

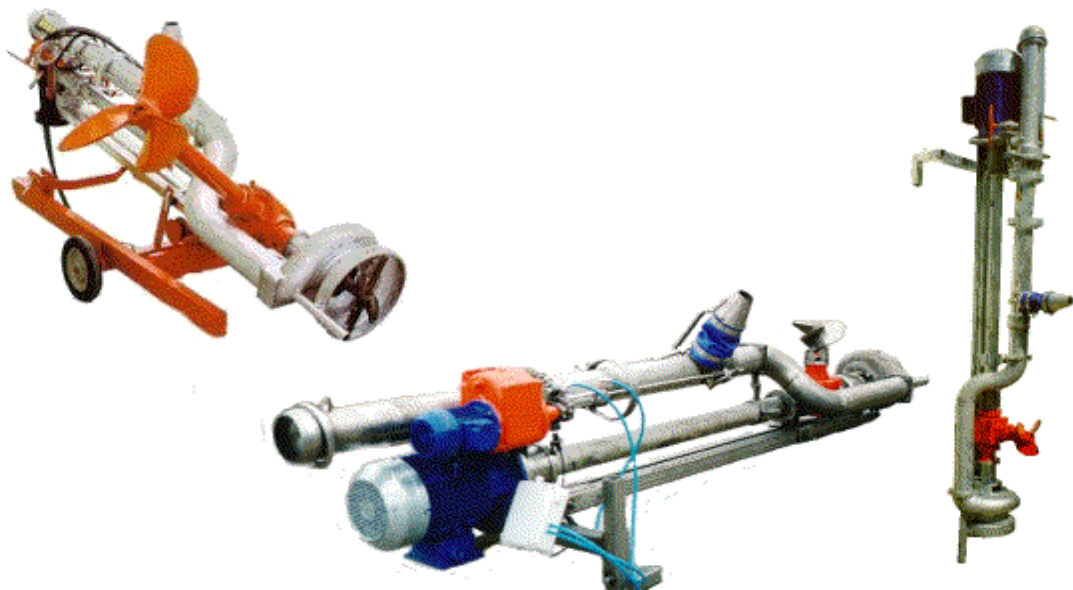


*COSTRUZIONE MACCHINE AGRICOLE
di DODA ALDO E C. SNC*

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USE AND MAINTENACE BOOK

CHOPPING EMULSIFYING MIXING VERTICAL-AXIS PUMPS SERIES ULTRA



All right reserved, copyright of this catalogue only under licence from DODA s.n.c.

Data and measures written in this catalogue are approximate and there will be some changes without previous advice.

DDODA thanks you for having bought an item of its production range and invites you to read this manual.

In it you find all necessary information for the correct use of the machine bought. Therefore we recommend you to read it wholly and follow all instructions contained in it.

Furthermore please keep it in a suitable place, so that it could remain unaltered.

The content of this manual can be changed without notice or additional obligations, in case changes or improvements to the units already delivered could be necessary.

It is forbidden to copy or translate any part of this manual without previous authorization.

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EC CONFORMITY DECLARATION ACCORD-
ING TO DIRECTIVE 2006/42/EC AND FOLLOW-
ING MODIFICATIONS.

1. INTRODUCTION

The machines described in the following "USE AND MAINTENANCE" booklet is a chopping, emulsifying, mixing vertical-axis pump.

It consists in a combination of SUPER pumps and MOVRED mixer.

These pumps are employed for managing thick and/or non-homogeneous manure.

They are provided with the following devices:

- double chopping system realized with blades, counter-blades, rotor, counter-rotor;
- Flow-back pipe enabling the homogenizing of the treated substance by means of a revolving nozzle;
- mixing device for liquid manure disaggregation.

Manufactured in various models with varied performance and power absorption, they are supplied in the following versions: with cardan joint, powered by electric or hydraulic motors.

The galvanised structure, the oil-bath drive system and the high quality of materials used assure the machine high durability and simple maintenance.

From the technological point of view, the concept adopted for all other DODA products has been applied to this machine as well:

" Highest quality for highest reliability and longest service life ."

