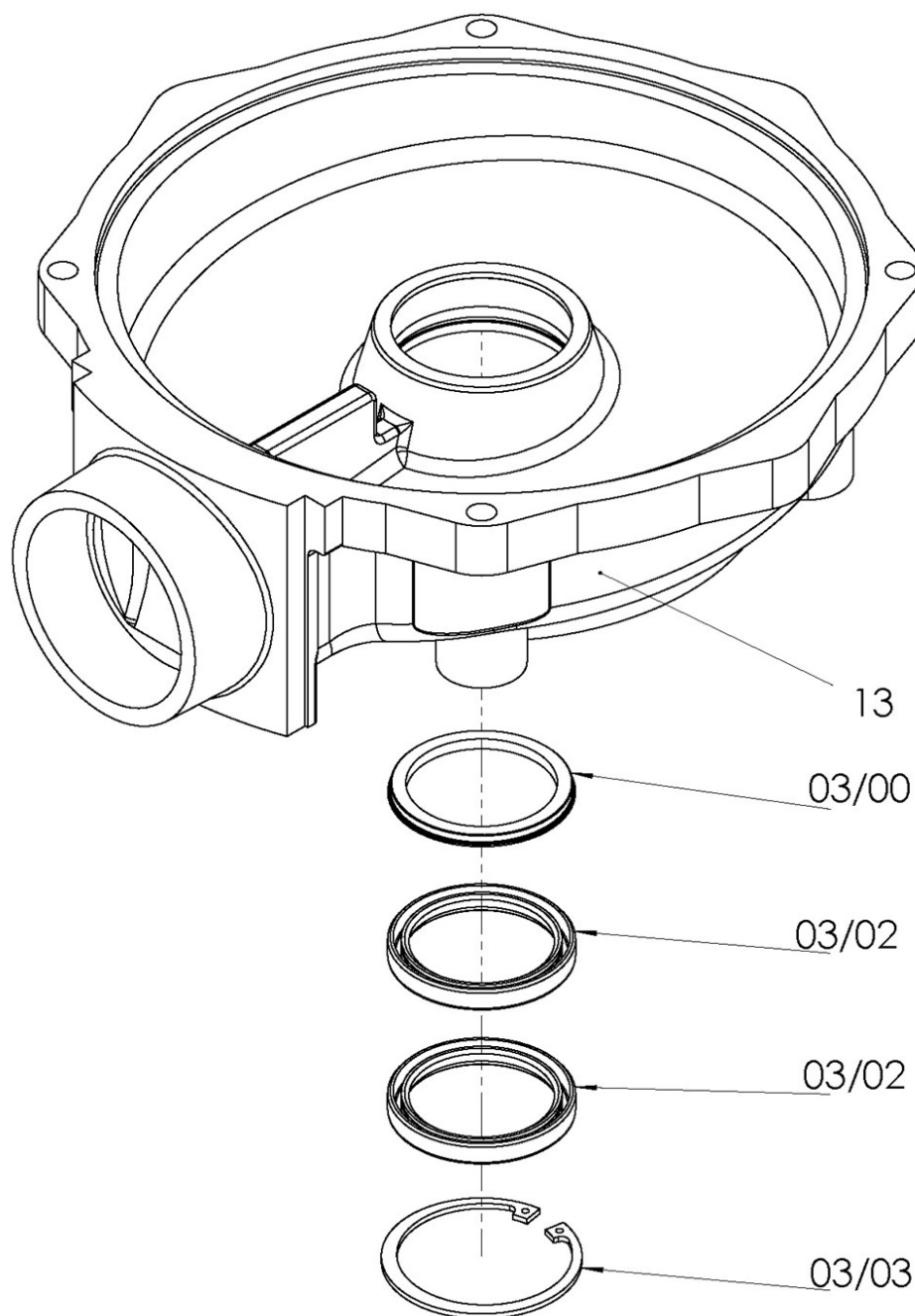
Disconnection and reconnection of the machine to incoming water & sewer service and electricity may only be carried out by authorized personnel and in accordance with valid local regulations.

