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USE AND MAINTENANCE BOOKLET



ROTARY SEPARATOR

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The data, images and performances identified in this booklet are purely indicative.

The manufacturer reserves the right to make any change or modification, without providing any notice to users.

GENERAL INFORMATION HOW TO USE THIS MANUAL

The inclusion of a general table of contents on page two enables the reader to locate the relevant topic immediately, making it easier to consult the manual.

The chapters are organised sequentially based on topic, making it easier for the reader to find the desired information.

PURPOSE OF THE MANUAL

This manual was compiled by the manufacturer to provide the necessary information to all parties authorised to safely carry out transport, handling, installation, maintenance, repair, dismantling, disposal or storage operations relating to the machine or parts thereof.

Information relating to the electric motor can be found in the Use and Maintenance Booklet for the motor, issued by the manufacturer.

Failure to comply with the information provided may pose a risk to the health and safety of persons and may also cause economic damage. The manual must be stored carefully to ensure that it can always be located and consulted in perfect condition.

In the event of loss or damage, a replacement copy must be requested directly from DODA COSTRUZIONE MACCHINE AGRICOLE di Doda Aldo & c. s.n.c.

DODA COSTRUZIONE MACCHINE AGRICOLE di Doda Aldo & c. s.n.c. reserves the right to change, supplement or improve the manual; such changes shall not, however, constitute a reason to consider this copy inadequate.

WARRANTY GUIDELINES

Doda provides a 12 month warranty on its products, valid from the moment of commissioning but limited to an 18 month period from the date of shipping.

The warranty shall not apply if the problem or fault in question results from the incorrect or unsuitable use of the product, or if the aforementioned use does not correspond to that for which it was commissioned.

The warranty is limited to the repair or replacement of the product and/or the parts found to be defective, at the absolute discretion of the manufacturer, and subject to inspection by the latter.

DODA will not pay additional costs for transport or labour associated with the replacement of the defective parts.

The machines to which the manual relates must be used in environments and for uses that correspond to those provided for during the design phase.

Any improper use of the product is prohibited.

Any modification to or replacement of machine parts, without prior authorisation by the manufacturer, may constitute a risk factor for accidents and, in this case, the manufacturer shall be absolved of all civil and criminal liability, and the warranty shall be deemed void.

MANUFACTURER DETAILS

DODA COSTRUZIONE MACCHINE AGRICOLE di Doda Aldo & c. s.n.c.

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MEANING	NOTE	SYMBOL
PROHIBITION	It is PROHIBITED to perform certain manoeuvres and operations that could compromise the safety of the operator, the machine or adjacent parts/structures	
DANGER	Important DANGER messages relating to the safety of the operator and the machine	
ELECTRICAL DANGER	DANGER of an electrical nature	<u>k</u>
EX WARNING	Particularly important warning relating to potentially explosive atmospheres	EX
WARNING	This symbol draws attention to a particularly important warning	

DODA thanks you for purchasing a product in its range and invites you to read this booklet.

Inside you will find the necessary information for correct use of the machine you have purchased. Please, therefore, follow the instructions contained herein and read the booklet in all its parts.

Please also store the booklet in a safe place and keep it unaltered. The content of this manual may be changed without notice, and without additional obligations, in order to include changes and improvement to the units already provided.

Any reproduction or translation of any part of this booklet is prohibited without prior authorisation.

GENERAL INDEX

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	EC DECLARATION OF CONFORMITY WITH 2006/42/EC AS AMENDED	DIRECTIVE

1. INTRODUCTION

The machine described in the following "Use and Maintenance" booklet is a sewage separator. It is of simple and efficient construction for the treatment of any agricultural or industrial waste that requires separation of the liquid part from the solid part.

The system has a separation method using a perforated rotary drum with a wide filtering surface (filters with a variety of perforation diameters can be installed), for products that do not require pressing. The separator is started up by a 0.75Kw power gear-motor. The entire structure is in stainless steel.