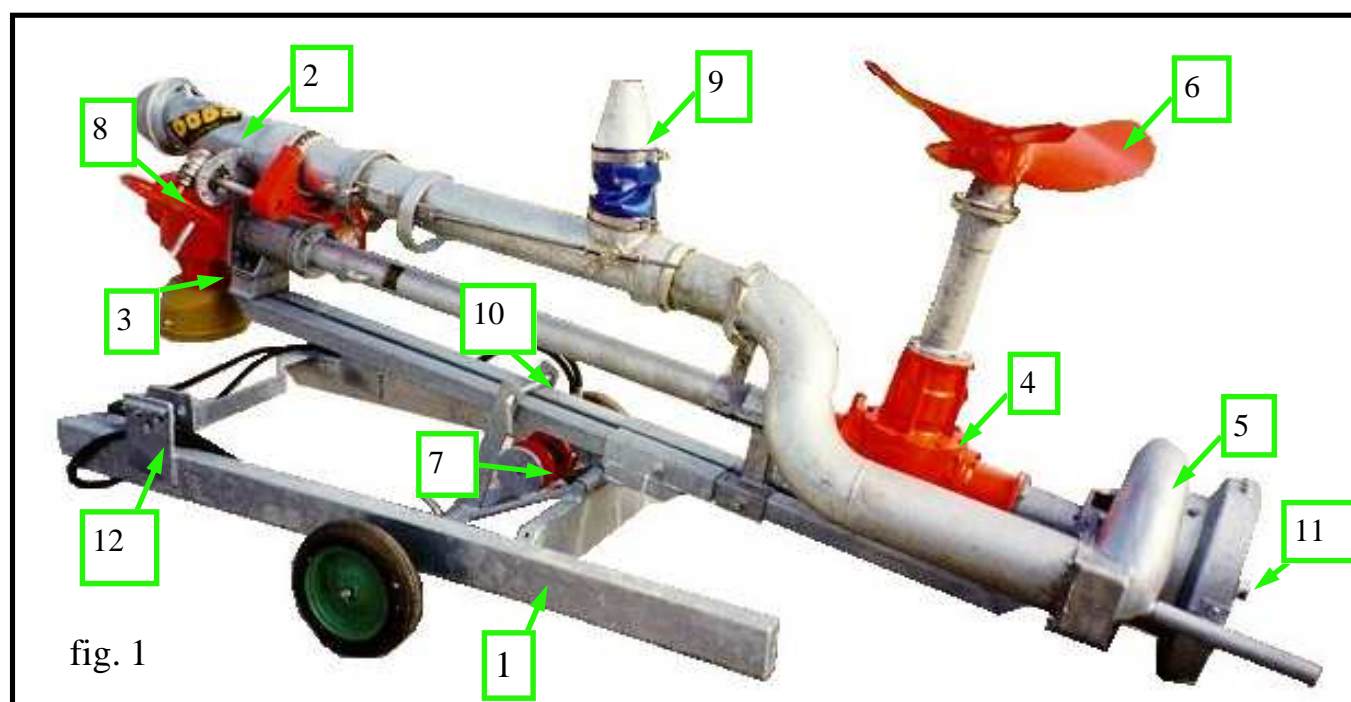
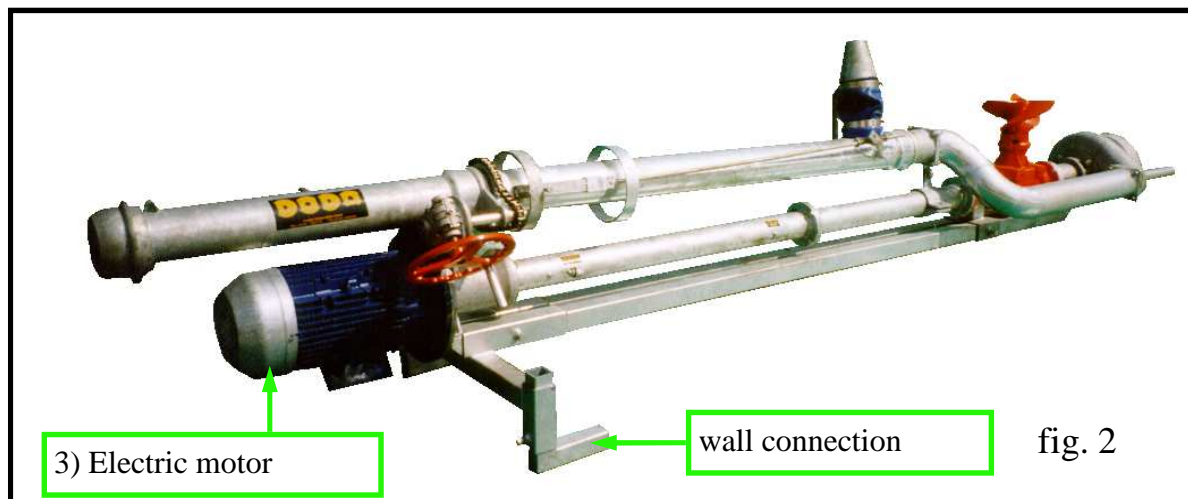