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

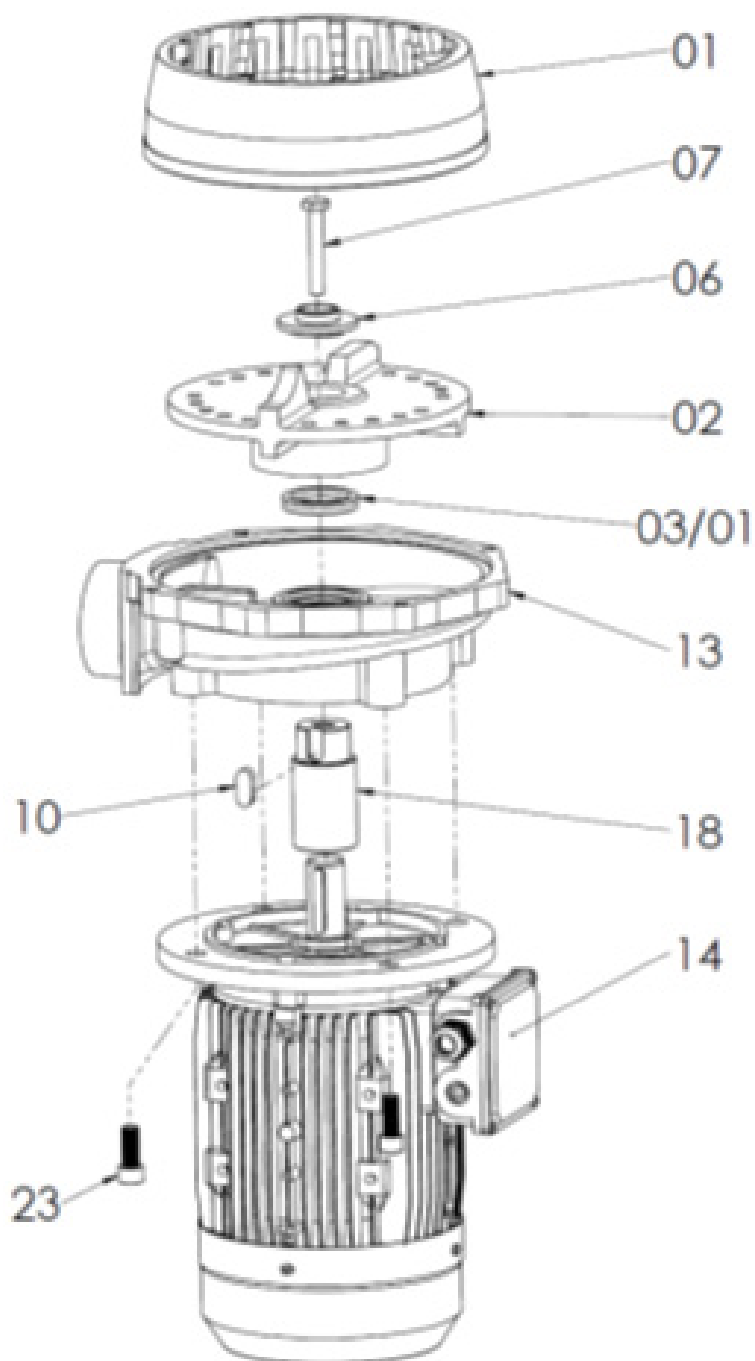


9.2. Exploded Views and Spare Parts List for the Disposer

Picture 1



Picture 2



When ordering spare parts always state the machine serial number.

NOTE! All screws and nuts must have the correct quality and strength. Disperator cannot guarantee the safety if other screws and nuts are used than those supplied by us.

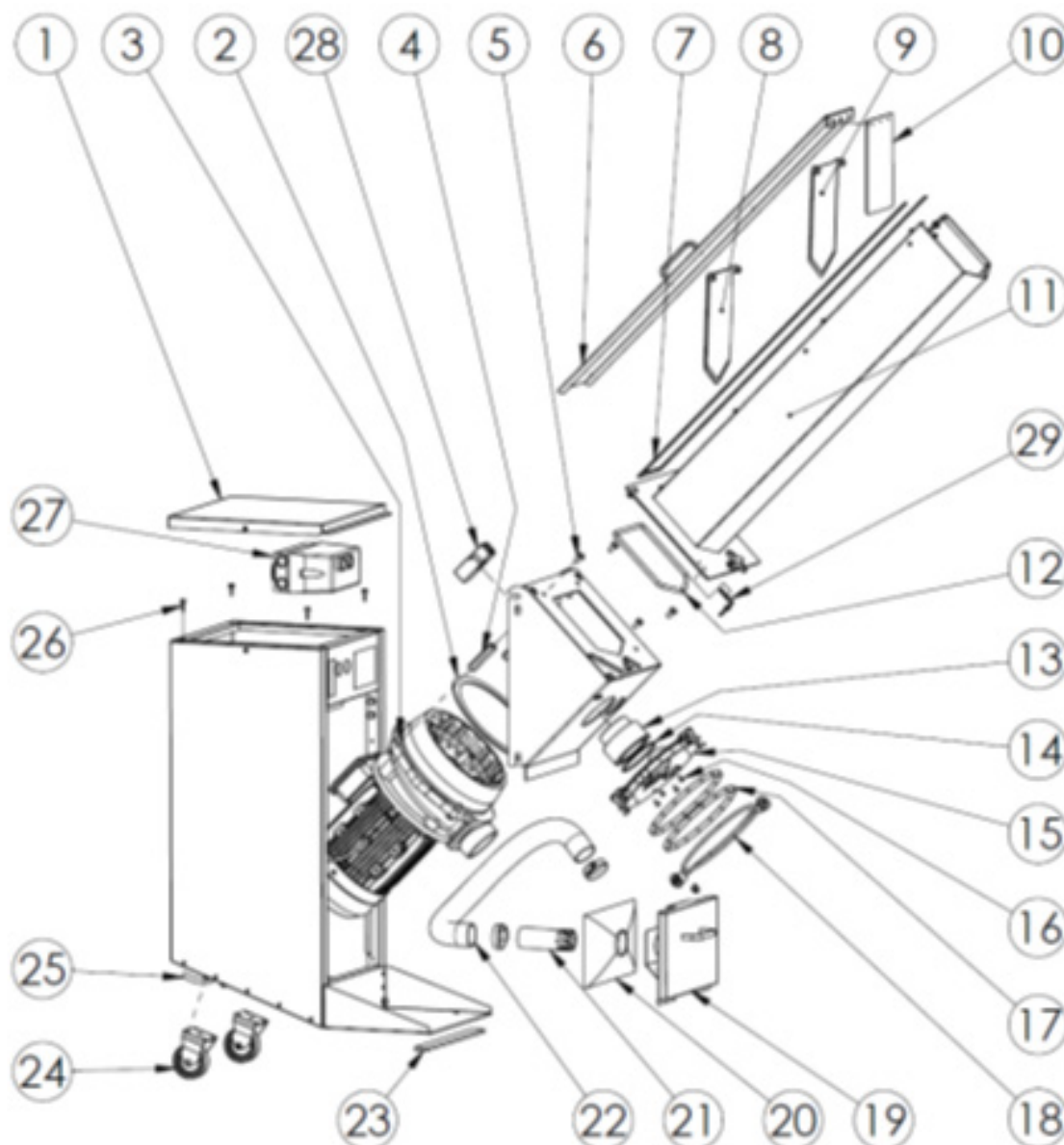
-01	Stationary shredder
-02	Rotary shredder
-03/00	Washer for V-ring seal
-03/01	V-ring seal
-03/02	Axle seal, 2 pcs. with stainless spring
-03/03	Locking ring, SgH
-06	Axle washer
-07	Axle screw
-10	Key for carrier
-13G	End shield
-14	Motor with drained upper flange

