



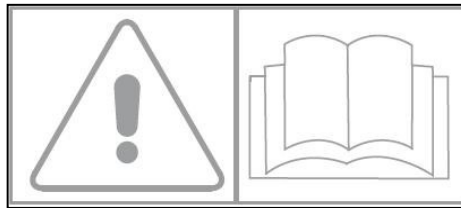
*COSTRUZIONE MACCHINE AGRICOLE
di DODA ALDO & C SNC*

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USE AND MAINTENANCE MANUAL



AFI SERIES CHOPPER PUMPS



The data, images and performances specified 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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SYMBOLS USED IN THE MANUAL

<i>MEANING</i>	<i>NOTE</i>	<i>SYMBOL</i>
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	
EX WARNING	Particularly important warning relating to potentially explosive atmospheres	
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 all sections of the booklet.

Please also store the booklet in a safe place and do not alter it. 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

CHAPTER	DESCRIPTION	PAGE
1.	Introduction	pg. 1
2.	Machine Loading and Unloading	pg. 2-3
3.	General Warnings	pg. 4
4.	Preliminary checks	pg. 4
5.	Positioning and transportation	pg. 6
6.	Operation	pg. 7
7.	Working and Safety Guidelines	pg. 7
8.	Maintenance	pg. 9-17
9.	Stickers	pg. 18-19
10.	Performance and Technical Data	pg. 20
11.	Optional equipment	pg. 21
12.	Guidelines for pump body disassembly and reassembly	pg. 22
13.	Guidelines for pulley disassembly and reassembly	pg. 23-24
14.	Problems and solutions	pg. 25
EC DECLARATION OF COMPLIANCE WITH DIRECTIVE 2006/42/EC AS AMENDED		

1. INTRODUCTION

The machine described in this "Use and Maintenance" booklet is a pump designed to handle non-homogeneous animal waste or industrial plant processing residue that is difficult to pump. The solid residue contained in the sewage is broken down by the double chopper with which the AFI pumps are equipped (blade / counter-blades and rotor / counter-rotor), making it easier to transfer.

Thanks to the AFI pumps, the sewage may be:

- collected and input into the collection tanks;
- conveyed to the fertigation system pipes;
- loaded onto tankers for transportation.

AFI pumps feature carbide mechanical seals.

Manufactured in various models with variable performance and power absorption. The following operation options are available: cardan joint, electrical or hydraulic drive motors.

Technologically, this machine was also built in accordance with the concept applied to all DODA products:

"Highest quality to obtain the maximum reliability and durability."

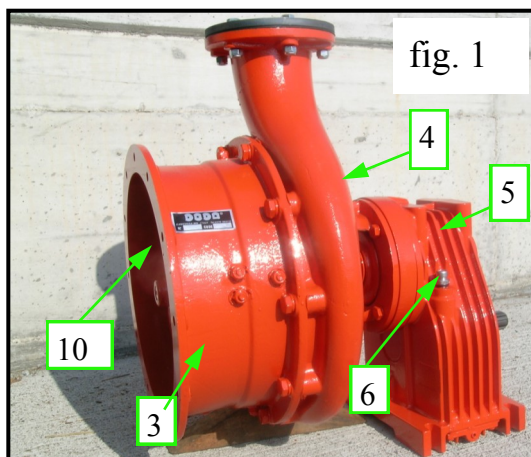


Fig. 1 shows a pump with cardan transmission. The gear ratio is specified on the plate located on the PTO box. Various models of the pump are available, with or without a cart or support frame.

Fig. 2 shows the same model with an electric motor. The plate on this pump specifies the connection type and voltage. Various models of this pump are also available, with or without a truck or frame.