fig. 1

- | | |
|----------------------------------|--------------------------------|
| 1) Trolley for Super 120-150-200 | 7) Manual/ Hydraulic winch |
| 2) Upper discharge pipe | 8) Cone rotation winch |
| 3) Gearbox / Electric motor | 9) Mixing cone |
| 4) Mixer gearbox | 10) Pump tightening pin |
| 5) Pump body | 11) Chopping blade |
| 6) Mixing device | 12) Tractor lifting connection |



2. MACHINE LOADING AND UNLOADING

The machine loading and unloading operation can be carried out:

- by means of a lift truck;
- by means of a hoisting crane.

N.B.: the carrying capacity of the sling must be seven times as much as the machine total weight (if it is made of a textile fibre).

WARNING: in either case the machine must not be lifted by catching on the weakest parts of the structure (delivery pipes, etc...).

WARNING : before lifting the structure, be sure that it is well-balanced.

WARNING: never move abruptly or bump stainless steel parts with the forks of the lift truck.



3. GENERAL WARNING

- 1) Check that no component has been damaged during transport, in this case contact immediately our dealer .
- 2) The power supply connection has to be carried out only by skilled workers and according to DODA instructions (by connecting the cables of the electric motor to the power supply or the pump to the tractor by means of the cardan shaft). DODA is in no way responsible for any electric connection. (please follow the instructions on the motor plate and on the sticker showing the rotation direction).
- 3) Before starting the machine, check that the rotating driving parts are suitably protected, as foreseen by their manufacturer.
- 4) If the protection of a rotating component is not provided, the user has to supply the machine with it in conformity with the provisions of the law.
- 5) DODA has no responsibility for modifications which could alter the characteristics of the machine bought.
- 6) DODA machines must not be installed on structures not consistent with EC safety regulations foreseen by the Community Directives.
- 7) Before operating the machine it is indispensable to read carefully all directions in the **“Use and Maintenance”** manual. Above all, you have to be sure to have completely understood the machine functioning.
- 8) The machine is designed for the treatment of water and slurry, but not of chemical products. Therefore if these substances are treated with our machine, it could be damaged permanently.
- 9) Check that the machine length is adequate to the depth of the tank.
- 10) As regards machines with oil-bath driving, the driving pipe as well as the geared units (if presents) must be filled with oil..
- 11) Carefully avoid that during mounting, machine rubber parts come into contact with oil, grease or oil derivatives.
- 12) For models provided with disengagement of the mixing unit, operate lever only when the machine is not working.

4. PRELIMINARY CHECKS

Our machines are supplied without lubricating oil either in the driving pipes or in the geared units. Before starting the machine, fill in the lubricating oil:

- unscrew inlet and vent caps;
- Pour SAE90 oil **very slowly** according to according to the oil quantity indicated in oil quantity tables;
- fill with high-temperature resistant synthetic oil suitable for gearboxes (ONLY AFI REVERSE GEAR)
- wait at least 3 hours before checking the oil level (ONLY FOR DRIVING PIPES);
- close caps.
- Check oil level periodically: it has never to be beyond the indicated level.

N.B. During filling and inspection operations, the drive line pipe has to be vertical.