-14/01	Axle seal, 1 pc. motor drive end, 1 pc. motor non-drive end
-14/02	Bearing, 1 pc. motor drive end, 1 pc. motor non-drive end
-14/03	Key for motor axle
-18	Carrier
-23	Screw for mounting end shield, 4 pcs.

Not depicted parts (instead see photos on page 31 below):

-04	Special grease for seals and carrier
-09	Rubber sealing mass

Picture 3



- | | | | |
|-----|--|-----|---|
| 1. | Top cover | 17. | Seal rings (2pcs.) for outlet |
| 2. | Seal for stationary shredder, spare part No. -05 | 18. | Elastic cord for attachment of collection bag |
| 3. | Screw M8x35 and washer (4pcs.), s.p. No. -25 | 19. | Cover for dust collecting bag |
| 4. | Spacer (4pcs.) spare part No. -25 | 20. | Dust collecting bag |
| 5. | Screw M8x16 (4pcs.), spare part No. -25 | 21. | Inlet pipe for dust collecting bag |
| 6. | Cover for inlet feeding tube | 22. | Dust hose |
| 7. | Gasket for cover for inlet feeding tube | 23. | Toeboard rubber |
| 8. | Lower protective cover | 24. | Wheel (2pcs.), spare part No. -240/12 |
| 9. | Upper protective cover | 25. | Power supply cable and cable gland in bottom plate |
| 10. | Rubber protective cover | 26. | Vibration damper (4pcs.) |
| 11. | Inlet feeding tube | 27. | Start/stop-unit incl. contactor and motor protector, spare part No. -38 |
| 12. | O-ring seal for inlet feeding tube | 28. | Safety interlock switch (key switch), s.p. No. -39 |
| 13. | Outlet connection | 29. | Key for safety interlock switch |
| 14. | O-ring seal for outlet/outlet connection | | |
| 15. | Outlet | | |
| 16. | Screw M5x10 (4pcs.) for outlet | | |

9.3. Overhaul of the Machine

The following checks of the machine must be done in accordance with the table in section 9.6. "Overhaul and Maintenance Intervals". The designations in brackets refer the first digit to the picture-No., and the second digit to the position-No. on the same picture.

9.3.1. Function Checks of the Interlock Switch (3/28 and 6/1)

- a) The inlet feeding tube is fixed with a knob against the front panel of the glass crusher.
- b) Check the function of the interlock switch (key switch) (3/28 and 6/1) by loosening the knob to release the inlet feeding tube (4/3). The electrical connection must be broken and the crusher stops when there remain a number of thread turns on the knob, i.e. before the tube is released. Also check that the machine idle run stops before the tube can be released and lifted off.
- c) If necessary, fine tune the position of this switch and make sure it is properly fixed.
- d) Check that the opening in the front panel and in the interlock switch is in good condition and clean. If necessary, remove dirt and glass dust using a vacuum cleaner.
- e) Ensure that the key (3/29) on the inlet feeding tube (3/11) is properly fixed, and when mounting the tube on the glass crusher, easily slide into and out of the interlock switch.

9.3.2. Check of the Automatic Function for Collection of Glass Dust

While the glass crusher is running, check its automatic function for collecting glass dust by placing a thin flat paper over the entire opening of the inlet feeding tube. The paper should then remain on the tube by the created under-pressure in the crusher. If the paper drops, it leaks somewhere along the O-ring between the inlet feeding tube and the crushing unit. Then check:

- a) that this O-ring is correctly mounted on the tube,
- b) that this O-ring is undamaged,
- c) that this O-ring's sealing function not is disturbed by foreign objects,
- d) that the dust collection bag (3/20) not is clogged and needs to be replaced. Replacement dust collection bags are available from stock for immediate delivery from Disperator Co.