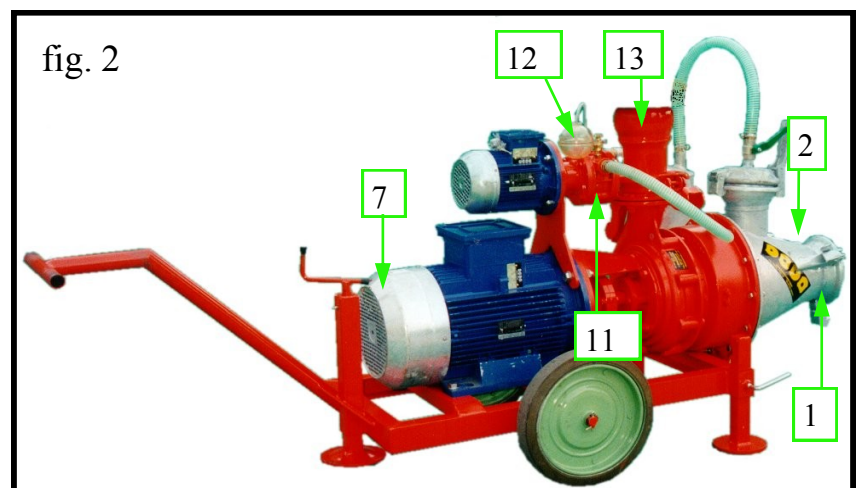
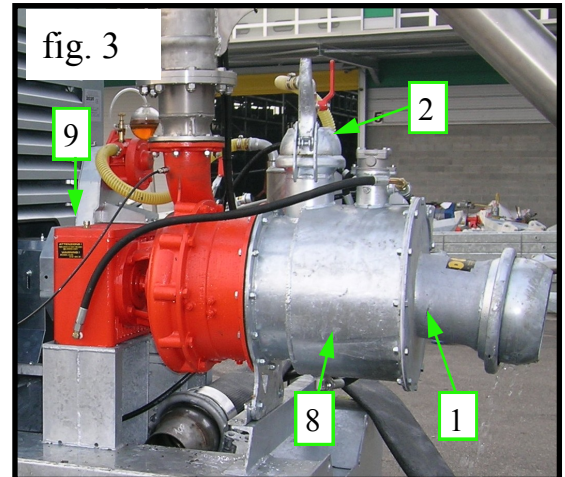
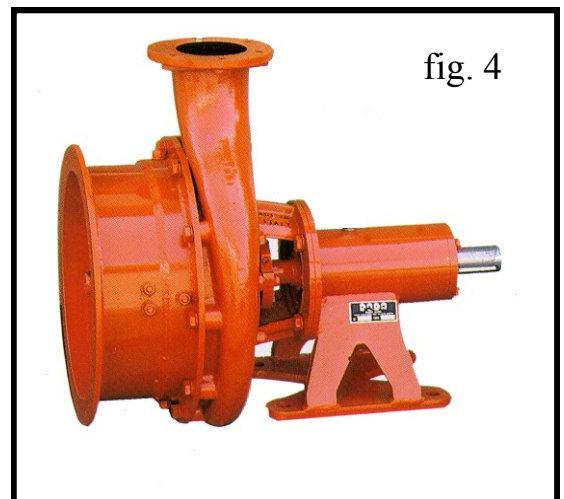


Fig. 3 shows the version with a "IV" unit that connects to internal combustion motors (ideally diesel), thus taking advantage of the low number of revolutions. This version features an oil cooling system contained in the gearbox.



- 1) Suction cone
- 2) Cap for introducing priming fluid
- 3) Conveyor
- 4) Pump body
- 5) PTO box
- 6) Oil filler, level and breather cap (AFI units with shaft)
- 7) Electric motor
- 8) Cooling system for AFI pumps with "IV" unit.
- 9) "IV" gearbox
- 10) Chopper blade
- 11) Vacuum pump
- 12) Vacuum pump oil tank
- 13) Delivery



2. MACHINE LOADING AND UNLOADING



NOTE: If manoeuvres are performed using a forklift, do not knock the easily breakable parts, and move very slowly.

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

NOTE: in all cases, the machine must not be lifted by gripping the weakest parts of the structure (delivery pipes, etc.).

NOTE: before lifting, ensure that the structure is balanced

NOTE: do not make sudden manoeuvres.



Never leave a suspended load unsupervised!



Do not make sudden manoeuvres, or knock the steel parts with the forks of the lift truck.



Never stand under the suspended load when lifting, transporting or unloading the machine!



Before lifting, ensure that the structure is balanced!



fig. 5



fig. 6

3. GENERAL WARNINGS



- 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 how the machine operates.
- 8) The machine was designed and constructed to treat water and sewage, but not chemical products. Treating the latter substances may cause permanent damage.
- 9) Check that the length of the machine is appropriate to the depth of the tank.
- 10) With regard to machines with oil bath transmission, the transmission pipe and the gear units, if present, should be filled with oil.
- 11) During assembly, ensure that the rubber parts of the machine do not come into contact with oil, grease or oil derivatives.
- 12) The pump must never be run under no-load operating conditions (see "OPERATION").

4. PRELIMINARY CHECKS



The machines are supplied without lubricating oil both in the transmission pipes and the gear units. Before starting the machine, ensure they are filled correctly:

- unscrew the caps: fill and breather;
- **very slowly** add SAE90 oil (**ISO VG150 for HD and IV**) (see oil quantity tables);
- wait at least 3 hours (**ONLY FOR TRANSMISSION PIPES**) before checking the oil level from the relevant cap;
- close the caps.
- check the level cap periodically: the oil must never fall below the level.

If the machine is equipped with a vacuum pump (11 fig. 2), the relevant tank (12 fig. 2) must be filled with fluid oil (hydraulic) to lubricate the vanes.

FOR PUMPS WITH HD AND IV UNITS:

These pumps are equipped with a special double chamber suction cone, which circulates and cools the lubrication oil for the step-up gearbox. In this case, proceed as follows:

- fill the step-up gearbox,
- fill the double chamber of the suction cone,
- start the hydraulic pump of the step-up gearbox moving, so that the oil that has already been introduced circulates throughout the hydraulic circuit. Check the level in the cone and in the step-up gearbox, and top up as necessary.

APPROXIMATE QUANTITIES OF OIL FOR TRANSMISSION PIPE

A7D Unit	AFI L 20	AFI L 24	AFI L 27	AFI L 35
Oil quantity (L)	1	4	4	4
AFI with HD gear unit	Including cooling system			
Oil quantity (L)	12			
AFI with IV gear unit	Including cooling system			
Oil quantity (L)	16			
AFI PD with direct drive support	Including cooling system			
Oil quantity (L)	0.8			

5. POSITIONING AND TRANSPORTATION



N.B.: for machines equipped with a cardan joint, connect the cardan shaft between the tractor's power take off and the machine unit. For proper functioning, the cardan shaft must be parallel to the ground when operating.