Technologically, we have also applied to this machine the concept adopted for other DODA products:

"Highest quality to obtain the maximum reliability and durability"



- 1) Liquid Outlet.
- 2) Solid Outlet.
- Filter Drum.
 Side Carters.

- 5) Gear-motor.
- 6) Inspection and Internal Cleaning Door.
- 7) Adjustable Support Feet.





- 1) Check that no component has been damaged during transportation. If damage has occurred, contact your dealer immediately.
- 2) The power connection must be carried out in accordance with the DODA instructions, by qualified personnel (by connecting the cables of the electric motor to the power or the pump to the tractor by cardan shaft).

DODA is in no way responsible for the electrical connections (please follow the instructions on the motor plate and the sticker which indicates the direction of rotation).

- 3) Before starting the machine, check that the rotating parts of the transmission are adequately protected as required by their manufacturer.
- 4) The protection of the rotating parts not supplied with the machine must be performed by the operator based upon existing provisions of law.
- 5) DODA accepts no responsibility for changes that alter the characteristics of the purchased machine.
- 6) DODA machines may not be installed on structures that do not comply with EC safety requirements.
- 7) Before operating the machine, it is essential to read the instructions contained in the **Use and Maintenance Booklet**. In particular, ensure that you have fully understood the operation of the machine.

4. PRELIMINARY CHECKS

The reduction gear is self-lubricating and therefore does not require maintenance. At first start-up, check that the cleaning brushes rotate with the filter; if this is not the case, adjustment is needed (see. Paragraph 8, item "brush").

Check the filter is rotating in the right direction:

the filter must rotate in a clockwise direction looking at the reduction gear side (the internal spiral must guide the solid towards the outlet).



fig. 5

5. POSITIONING AND TRANSPORTATION

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Before positioning the Separator, prepare the structure by fixing it properly to the sides of the tank.

The machine must function in an inclined position with the outlet higher than the load inlet (please see the picture below). The surface for the machine must be at a height suitable for the feed pump head, bearing in mind the pressure drop due to the feed pipe. A suitable height avoids the excessive accumulation of solid material close to the machine, guarantee-ing a better collection of the separated solid product with larger machines (bulldozers, excavators, etc.)





fig. 6 1) Open the electrical panel fig. 6 and connect the electrical supply cables in the correct terminal board W fig. 7.

Check that the voltage of the electrical network inside the panel corresponds to the VOLTS indicated on the terminal board of the electric motor (220 Volts only 3 phases or 380 Volts only 2 phases) **fig. 5.**

2) Turn the main switch handle U from the zero position to the one position fig. 6



- P) Touch screen
- **Q)** Emergency button.
- **R**) Reset alarm.
- S) Thermal light.
- U) Main switch.
- W) Supply terminal board.

page. 6

For any electrical connection inside or outside of the separator control panel, please contact specialised personnel or the manufacturer directly.

DODA accepts no responsibility for the electrical connections unless carried out by the company itself.

Under no circumstances should you open the protection carters of the transmission parts if the machine is functioning.

- 4) The *feed pipe* (diameter 150) must be connected to inlet A fig. 8 at the front.
- 5) The *overflow pipe* (diameter 150), under the inlet, is connected to connections **B fig. 8**
- 6) The *liquid discharge pipe* (diameter 150) is found in the bottom part of the machine in point C fig. 9



fig. 8



WARNING: the connections for the pipes are not load-bearing: do not rest the weight of the pipes on the machine and keep them supported throughout their length.

7) Connect the water feed pipe to the flush valve at the end of pipe D fig. 10.

WARNING: insert a pressure release valve at the inlet of this valve to avoid damage to the solenoid valve during the winter.



The FLUSHING device comes into function at the end of the job. The valve regulates water flow within the separator. For thorough cleaning, if the pressure of the water going in is low, we recommend you open covers E-F fig. 11 and wash by hand. The filter drum can be inspected through doors G fig. 12. Through these doors, you can also wash manually inside the machine.