9.3.3. Other Checks

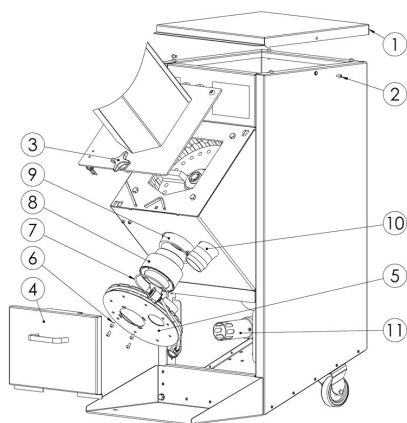
- a) Check that the rubber parts on the three protection hatches (3/8, 9 and 10) of the inlet feeding tube are undamaged and seal against the inner wall of the tube.
- b) Ensure all four screws (3/5) that fix the crusher against the front panel are tightened.
- c) Check that the front panel with the crusher is fixed to the cabinet, 6 screws (5/1) on the right and left inner side of the cabinet.
- d) Check that the dust hose (3/22) is sealed and fixed at both ends.
- e) Check that the elastic cord (3/18) for attaching the collection bag for crushed glass on the crusher outlet is intact.
- f) Check that the cable and its cable gland (3/25) are fixed in the cabinet base plate.
- g) For marine installation check that the cabinet is fixed to the floorboard.

9.4. Dismantling of the Machine

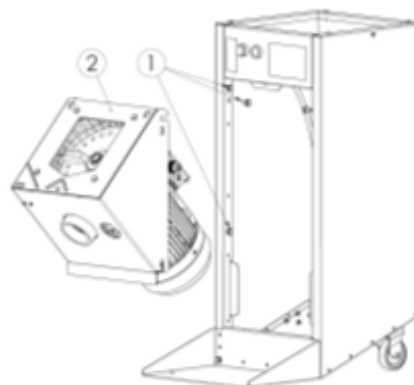
The below designations in brackets refer the first digit to the picture-No., and the second digit(-s) to the position-No. on the same picture in section 9.2 and this section 9.4.

1. Use the wall/bulkhead mounted main security breaker to disconnect electrical supply, and lock it with a padlock or a cable tie.
2. Remove the top cover (4/1), (2 screws, see 4/2).
3. Loosen and lift off the inlet feeding tube (4/3).
4. Disconnect the dust hose with inlet pipe (4/11) from the cover with dust collecting bag (4/4) and lift off the cover.
5. Dismantle the dust hose (hose clamp, 4/10) from the outlet (4/5). Dismantle the outlet (4/5) from the outlet connection (4/8), (4 screws, see 4/6), note the O-ring (4/7) which seals between the outlet and the outlet connection. Unscrew the outlet connection (4/8) from the end shield (4/9). Remove the dust hose (4/10) by bringing it inwardly into the hole in the front panel.
6. Loosen the six screws (5/1) on the right and left inside of the cabinet that fixes the front panel, but do not remove the upper and lower screws on each side.
7. As the front panel has slots around the upper and lower screws (5/1), this panel with the crusher can now be folded out and in the same operation lifted out of the cabinet. Place the crusher on the motor fan hood and be careful not to damage the cable. **Note that the weight of the crushing unit is 60 kg.**

Picture 4



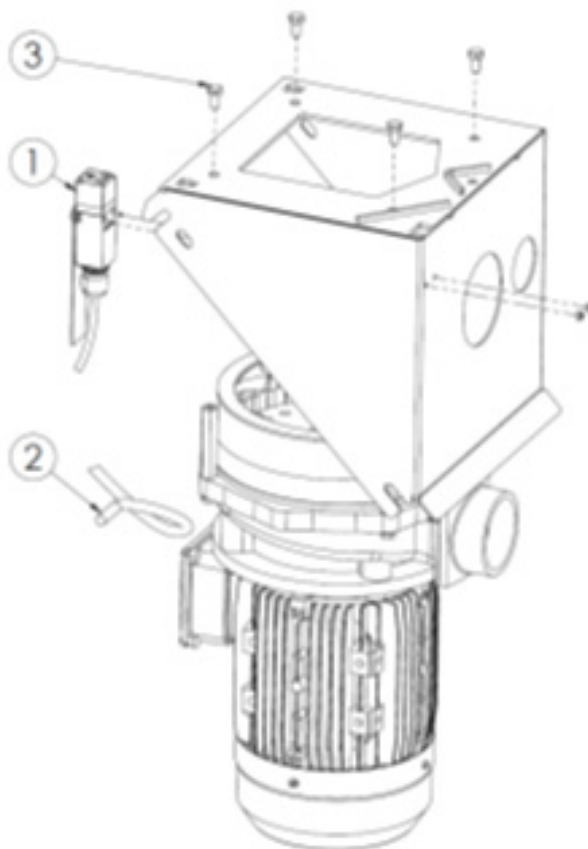
Picture 5



8. Dismantle the safety interlock switch (6/1) from the front panel, two locking nuts on the outside of the panel.
9. Disconnect the motor cable from the connection box on the motor (6/2).