Fig. 7

Also check that the chain, supplied to protect the cardan transmission, is connected to the dedicated ring, and that the protective devices are intact.



N.B.: for all machines with electric motor, DODA is not responsible for any electrical connections (follow the instructions on the motor plate and the sticker which indicates the direction of rotation).



N.B.: for transporting the machine over long distances, load it onto an appropriate vehicle, following the instructions in the paragraph “MACHINE LOADING AND UNLOADING”. Never use the tractor for road transportation.

AFI pumps must be placed in the immediate vicinity of the place where suction is to be applied. Connect the suction pipe and the delivery pipe as required. Thanks to the pressure supplied by these pumps, the suctioned material can be transferred long distances or used to feed pressure-based spreaders.



fig. 8

SUCTION

DELIVERY



WARNING: prior to starting the machine, read the “GENERAL WARNINGS” chapter. After establishing and ensuring the stability of the machine, it may be used.

Steps for start-up:

- start the tractor;
- fill the suction cone with water or sewage using the dedicated inlet (2 fig. 3). Use the vacuum pump for quicker priming. See the "OPTIONAL EQUIPMENT" chapter.
- activate the tractor power take off;
- increase the tractor revolutions until the pump starts (the priming time varies based on the depth of the tank and the density of the suctioned material);
- bring the tractor back to the required number of revolutions.

Steps to stop:

- deactivate the tractor power take off by progressively decreasing the speed of the PTO;
- stop the tractor motor;
- disconnect the cardan shaft from both the tractor and the pump;
- remove the suction pipe from the cone to discharge the residual material contained therein;
- open the valve inside the cone (using a suitable lever), to discharge any residual sewage from the pump;

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

WARNING: before opening the delivery pipe, ensure that the system is not still under pressure.

WARNING: never run the pump under no-load operating conditions, without filling the cone (1 fig. 3) using the dedicated filling inlet (2 fig. 3).

If the vertical gap between the surface of the liquid and the suction cone is greater than 3.5M, then use of the foot-valve is recommended (see "OPTIONAL EQUIPMENT" chapter).

7. WORKING AND SAFETY GUIDELINES

page 8

- 1) When working and carrying out inspections on the machine, wear appropriate clothing (overalls, gloves, helmet, safety shoes, fastened clothes, etc.), which have been previously checked and approved by the site's safety manager. The machine should be used in an adequately lit space.
- 2) Check that:
 - the work area is adequately ventilated;
 - there are no naked flames in the vicinity.
- 3) Never inspect the sewage tank alone. In the case of loss of balance or fainting due to fumes, immediate assistance is required.
- 4) When you do not need to perform operations in the tank, it should remain covered.
- 5) Only suitably trained staff can use the machine and access the operating areas.
- 6) Do not perform repairs or adjustment operations when the machine is in operation or when it is connected to the power supply.
- 7) The machine should only be used when all protective equipment is in place, following the instructions identified in the above paragraphs in order to avoid contact with moving parts. Do not damage or remove the protective equipment.
- 8) Never operate the machine without having filled the oil (transmission pipes and gear units).
- 9) Prior to starting the work phases, ensure that the entire working unit (machine and tractor) is stable.
- 10) During maintenance, ensure that the machine is completely at a standstill and disconnected from the power supply.
- 11) Do not use the truck for road transportation (if required).
- 12) During use, adjustment or maintenance, avoid the rubber parts of the machine (gaskets, etc.) coming into contact with oil, grease or oil derivatives.
- 13) Ensure that the motor is rotating in a clockwise direction as indicated by the arrow positioned on the motor (where appropriate).
- 14) For all electrically operated machines, the connection should be carried out in a location protected from rainfall.
- 15) If the outlet is connected to pipes or hoses, check that the fixing joints are in perfect condition; do not stand close to them.
- 16) Store the machine in a dry place, protected from rainfall, when not being used for prolonged periods.
- 17) Never start the machine up under no-load conditions.



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

- 1) Regularly check the oil level of the parts that require lubrication, (transmission pipes and gear units). Replace the oil after the first 50 hours of operation and again after 1500 hours of operation (800 hours for the HD unit) or every year (use **ISO VG150** oil).
- 2) Every 50 hours of operation, grease the rotating parts (lubricators, piston articulated joints, toothed wheels, etc.).
- 3) Wash the machine after use to prevent the residual sewage from generating natural gas (explosion risk) and to prevent corrosion damage.
- 4) Regularly check the state of wear of the blade and the rotor. If necessary, replace them.

Contact DODA authorised dealers directly for all spare parts.



For pumps with the "IV" unit, it is recommended that the oil be replaced after every 500 hours of operation.

Oil should be introduced into both the bell housing and the gearbox.