9) PRESS "ESC" TO RETURN TO THE HOME PAGE "

If there is no level sensor:

Make sure that there is a jumper on the level sensor output in the terminal board (see panel electrical diagram).

The washing cycle is to be carried out manually by following this procedure:

Turn the pump off by turning the "Separator Load" selector **"O" fig. 6** to "0".

If the wash is not satisfactory, push the "separator wash" button leaving the separator load selector in the "0" position.

The cycle stops automatically based on the times set in the PLC.



fig. 12

6. OPERATION



Check the pump's direction of rotation and the overheat protection level (absorbed amperage). Consequently adjust the device in figure 14 (see also part. Z fig. 7) based on the absorption of the feed pump motor and the separator motor.

Place the chopper pump that feeds the separator so that the body is 15/20 cm from the bottom of the tank.

Adjust the feed pump delivery to obtain a suitable capacity for the working speed of the machine.



Prior to starting the machine, read the "GENERAL WARNINGS" chapter.

After preparing and ensuring the entire stability of the machine in normal operation, it may be used.

For all electric motor versions, after checking the correct direction of rotation, connect to the power supply.

Turn the main switch **U** fig. 6 to the **One** position and the handle **O** to the "automatic" direction. At this point, *if there is a level sensor in the feed pump* the pump that feeds the separator tank will start.

The accumulation of sewage inside the feed pipe "A" (fig.15) activates inlet sensor "B" (fig. 15) that starts up the separator. The machine will always stop automatically should there be no feed.



HIGH PRESSURE WASHING SYSTEM



High pressure washing system is an option to be installed instead the brush cleaning system.

It works with a very high pressure water circuit through an appropriate pump and with two sliding nozzles. The nozzles being radial to filter move covering the whole length of the filter.

A geared motor (fig. 18) drags the winders for high pressure pipes (see fig. 16-17) and a series of sensors complete the plant. Water comes out from the nozzles and goes out through the holes on the filter cleaning them. The system works automatically through a program of the electrical panel that feeds the equipment.



A geared motor (fig. 18A) has a torque control system with a adjustable clutch ("C" fig.18a). The complete system is tested and adjusted, but during the separation process, if the nozzles stop and the clutch slips it is possible to increase the torque force tightening the "B" lock nut.

Attention! Do not exceed the tightening: the nozzles must move normally and it must be possible to stop them by hand-force



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Should you wish to interrupt the cycle at any time, simply turn the handle **O fig. 6** to the manual direction:

- The feed pump will stop

- The programme of the two timers will start.

IMPORTANT: never start the machine up when empty.

<u>If the system does not have a level sensor</u> on the feed pump, which allows the machine to turn on and off automatically, proceed as follows:

- turn the main switch U fig. 6 to the One position

- position the handle **O** to the "automatic" direction
- start up the feed pump
- when the sewage reaches the sensor inside the loading tank, the separator starts
- to stop the system, turn the handle O fig. 6 to the central position
- stop the pump

- turn the handle **O** to the manual direction again. At this point the sewage emptying and machine washing cycle will start.



PRODUCT QUALITY

The machine requires a series of adjustments depending on the type of product to be processed. The inclination of the machine, the filter rotation speed and the entry position of the product to be treated inside the filter all influence the type of separation. If you require a drier solid product, the time for which the product is inside the filter must be increased to maximum following the procedure below:

- 1) decrease the rotation speed of the separator electric motor through the electrical panel
- incline the machine by adjusting the 4 support feet ("B" fig.19) to lift the solid discharge part (please see page 4)
- 3) withdraw as much as possible and rotate the product charge deflector "A" (fig.19) laterally or upwards.



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Inlet pipe position

The inlet pipe "A" can be installed in a different position. We recommended that charge deflector outlet direction is about 45° top right side.



GUIDE-WHEELS ADJUST

The machine requires a periodical check about the drum position.