10. Dismantle the front panel from the crushing unit, (4 screws, 6/3), and remove the seal (3/2) on the stationary shredder. This seal must always be replaced when reassembling.

Picture 6



11. Pry the stationary shredder (2/01) loose from the end shield (2/13) using a crowbar that levers against the large tooth on the inside rim, and is supported by the rotary shredder (2/02) close to one of its two shredder blades. See photos below.



12. Loosen the axle screw (2/07). If the rotary shredder (2/02) keeps turning, and cannot be held still manually, use a pipe wrench to hold one of its shredder blades. Alternatively, lock the shredder by using a screwdriver positioned as shown on photo below.



13. Remove the rotary shredder (2/02) by placing two crowbars opposite one another under the rim of the shredder, supported by the side of the end shield (2/13).



14. Remove the V-ring seal (2/-03/01) and loosen the 4 fixing screws (2/23) of the end shield. Note the position of the crusher outlet on the end shield (2/13) relative to the motor (2/14), so this outlet will get the same direction when reinstalling the crusher. Lift off the end shield.
15. Inspect the washer (1/-03/00) for possible wear caused by the V-ring seal and check that it do not have wear grooves or scratches. Replace the washer if necessary.
16. Turn the end shield (1/13) upside down and remove the locking ring (1/-03/03) by means of a circlip pliers. With some adequate protection in between, apply pressure to the washer (1/-03/00) in order to get the two axle seals (1/-03/02) out. See below photos.



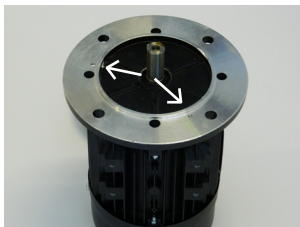
Again, make sure that the surface of the washer (1/-03/00) is in good condition. Also examine the contact surface of the carrier (2/18) for wear caused by the axle seals (1/-03/02). There should only be two small symmetrical tracks on the carrier if it has been running correctly. Are tracks severe, asymmetrical or more than two, replace the carrier.



17. Terminate dismantling here when carrier (2/18) or motor (2/14) do not need to be replaced. Start the reassembling from item 5 in section 9.5. below.
The V-ring seal (2/-03/01) and the two axle seals (1/-03/02) with special grease (2/04) together with stationary seal (3/2) must be replaced at every dismantling.
18. To remove the carrier (2/18), screw down the supplied dismantling screw (see photo in section 9.7.3. below, No. -18/02) at the top of the carrier. This pulls off the carrier from the motor axle. If needed, use the rotary shredder (2/02) as a handle to prevent rotation of the motor axle. Alternatively, hold the carrier with a pliers and soft cloth in between as shown in the photo below.



19. When changing the motor (2/14), make sure that the new motor has the same quality and classification as the original. Necessary drainage hole for possible condensation water should be provided through the upper motor flange (see arrow on the photo below and see the existing motor for the location of this hole, i.e. straight below the crusher outlet on the end shield (2/13) and 180° offset relative to the connection box on the motor (2/14)). If drilling this hole in the motor, it is important to drill at the correct angle, so that there is no damage to the motor or any of its parts. All replacement motors delivered by Disperator have premade drainage hole.



9.5. Assembly of the Machine

1. Clean all components carefully. Wipe the surface of the motor flange with axle (2/14). Make sure that there is no dust or grease residue.
2. Make sure that the key (2/-14/03) is in the correct position. Apply a thin layer of Disperator special grease (2/04) on the motor axle.
3. Wipe the carrier (2/18) clean on the inside and outside.
4. Mark the depth of the hole in the carrier onto the motor axle, which is 58mm from the top. Carefully press the carrier onto the motor axle all the way down to the mark. If hand power is not sufficient, use the axle screw (2/07) as a mounting tool. If needed, use the rotary shredder (2/02) as a handle to prevent the motor axle from rotating.
5. Wipe clean the inside of the hole for the axle seals (1/-03/02) on the end shield (1/13).
6. In this hole of the end shield place the washer (1/-03/00) with its flange (edge) facing downwards towards the motor, see exploded view, picture No.1 in section 9.2.
7. Grease the same hole of end-shield with special grease (2/04).
8. To avoid damaging the seals (1/-03/02, 2 pcs.) press each seal one at the time into position using a tool that has the same outer diameter as these seals. The seals shall be placed with the groove and stainless spring upwards towards the washer (1/-03/00).



Both photos show the end shield (1/13 with the mounted seals, 2pcs.) from its lower side which will face the motor.

9. The seals are fixated by fitting the locking ring (1/-03/03) into the groove in the end shield (1/13). Tap on this ring to ensure that it is seated properly in the groove in the end shield.
10. With a clean and soft putty knife fill the grooves along the sealing lips in the axle seals (1/-03/02) with special grease (2/04). Be absolutely sure no dirt or particles happen to fall into this greasing.