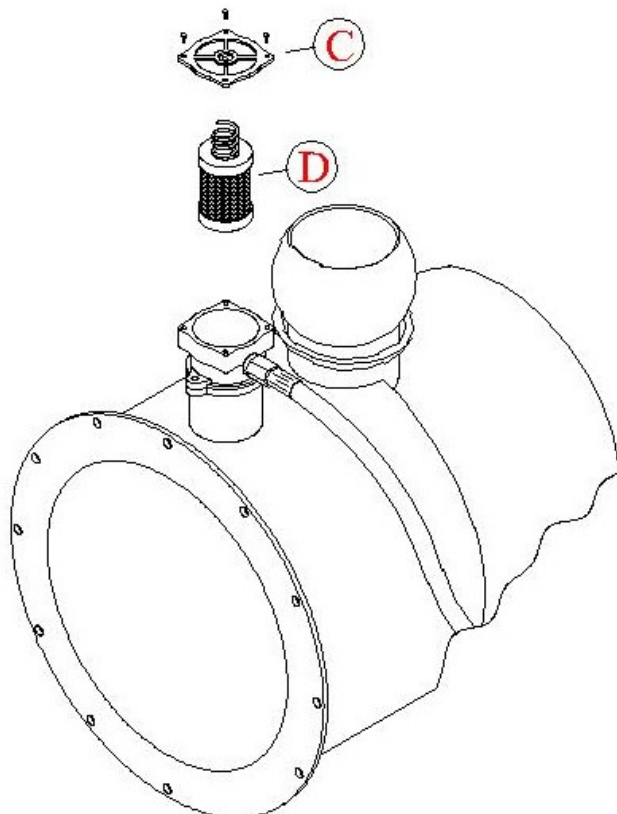
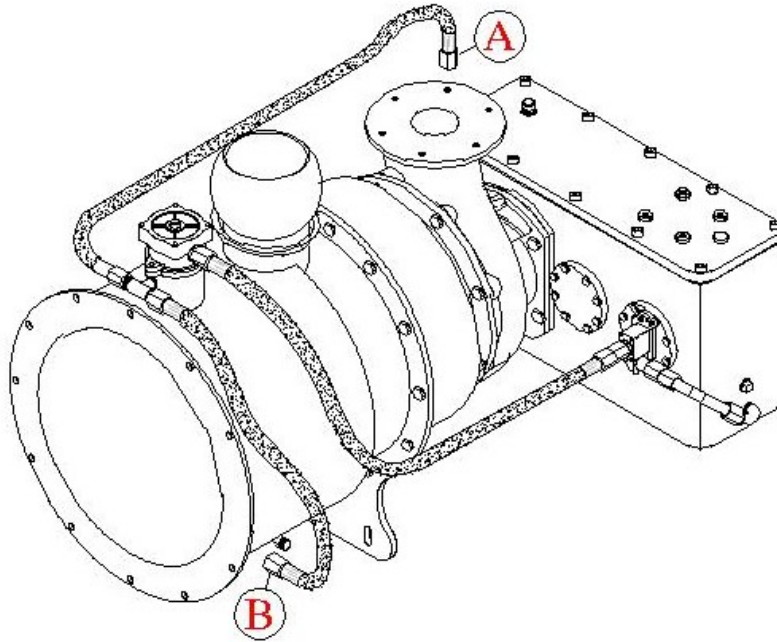
Warning!! If not enough oil is introduced, it will remain in the bell housing and the gearbox will not be properly lubricated.



WARNING!

To properly replace the oil in the "IV" unit, carefully follow the instructions on pages 10 and 11.

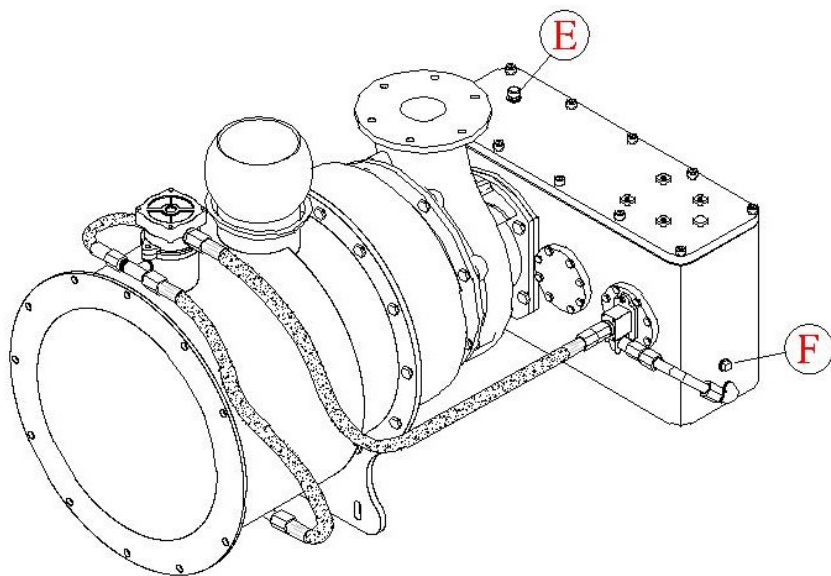
Unscrew connectors "A" and "B" and collect the old oil. If necessary, tilt the unit to help it flow out.