Please check that the free space ("C" "D" fig.20) between the gear and the internal left—right side of the support wheels must be equal. If necessary adjust the drum position turning in clockwise or in counter-clockwise the nuts ("E" "F" fig,21) of the guide wheels.



7. WORKING AND SAFETY GUIDELINES

- 1) During working and inspections of the machine, wear appropriate clothing (overalls, gloves, helmet, safety shoes, fastened clothes, etc.)
- 2) The machine should be used in appropriately lit areas.
- Given that gases emitted by sewage are poisonous, check that:
 the work area is adequately ventilated;
 - there are no naked flames in the vicinity.
- 4) Never inspect the liquid sewage alone. In the case of loss of balance or fainting due to fumes, immediate assistance will be required.
- 5) When you do not need to perform operations in the tank, it should remain covered.
- 6) The machine should only be used by responsible adults and in a location inaccessible to children.
- 7) Do not perform repairs or adjustments when the machine is in operation or when it is connected to the power supply.
- 8) The machine should only be used when all protection is in place, following the instructions identified in the above paragraphs in order to avoid contact with moving parts. Do not damage or remove that protection.
- 9) Never operate the machine without having filled the oil (transmission pipes and gear units).
- 10) Prior to starting the work phases, ensure that the entire working unit (machine and tractor) is stable.
- 11) During maintenance, ensure that the machine is completely at a standstill and disconnected from the power supply.
- 12) Do not use the truck for road transportation (if required).
- 13) During use, adjustment or maintenance, avoid the rubber parts of the machine (gaskets, etc.) coming into contact with oil, grease or oil derivatives.
- 14) For all electrically operated machines, the connection should be carried out in a location protected from rainfall.
- 16) If the outlet is connected to pipes or hoses, check that the fixing joints are in perfect condition; do not stand close to them due to the danger of explosions and lacerations
- 17) Operate and store the machine in a dry place, protected from rainfall, in the case of prolonged lack of use.
- 18) Ensure that the machine is on a flat surface.
- 19) Never climb over or lean out beyond the outer screens of the separator; never use ladders, or the like, on the lifted platforms of the machine.

8. MAINTENANCE



Before carrying out any maintenance operation, stop the machine and disconnect it from the power supply.

1) At the end of its use, wash the machine to prevent the sewage from solidifying, which would otherwise block the holes of the filter or cause sediment to form on the bottom of the machine.

Contact DODA authorised dealers directly for all spare parts.

Carry out maintenance on the following parts:

FILTER SUPPORTS

Every 500 hours, grease the 4 filter supports using the manual greasers installed or install automatic $\frac{1}{4}$ " greasers (see fig.23).





BRUSH

- Check that shaft **F fig. 22** rotates when the machine is working. If this is not the case, act manually on support **G**: loosen bolt **H** and turn the support in the direction of the arrow. This rotation brings the drum-cleaning brush closer by approximately one millimetre every five degrees of the graduated scale. The brush will be completely worn once the 0° index has been reached compared to reference **E**.

N.B.: there are two supports G, one opposite the other, and therefore they should be adjusted in perfect alignment.

BRUSH REPLACEMENT

The brush is an important element that allows constant cleaning of the filter drum, during the working and the washing cycles of the machine. Made up of a roller covered with steel bristles it is subject to wear and tear, and therefore should be replaced as soon as it is completely worn down.



WARNING

Always stop the machine and disconnect all electrical elements before carrying out these operations.

IMPORTANT: Wash the brush manually at least once a week. Complete and careful manual washing of the machine (rollers, drum, brush, loading tank, liquid collection tank) at the end of each job, guarantees optimal life of the transmission parts and better working of the product.

Reduction gear maintenance:



Maintain the gearbox in conditions of maximum efficiency by carrying out the scheduled maintenance operations envisaged by the Manufacturer.