11. With a clean soft cloth lubricate a thin layer of special grease (2/04) on the carrier (2/18).
12. Fit the end shield (1/13) with the outlet in the right direction, i.e. 180° displaced from the motor power cable connection box. Take great care so that the lips on the axle seals (1/-03/02) not are damaged. Secure the end shield with tightening torque 81 Nm on the four screws (2/23).
13. Grease the sealing lip of the V-ring seal (2/-03/01) and its washer (1/-03/00) using special grease (2/04). Fit the V-ring seal over the carrier (2/18) with its seal lip against the washer (1/-03/00).
14. Insert a small click of special grease (2/04) into the keyway of the carrier and push on the key (2/10).
15. Wipe clean the axle hole in the rotary shredder (2/02). Also make sure that the mating surfaces on the end shield (2/13) and the stationary shredder (2/01) are clean.
16. Carefully fit the rotary shredder (2/02) on the carrier (2/18).
17. Wipe the carrier (2/18) clean from excess grease.

18. Apply a layer of rubber sealing compound (2/09) on the top around the axle hole of the rotary shredder (2/02). Make sure that no sealing compound enters the screw hole of the



19. Fit the axle washer (2/06) on the rotary shredder (see above photo). Apply sealing compound (2/09) around the underside of the entire head of the axle screw (2/07) and mount this screw. Make sure that sealing compound is squeezed out around the entire circumference of the axle washer, and also around the entire head of the axle screw. The axle screw is tightened with torque 44 Nm.
20. Apply a thin uninterrupted string of rubber sealing compound (2/09) in the seat of the end shield (2/13) in which the stationary shredder (2/01) should be pressed down.



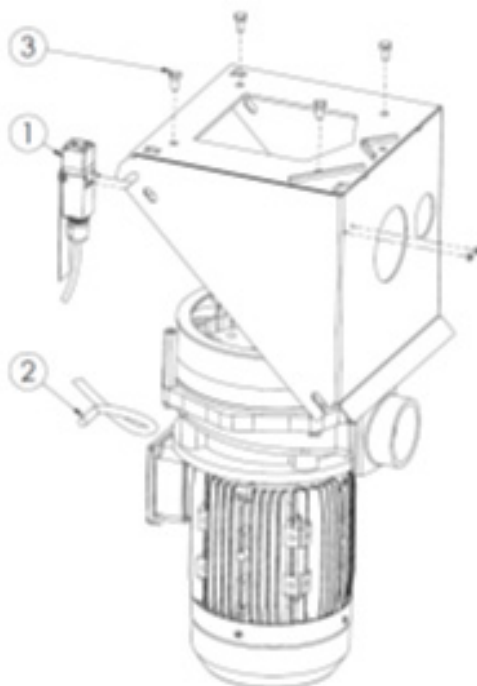
21. Carefully position the stationary shredder (2/01) with its inner large tooth (see the red arrow on picture 2 above) at the opposite side of the outlet on the end shield (2/13).
22. Tap around the top of the stationary shredder (2/01) with a plastic hammer to fix it in the end shield (2/13), and make sure that the stationary shredder is all the way down in the seat of the end shield.
23. Secure the stationary shredder (2/01) to the end shield (2/13) by hammering 6 punch marks on the end shield around the joint between these two articles, see below photo.



24. Fit a new rubber seal (3/2) on the top of the stationary shredder (2/01). Make sure that it is centered.
25. Wipe clean the surface of the glass crusher front panel that faces this rubber seal (3/2).
26. Secure the front panel on the crusher, 4 screws (7/3). Tighten these screws crosswise with tightening torque 17 Nm. After tightening, check with a blade measure that the stationary seal (3/2) is properly fixed and firm between stationary shredder (2/01) and glass crusher front panel.
27. Connect the power cable (7/2) to the connection box on the motor.

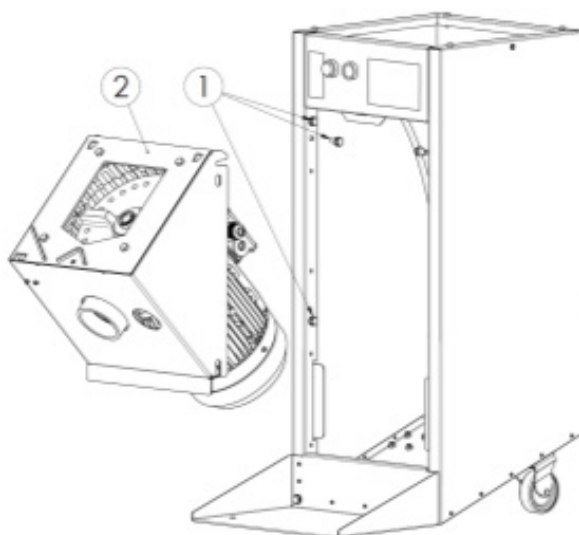
28. Assemble the safety interlock switch (7/1) on the front panel, two locking nuts on the outside of the panel.