INDICATIVE OIL QUANTITY LEVELS FOR DRIVING PIPE

Pump length (cm)	250	300	350	400	450
Oil quantity (kg)	0.5	3.2	4.7	5.6	6.6

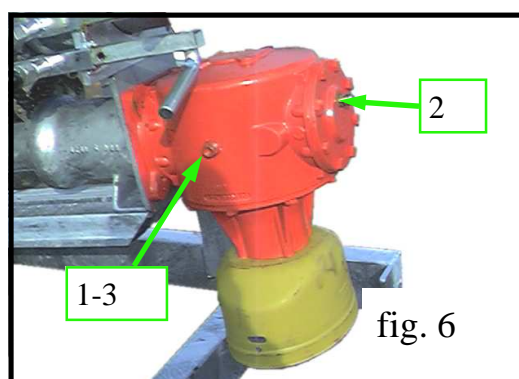
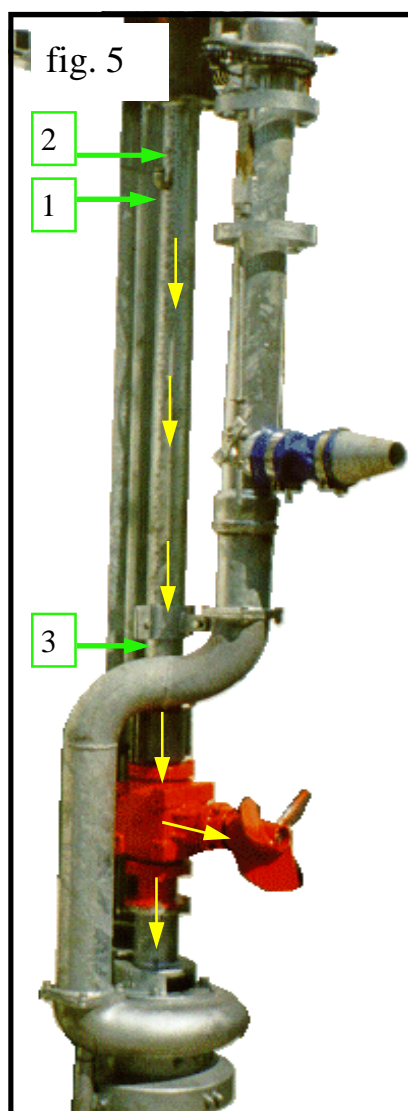
Pump length (cm)	500	550	600	650
Oil quantity (kg)	10.2	11	12.2	13.5

Reduction unit blade	fixed	revolving
Oil quantity (kg)	4	6.7

Pipe blade Ultra	short	long
Oil quantity (kg)	1	2

Reduction unit Super	120	150	200
Quantità olio (kg)	1	3	3

1) Oil fill 2) Oil blow air out 3) Oil level



WARNING: the oil introduced through elbow 1 runs along the whole drive line: pipes and gearboxes, mixing blades and connected extensions, if any.

5. POSITIONING AND TRANSPORTATION

N.B.: As far as all machines with Cardan are concerned, connect the Cardan shaft between the tractor power take-off and machine unit. For good functioning, the Cardan shaft must operate on ground level. Also check that the chain, on issue for Cardan-shaft protection, is fastened to the ring.

N.B.: As far as the machines powered by electric motor are concerned, DODA is not responsible for any electric connection (please carefully follow directions on plate on motor as well as on sticker indicating the rotation sense).

N.B.: For transporting the machine on long distances, load it on an suitable vehicle by following directions indicated in paragraph "MACHINE LOADING AND UNLOADING". Never use a tractor for the machine road transport.

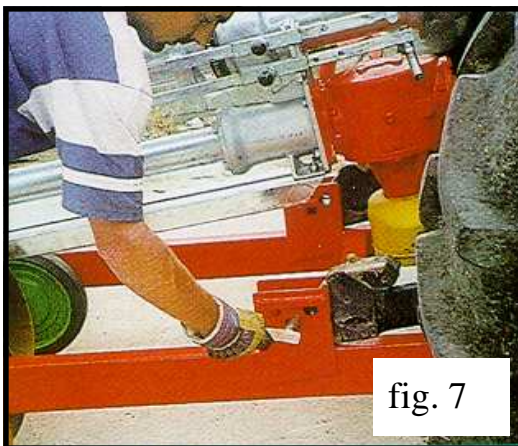


fig. 7

Fasten the trolley to the tractor lifting device by means of the special pins fig. 7. Back up until the tank edge is reached. Remove wheels fig. 8, lower the tractor lifting device by resting the truck on the tank wall fig. 9. Draw out the machine blocking pin A fig. 9.



fig. 8

Hold the structure of the reduction unit and slowly move it inside the tank fig. 11. Complete immersion is obtained by means of the manual winch, or the hydraulic winch (available on request) located on the trolley fig. 10.