After tightening the connectors, remove the cover "C" from the filter unit, and the filter "D".

Pour in ISO VG150 mineral oil until the bell housing is full.

Wash the filter with solvent or petrol and blow it with compressed air before putting it back.



Remove the breather cap "E" and the level cap "F". Pour ISO VG150 mineral oil from the breather cap hole up to the required level.

Tighten the blind cap and the breather cap.

Warning!

Check the oil level after the first hour of operation. The cooling system is working correctly when the bell housing heats up, so check the temperature around the filter periodically.

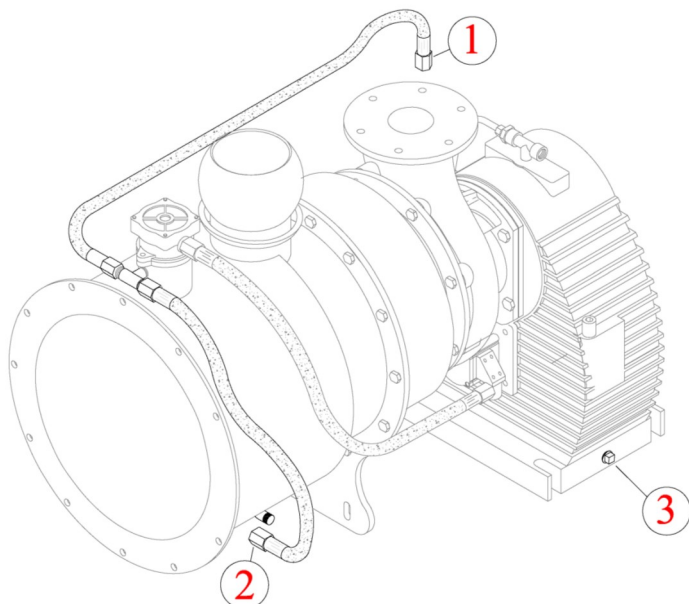
Total oil required to fill: ~16 lt



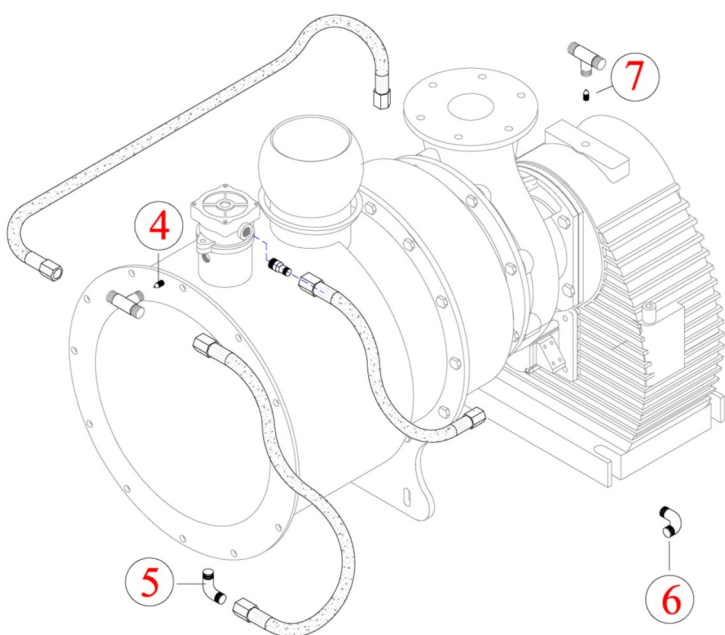
WARNING!

To properly replace the oil in the "HD" unit, carefully follow the instructions on pages 13, 14 and 15.



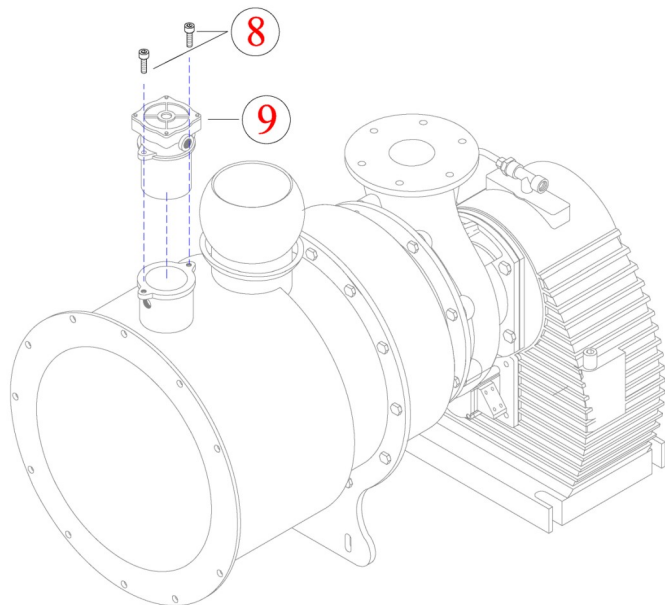


Unscrew the fittings (n° 1), (n° 2) and (n° 3) and collect the used oil. If necessary, tilt the unit to make it easier to drain