Picture 7



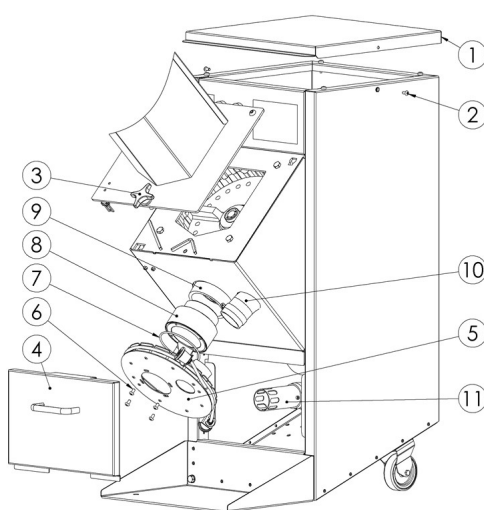
29. The front panel has slots for the upper and lower screws (8/1). Lift in the crusher in the cabinet by letting the lower screws enter the lower panel slots, and thereafter in the same operation fold in the panel into the cabinet so that the upper screws enter the upper panel slots. Be careful not to damage the power cable. **Note that the weight of the crushing unit is 60 kg.**
30. Assemble and tighten the screws (8/1), 6pcs. on the right and left inside of the cabinet that fixes the front panel.

Picture 8

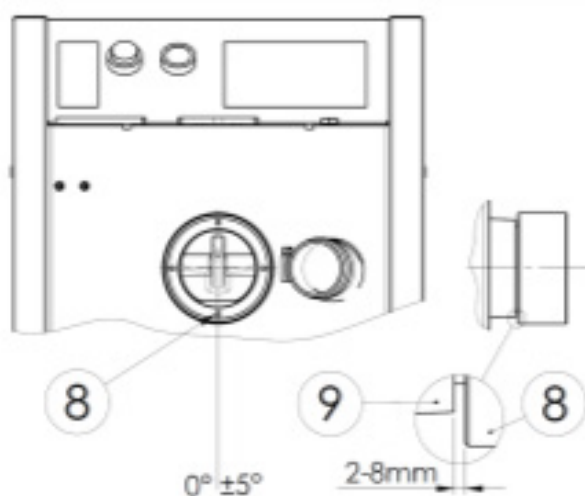


31. Insert the dust hose (9/10) into the front panel.
32. Screw outlet connection (9/8) onto the end shield (9/9). Use thread tape to lock and seal the outlet connection to the end shield so that it stays firm. The measurement between the outlet connection (10/8) and the end shield (10/9) should be 2 to 8mm. Make sure that the threaded holes, 4 pcs. in the outlet connection are positioned as shown in picture 10 (tolerance $\pm 5^\circ$).
33. Assemble the outlet (9/5) on the outlet connection, 4 screws (9/6) with the O-ring (9/7) that seals between these two parts.
34. Assemble the dust hose (9/10) with hose clamp on the outlet (9/5).
35. Connect the dust hose with inlet pipe (9/11) to the cover with dust collecting bag (9/4) and refit it to the cabinet.
36. Make sure that the O-ring (3/12) on the inlet feeding tube (9/3) and its front panel sealing surface are clean before installing the tube on the front panel. With care that the key (3/29) slides into the interlock switch (3/28), lift the inlet feeding tube onto the front panel and fix it with the knob.
37. Mount the top cover (9/1) with two screws (9/2).

Picture 9



Picture 10



38. Reconnect electricity according to the above section 6.2.
39. Test the glass crusher according to the above section 6.3 of this user manual.

9.6. Intervals for Overhaul and Maintenance

Description of activity:	Interval:	Comments:
Cleaning of the machine.	Daily	See section 8.2. in this user manual.
Checking the glass crusher's automatic vacuum function for collection of glass dust.	Daily	Start the glass crusher and place a thin flat paper over the entire opening of the inlet feeding tube. The paper should then remain on the tube by the created under pressure in the crusher. If the paper drops, the dust collecting bag is clogged and must be replaced. If the paper drops even though the bag is not clogged, perform the checks as per section 9.3.2.
Overhaul of: <ul style="list-style-type: none"> • interlock switch, • vacuum function for dust, • assembly. 	First time after a month, then when needed.	See section 9.3. in this user manual.
Preventive maintenance.	After crushing of about 20.000 glass bottles or 5 years (whichever occurs first).	Replacement of parts included in Service Package 1 according to section 9.7.1. in this user manual.
Exchange of parts subject to wear.	After crushing of about 40.000 glass bottles.	Replacement of parts included in Service Package 2 according to section 9.7.1. in this user manual.
Other parts.	When needed.	

9.7. Spare Parts

Always state the serial number of the machine when ordering spare parts.

The serial number plate is placed on the machine outer housing. For cabinet assemblies, also an extra copy of the same plate exists inside the cabinet.

9.7.1. Service Packages

Below mentioned spare part numbers refer to the exploded views in section 9.2.

All parts of Service Package No. 1 are also included in Service Package No. 2.

Service Package 1

Picture No:	Spare Part No:	Denomination:	Qty:
1 & 2	-03/00	Washer for V-ring seal	1 pc.
2	-03/01	V-ring seal	1 pc.
1 & 2	-03/02	Axle seal with stainless spring	2 pcs.
1 & 2	-03/03	Locking ring	1 pc.
2	-04	Special grease for seals and carrier	1 pc.
3	-05	Seal for stationary shredder	1 pc.
2	-07	Axle screw	1 pc.
2	-09	Rubber sealing compound	1 pc.
2	-10	Key for carrier	1 pc.
2	-23	Screw for end shield assembly	4 pcs.