If the tank bottom is reached, lift the machine some centimetres by means of the winch.



fig. 9

The version with electric motor and wall connection is connected by simply resting the brackets on the tank wall. Brackets are adjustable according to tank side thickness. (Fig. 12)



These pumps are normally stationary, but on request a manual or electric winch can be installed in order to lift and lower the pump.

6. WORKING

WARNING: read section “GENERAL INSTRUCTIONS” before setting the machine in motion.

After having positioned the machine and checking its stability during normal functioning you can start operating it.

As for all versions provided with an electric motor, after having checked the correct rotation direction, connect them to supply.

Starting phases:

- start tractor;
- operate the lever engaging the tractor’s power take-off;
- bring tractor to desired speed rate.

Stop phases:

- disconnect the tractor's power take-off;
- disconnect the Cardan shaft on the pumping-unit's side (par. A fig. 14) and insert it in place of the winch lever B fig. 14. (NO FOR VERSION WITH HYDRAULIC WINCH)

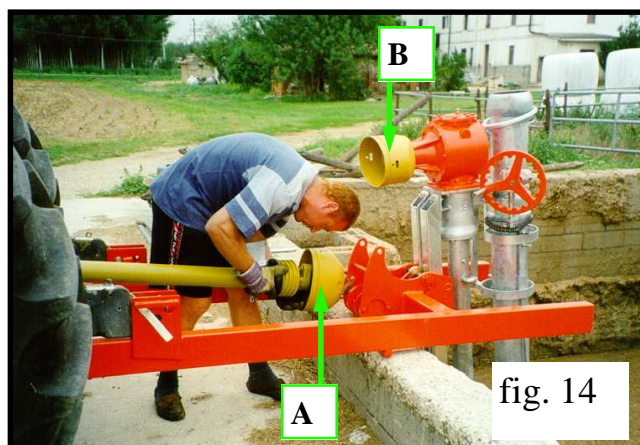


fig. 14

- Start tractor's power take-off, in order to raise the pump about half its length.
- disconnect the tractor's power take-off;



fig. 15

- Move tractor forward so that the pump lies on the carriage on one side and on the wall's edge on the other fig. 15.

- Conclude pump retrieval by starting tractor's power take-off again. Fasten the pump by means of the special locking pin A fig. 9
- stop tractor's engine;



fig. 16

The outflow and the direction of the slurry drained away can be managed by special levers fig. 16:

- the first one opens and closes the butterfly valve which regulate the slurry direction towards the cone or the outlet pipe; remember to reduce tractor's speed ratio before starting this operation.
- the second directs the slurry flow vertically, in case the slurry comes out of the cone.

Cone rotation is carried out by means of the winch fig. 17 on the output pipe.

WARNING: if the manure is very liquid, some substance could come out of the output pipe during pumping operation, even if the valve is completely closed.

At the same time as the pump is started, the mixer comes into operation, too, to melt the hardest product's part. The mixing unit can be oriented along a 120° radius by means of a winch B fig. 18

- To disconnect the propeller (item 6 fig. 1) set lever C fig. 18 on position 2.

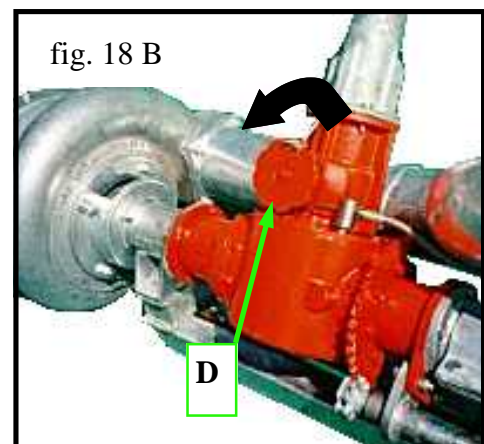
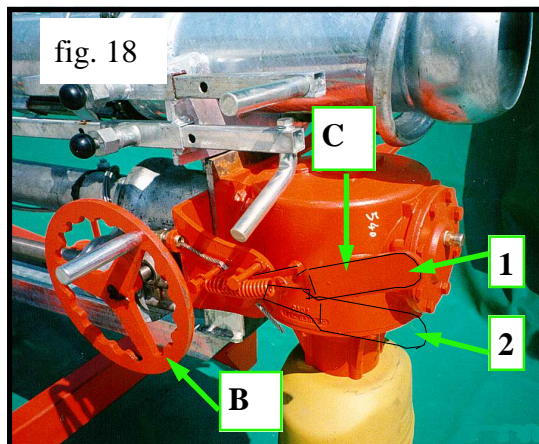
- To re-connect propeller :