Good maintenance will ensure the best performance, a longer service life and a constant maintenance of safety requirements

Frequency	Component	Type of Intervention	Action
1000 h	External seals and gaskets	Check oil level. Visual check for leaks	Possible maintenance or replacement of components
3000 h	For gear units with torque arm: bushings made of polymeric material	Verify that they have not aged/or chapped	Replace if their effectiveness is compromised
5000 h	Gaskets seals and gaskets	Accurate control of wear or possible aging of external seals	In case of wear or aging, replace the seal

Depending on the temperatures reached by the lubricant, the replacement of the lubricant must be carried out roughly at the intervals indicated in table (A4) below.

Oil Temperature t (°C)	Hours
T< 65	25000
$65 \le t < 80$	15000
$80 \le t < 95$	12500

Before starting the gearbox, check the lubricating oil level.

This operation must be carried out with the gear unit placed in the assembly position where it will really be installed. If necessary fill or top up, always referring to the middle of the level cap which can be of the transparent or touch type.



In lubricated gear units "for life", and in the absence of external contamination, periodic lubricant changes are not normally carried out.



Do not mix brand oils or different characteristics and check that the oil in use has high anti-foam and EP characteristics

If you do not have the same type of lubricant, completely empty the oil reducer and proceed to an internal wash with a light-type solvent, before the next filling.

OIL REPLACEMENT

- 1. Place a container of suitable capacity under the drain plug
- 2. Remove the fill and drain plugs and allow the oil to drain

$\cancel{1}$ To facilitate the discharge operation it is good to work with hot oil

- 3. Wait a few minutes for all the oil to come out, then screw the drain plug back in after replacing the relative seal
- 4. Enter the new oil only after installing the gearbox in its final position until the level cap centerline is reached
- 5. Screw in the filler cap after replacing the relative seal

The gearbox can be supplied with or without the lubricant charge, according to customer specifications. The quantity of oil to be inserted is shown in the corresponding sales catalog. It should be noted, however, that this quantity is indicative and that in any case reference should be made to the center level of the level plug, which is arranged according to the assembly position specified during the order .

Lubricants, solvents and detergents are toxic products harmful to health:

- if placed in direct contact with the epidermis they can generate irritations
- if inhaled they can cause serious poisoning



- if swallowed they can result in death

Handle them carefully using appropriate personal protective equipment. Do not dispose them in the environment and dispose them in compliance with the laws in force



If a leak has been found, before restoring the quantity of lubricant it is necessary to identify with certainty the cause of the defect, before putting the reducer into service again.

	Tivela S 220		3
	Tivela S 320		
	Tivela S 460		
~	Donax TX		
Bhell	Donax TA		
	Cassida Fluid WG 460	F	
	Cassida Fluid HF 46		
	Tivela GL 00		
	Blasia S 220		
	Blasia S 320		
	Spartan EP 220		
(100)	Spartan EP 320		
	Klübersynth GH 6 220		
	Klübersynth GH 6 320		
	Klübersynth UH1 6-460	F	
	Glygoyle 320		
	Glygoyle 460		
	Mobilgear SHC XMP 220		
Mobil	Mobilgear SHC XMP 320		
	Mobil SHC 630		
	Mobil SHC 632		
	Glygoyle 460 UH1	F	
	Alphasyn PG 220		
⊜Castrei	Alphasyn PG 320		
	Carter SY 220		
3	Carter SY 320		
TOTAL	Carter SY 460		
	Nevastane SY 460	F	
	Degol GS 220		
	Degol GS 320		
	Degol PAS 220		
0	Synlube CLP 220		
TEXACO	Synlube CLP 320		
- A	Renoling PG 220		
1	Renoling PG 320		
1.1		10 C	
G = G	rasso	Uso ra	accomandate

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9. STICKERS

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The stickers found on the machine are the following:



ATTENZIONE!

Non aprire il coperchio di protezione quando la macchina è in funzione. Disconnettere la linea di alimentazione prima di avvicinarsi alla macchina.

WARNING!