Service Package 2









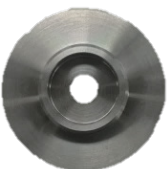



Picture No:	Spare Part No:	Denomination:	Qty:
2	-01	Stationary shredder	1 pc.
2	-02	Rotary shredder	1 pc.
1 & 2	-03/00	Washer for V-ring seal	1 pc.
2	-03/01	V-ring seal	1 pc.
1 & 2	-03/02	Axle seal with stainless spring	2 pcs.
1 & 2	-03/03	Locking ring	1 pc.
2	-04	Special grease for seals and carrier	1 pc.
3	-05	Seal for stationary shredder	1 pc.
2	-06	Axle washer	1 pc.
2	-07	Axle screw	1 pc.
2	-09	Rubber sealing compound	1 pc.
2	-10	Key for carrier	1 pc.
1 & 2	-13	End shield	1 pc.
2	-18	Carrier	1 pc.
2	-23	Screw for end shield assembly	4 pcs.
3	-25	Screw M8x16, spacer, screw M8x35 and washer	4 pcs. of each
Photo on page 32	-18/02	Carrier removal screw	1 pc.

9.7.2. Spare Parts and Accessories not included in Service Package



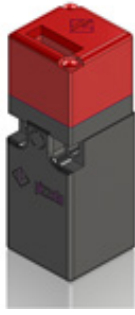

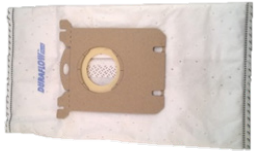

Below mentioned picture and position numbers refer to the exploded views in section 9.2.

Picture No. / Position No:	Spare Part No:	Denomination:	Qty:
3/20		Bag for the container of the automatic glass dust collector	1 set = 5 pcs.
Photo on page 33		Reinforced plastic bag for connection to the machine's outlet for collection of crushed glass	1 set = 100 pcs.
3/18		Elastic cord for attachment of collection bag for crushed glass	1 pc.
3/17		Seal rings for outlet	2 pcs.
3/12		O-ring seal for inlet feeding tube	1 pc.
3/14		O-ring seal for outlet/outlet connection	1 pc.
3/10		Rubber protective cover	1 pc.
3/9		Rubber gasket for upper protective cover	1 pc.
3/8		Rubber gasket for lower protective cover	1 pc.
3/7		Gasket for cover for inlet feeding tube	1 pc.
3/22		Dust hose	1 pc.
3/26		Vibration damper	4 pcs.
3/23		Toeboard rubber	1 pc.
3/24	-240/12	Wheel	2 pcs.
3/27	-38	Start/stop-unit incl. contactor with coil and motor protector	1 pc.
3/27	-38/1	Contactor with coil	1 pc.
3/27	-38/2	Start contact	1 pc.
3/27	-38/3	Motor protector	1 pc.
3/28	-39	Interlock switch	1 pc.
3/29	-39/01	Key for interlock switch	1 pc.
Photo on page 32	-31	Jam release wrench for release of rotary shredder	1 pc.

9.7.3. Identification Guide for 550A-GKF EXCELLENT-Series Spare Parts

		
-01 Stationary shredder, 1pc	-02 Rotary shredder, 1pc	-03/00 Washer for V-ring seal, 1pc
		
-03/01 V-ring seal, 1pc	03/02 Axle seal with stainless spring, 2pcs	-03/03 Locking ring, 1pc
		
-04 Special grease for seals and carrier, 1pc	-05 Seal for stationary shredder, 1pc	-06 Axle washer, 1pc
		
-07 Axle screw, 1pc	-09 Rubber sealing compound, 1pc	-10 Key for carrier, 1pc

		
-13 End shield, 1pc	-14 Motor with drained upper flange, 1pc	-14/01 Axle seal motor, drive end 1pc and non-drive end 1pc
		
-14/02 Motor bearing, drive end 1pc and non-drive end 1pc	-14/03 Key for motor shaft, 1pc	-18 Carrier, 1pc
		
-18/02 Screw for dismantling of carrier, 1pc	-23 Screw for mounting of end shield, 4pcs	-25 Screws, spacer and washer for mounting front panel on the crusher unit, 4pcs of each
		
-31 Jam release wrench for rotary shredder, 1pc	-38 Start/stop unit incl. contactor with coil, start contact and motor overload protector, 1pc	-38/1 Contactor with coil, 1pc

		
<p>-38/2 Start contact, 1pc</p>	<p>-38/3 Motor overload protector, 1pc</p>	<p>-39 Safety interlock switch (key switch), 1st</p>
		
<p>-39/1 Key for interlock switch, 1pc</p>	<p>Bag for the container of the automatic glass dust collector, 1 set = 5 pcs.</p>	<p>Reinforced plastic bag for connection to the machine's outlet for collection of crushed glass, 1 set = 100 pcs.</p>