- **Stop the tractor and disconnect PTO shaft.**

- Move lever C to position 1 Fig. 18

- Take the pump out of the tank (fig. 15)

- Turn by hand item D as indicated on fig.18B and connect gear by moving a little bit the propeller



7. WORK AND SAFETY RULES

- 1) Both during working phases and inspection ones, wear always proper clothing (overalls, gloves, helmet, accident prevention shoes, fastened clothes, etc...).
- 2) The machine has always to be used in a well-lit place.
- 3) Since gases released by liquid manure are poisonous, check that:
 - the work area is suitably ventilated;
 - the machine is not used near to flames.
- 4) Never inspect the liquid manure tank alone. If you loose your balance or if you feel faint due to fumes, ask for help immediately.
- 5) If you do not need to work in a tank, cover it.

- 6) The machine has to be used only by accountable adults and in a place not be accessible to children.
- 7) Do not carry out operations or adjustments when the machine is in motion or when it is connected to supply.
- 8) The machine has to be employed only if all necessary protections are correctly positioned, by following the instructions indicated in the previous paragraphs to avoid possible contacts with moving parts. Do not damage or remove such protections.
- 9) The machine can be set in motion only if it has already been filled up with oil (drive pipes and gearbox).
- 10) Before starting work phases, check that the whole assembly is stable (machine and tractor).
- 11) During maintenance verify that the machine is perfectly standing and disconnected from supply.
- 12) The trolley has not to be used for road transport (if foreseen).
- 13) During operation, maintenance or adjustment, the rubber parts of the machine (gaskets, etc...) have not to come into contact with oil, grease or oil derivatives.
- 14) Make sure that motor rotation is clockwise as indicated by the arrow on the motor (if foreseen).
- 15) As regards machines provided with electrical supply, the connection has to be carried out in a place protected from atmospheric precipitation.
- 16) If the delivery line is connected to pipes or hoses, check that the suitable fastening joints are in perfect conditions; do not stop near to them, due to danger of bursting and tearing.
- 17) Work and keep the machine in a dry area and protected from rainfall, if it is not employed for a long time.

8. MAINTENANCE

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

- 1) Check the oil level regularly in machine parts requiring lubrication, (driving pipes and geared units) and replace oil completely after 50 working hours and every 1500 working hours or every years (use the oil SAE90).
- 2) Each 50 operating hours lubricate all parts which need it. (lubricators, piston articulated joints, gear wheels, etc...)
- 3) At the end of its utilisation, wash the machine to prevent liquid manure from solidifying: this would cause damages.
- 4) Check periodically impeller and blade wear conditions . Replace them if necessary.

As regards all spare parts, apply directly to DODA authorized dealers. the gearbox oil should be changed after the fist 50 working hours.

ATTENTION!

When the machine is new we recommend that the gearbox oil should be changed after the fist 50 working hours.

9. STICKERS

The machine is provided with the following stickers:



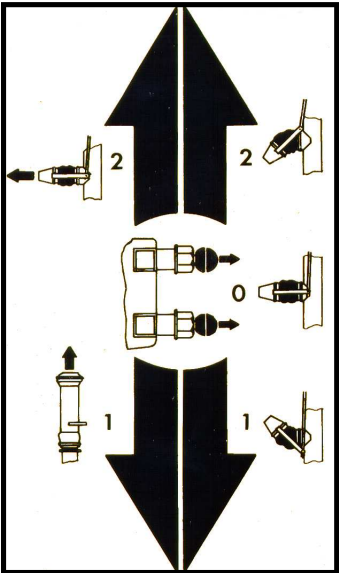
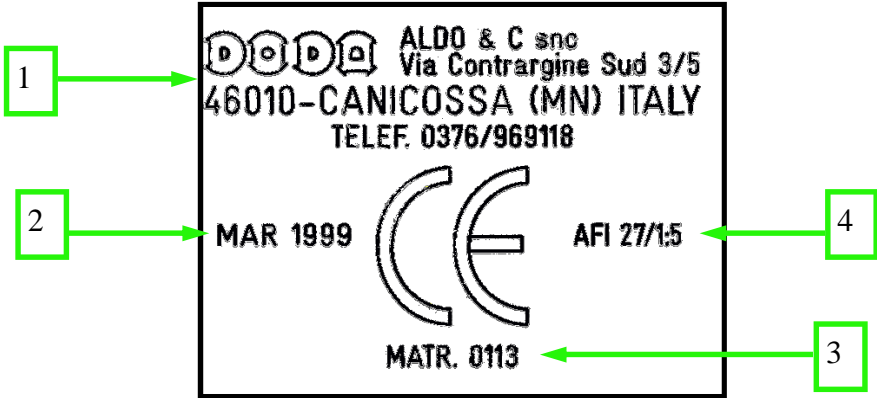
IMPORTANT: FILL UP THE MACHINE WITH SAE 90 OIL TILL THE INDICATED LEVEL BEFORE USING IT.



FILL UP THE MACHINE WITH OIL TILL THE LEVEL INDICATED AND CHECK IT PERIODICALLY.



THIS STICKER REMINDS YOU TO CHECK THE ROTATION DIRECTION OF THE MACHINE ELECTRIC MOTOR BEFORE STARTING THE MACHINE.



Sticker consistent with EC rules:

- 1) NAME OF FIRM
- 2) MONTH AND YEAR OF PRODUCTION
- 3) SERIAL NUMBER
- 4) TYPE OF MACHINE

OPERATIONS TO CARRIED OUT THROUGH THE LEVERS OF DELIVERY PIPE:

- LEVER FOR THE MIXING CONE DIRECTION CONTROL;
- LEVER FOR THE FLOW CONVEYING BUTTERFLY VALVE.

10. PERFORMANCE AND TECHNICAL DATA

The whole structure is hot-galvanised and assure pump service life: the pump needs maintenance very rarely, thanks to its oil-bath drive. The technical features assuring a DODA high reliability are several:

- Pump bodies made of nodular cast iron and stainless steel or hot-galvanised metal structural work.
- Pump body shafts made of stainless steel AISI 304
- Impellers made of stainless steel, nodular cast iron, hardened steel.
- Pressed blades made of hardened manganese-vanadium alloy steel.
- Drive-column made of a hot-galvanised. High-resistance mechanic pipe.
- Drive shaft made of a drawn round bar \varnothing 30 with dovetailing in C40
- Oversized multiplier.
- Double oil retainer or (on request) mechanic seal in Widia with Widia.

Mod Pompa Pump mod. Mod. pompe Pumpenmodell	Tubo Uscita (ømm) Outlet pipe (ømm) Tuyau sortie (ømm) Auslab (ømm)	Giri Girante Impeller revolution Tour de la turbine U/des laufrades	Portata (l/min) Capacity Débit Förderleistung	H (m) H (m) H (m) H (m)	HP assorbiti HP absorbed HP absorbés Leistung PS	CV motori e. CV electric motor CV moteurs el. Elektrische no. PS
Super ME 100/7.5	100	1450	2000	7.5	6.5-7	7.5
Super ME 120/12.5 Ultra ME 120/12.5	120	1450	2800	15	10-12	12.5
Super ME 120/15 Ultra ME 120/15	120	1450	3000	18	12-14	15
Super ME 120/20 Ultra ME 120/20	120	1450	3400	22	17-19	20
Super ME 120/25 Ultra ME 120/25	120	1450	3800	24	22-24	25
Super 120	120	1600	4000	25	40-60	-
Super 150 Ultra 150	150	1600	6500	30	60-100	-
Super 200	200	1600	11000	50	80-130	-

EC DECLARATION OF CONFORMITY AS DEFINED BY DIRECTIVE 2006/42/EC AND FOLLOWING MODIFICATIONS

WE

DODA owned by Doda Aldo & C. S.n.c.

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FOLLOWING PRODUCT:

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TO WHICH THIS DECLARATION REFERS, CONFORMS TO DIRECTIVE
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ALDO DODA
CEO

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