Do not open the protection cover when the machine is functioning. Switch the supply line off before approaching the machine.

WARNING: DO NOT OPEN THE PROTECTION COVER OF THE SEPARATOR WHEN THIS IS IN FUNCTION AND POWERED BY THE ELECTRICAL PANEL.

ATTENZIONE Prima di posizionare la macchina verificare che il motore sia collegato nel senso di rotazione indicato dalla freccia.

WARNING Before placing the pump control the turning direction of the motor it must run as pointed out by the arrow. DODO THIS STICKER REMINDS YOU TO CHECK THE DIRECTION OF ROTATION OF THE ELECTRIC MOTOR BEFORE STARTING THE MACHINE



WARNING: DO NOT TOUCH OR COME NEAR THE SIDES OF THE SEPARATOR IF THERE ARE NO PROTECTIVE SIDE CARTERS PRESENT.



THE MACHINE MUST BE INSTALLED ON A FLAT SUR-FACE. EVEN WHEN IN FUNCTION, IT MUST NEVER BE INCLINED. THE SEPARATOR MUST BE FIXED TO THE SURFACE BUT UNDER NO CIRCUMSTANCES SHOULD IT BE WELDED PERMANENTLY TO THE SURFACE.



CHECK FOR WEAR AND TEAR OF THE FILTER DRUM-CLEANING BRUSH.

THE 130° INDEX INDICATES THAT THE BRUSH IS NEW; THE BRISTLES OF THE BRUSH ADVANCE BY ONE MILLIMETRE APPROXIMATELY EVERY 5° FOR A MAXIMUM GAIN OF APPROXIMATELY 3 CM; THE 0° INDEX INDICATES THAT THE BRUSH IS COMPLETELY FINISHED AND MUST BE REPLACED.



Sticker for conformity with EEC regulations

- 1) COMPANY NAME
- 2) MONTH AND YEAR OF MANUFACTURE
- **3) PRODUCT IDENTIFICATION CODE**
- 4) MACHINE TYPE

10. PERFORMANCE AND TECHNICAL DATA

ROTARY SEPARATOR IN AISI 304 STAINLESS STEEL WITH DOUBLE FILTER DRUM DIAM 940 MM AND LENGTH 1.5 M X 2 UNITS. ELECTRIC MOTOR 0.75KW WITH REDUCTION GEAR. DRUM ROTATION SPEED APPROX. 6 REVS/ MIN. DIRECT FRONTAL LOADING. DOUBLE SPIRAL ARCHIMEDEAN SCREW IN STAINLESS STEEL WELDED DIRECTLY TO THE FILTER SURFACE. AUXIL-IARY PRESSURE FLUSHING DEVICE INTEGRATED INTO THE STRUCTURE AND WITH AUXILIARY BRUSHES OF 1.50 M. FRONTAL OVERFLOW TANK. LOAD-BEARING STRUCTURE.

IMPORTANT: the loading pressure at the inlet of the Separator must never exceed 0.3 atm.

















EC DECLARATION OF CONFORMITY WITH DIRECTIVE 2006/42/EC AS AMENDED

WE

DODA di Doda Aldo & C. S.n.c.

Via Contrargine Sud, 3/5 40010 Canicossa (Mantova)

DECLARE, UNDER OUR EXCLUSIVE RESPONSIBILITY, THAT THE PRODUCT,

E01604009C—ROTARY SCREEN SEPARATOR SERIAL N° 18/0564

TO WHICH THIS DECLARATION REFERS CONFORM TO THE REQUIREMENTS OF DIRECTIVE 2006/42/EC AS AMENDED.

CANICOSSA (MANTUA)

MARCO DODA C.E.O.

The authorized person to draw up the technical dossier is Mr. Doda Marco, C.E.O. of

DODA COSTRUZIONE MACCHINE AGRICOLE of DODA ALDO & C. SNC Via Sante Salmaso 18/20 46010 Buscoldo (MN).

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