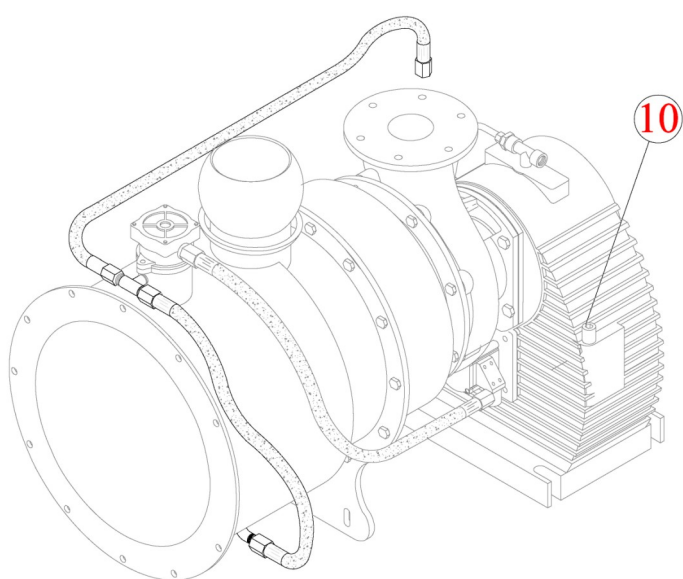
After emptying the tank and the unit, remove the pipes and fittings n° 4, 5, 6, 7.

Check that the hole in the grain (n° 4 and n° 7) is not obstructed, in this case, free the passage hole in order to have the correct functioning of the system.



Unscrew the screws (n ° 8) and remove the filter (n ° 9).

Work the filter with solvent and dry it with compressed air.



Remove the level plug (no. 10)

Type "ISO VG 150" oil from the level plug hole until the level is reached.

Screw the blind cap and the breath cap.

Warning!

Check the oil level after the first hour of operation. The cooling system is working correctly when the bell housing heats up, so check the temperature around the filter periodically.

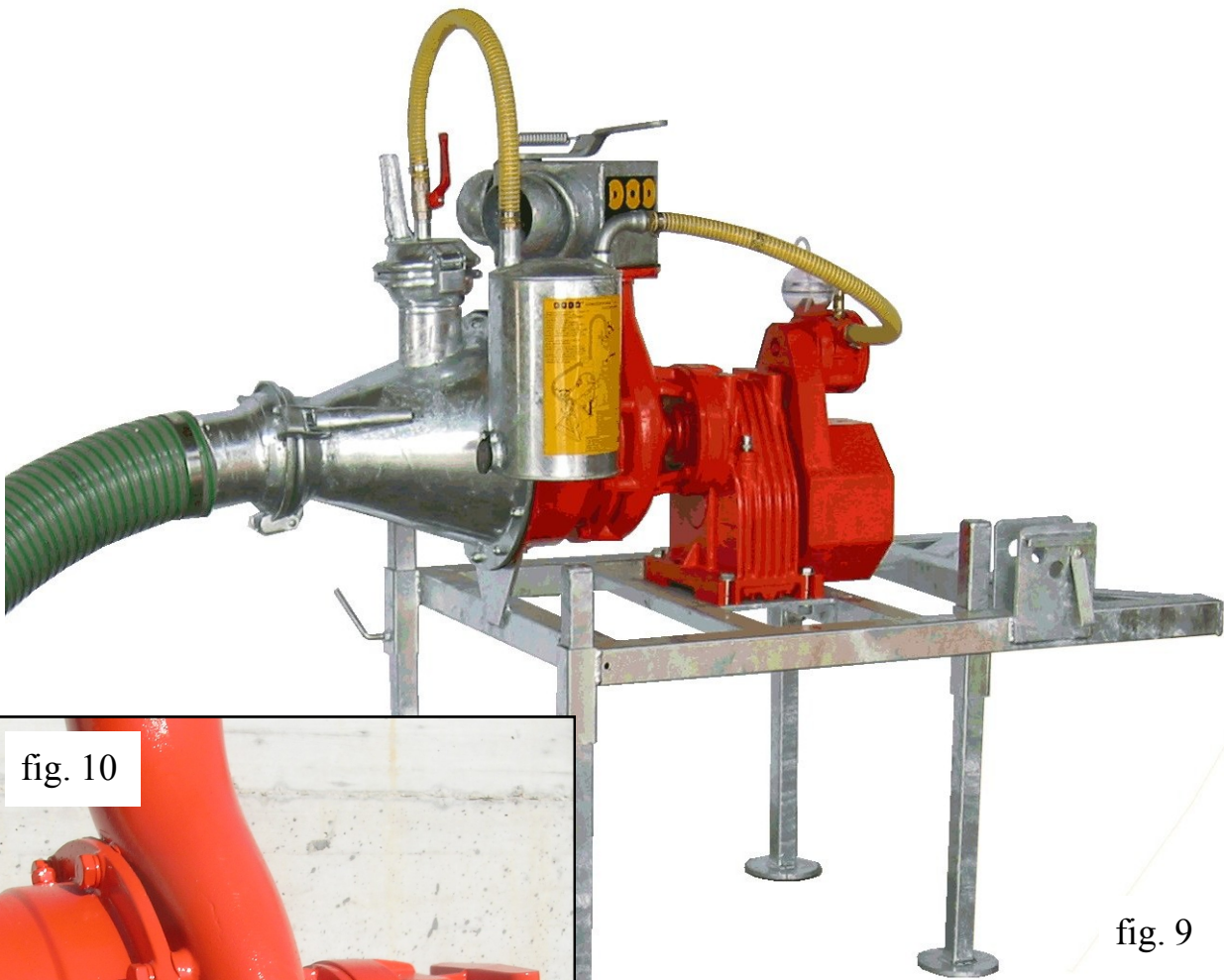
Total oil required to fill: ~12 lt

REPLACING OIL IN AN AFI PUMP WITH A7D UNIT

DRAINING THE OIL:

Loosen the breather cap "A" (fig.10).
Remove cap "B" to drain the oil (fig. 10).

To speed up the oil draining process, it is recommended that the oil be replaced while the unit is hot.



A

B

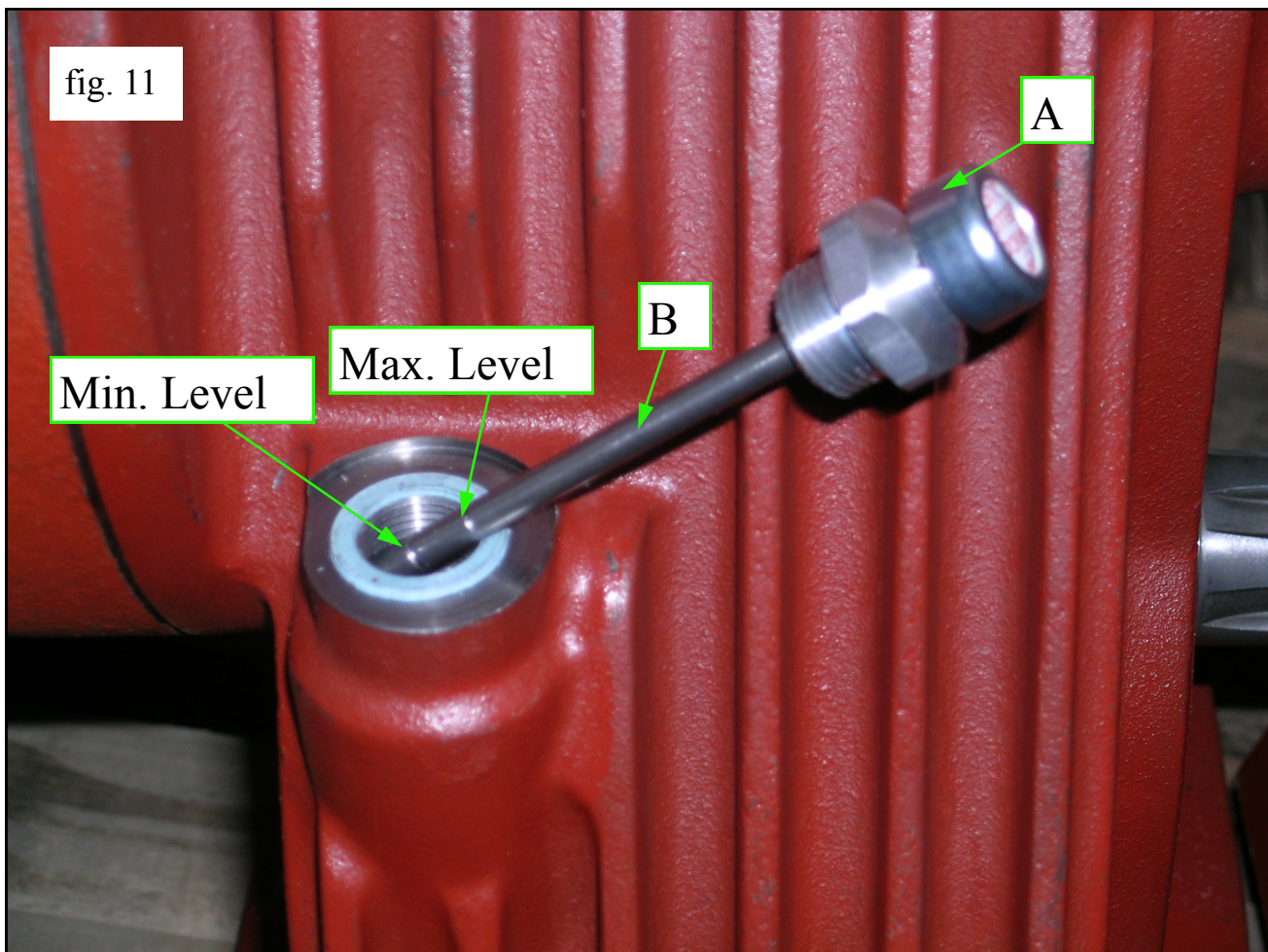
fig. 9

FILLING THE OIL:

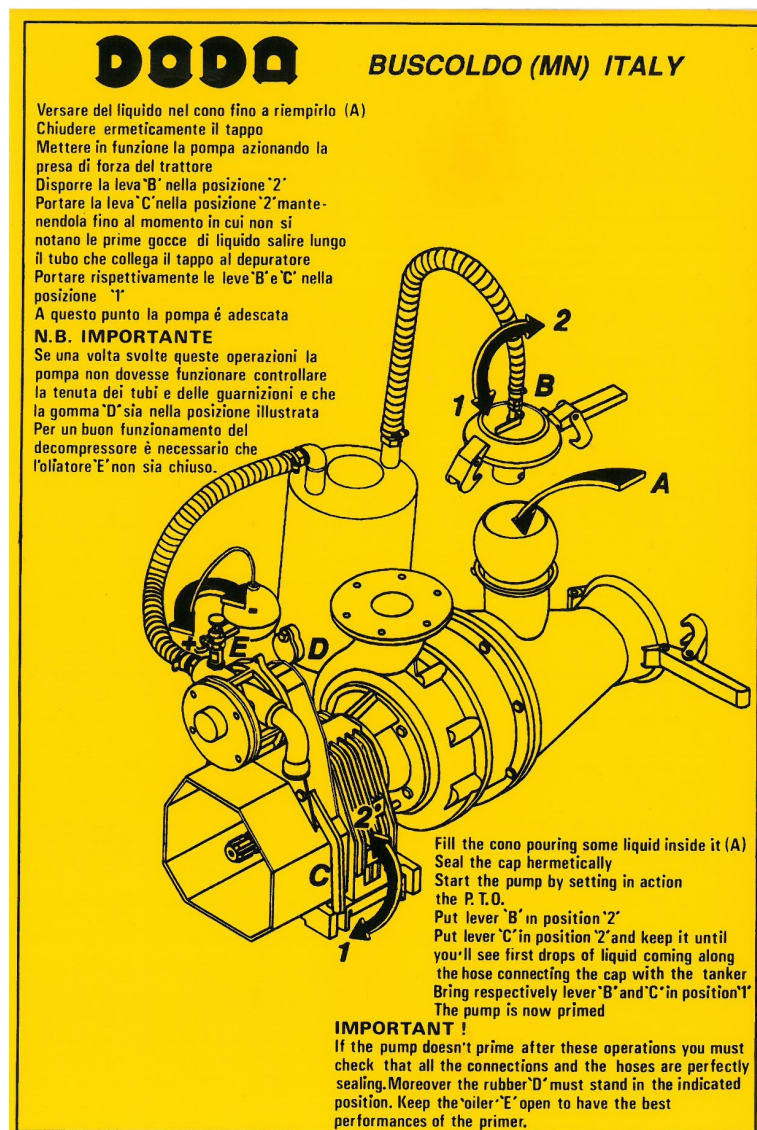
Tighten the drainage cap "B" (fig.10).

Remove cap "A" (fig. 11) and introduce new oil (see page 4 for information on the type and quantity of oil).

Check the level on the bar "B" (fig. 11) before starting up.



The stickers found on the machine are the following:



Pour the liquid into the cone until it is full (A).

Hermetically seal the cap.

Start the pump using the tractor's power take off.

Place lever "B" in position "2".

Place lever "C" in position "2", and keep it there until the first drops of liquid begin to travel up the pipe connecting the cap to the purification system.

Place levers "B" and "C" respectively in position "1".

N.B.: IMPORTANT

If after performing these operations the pump does not work, check the seal on the pipes and the gaskets and also check that the rubber part "D" is in the position shown.

In order for the vacuum pump to work correctly, lubricator "E" must not be closed.

IMPORTANTE

**PRIMA DELL'USO RIEMPIRE
D'OLIO**

IMPORTANT: prior to use, fill with oil up to the level (SAE 90).


LIVELLO OLIO

**FILL WITH OIL UP TO THE LEVEL
REGULARLY CHECK THE LEVEL**

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. 

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

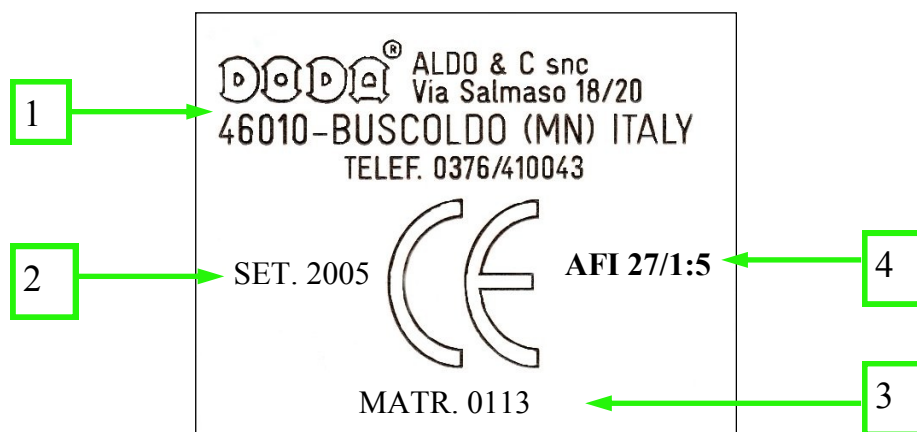
ATTENZIONE !

POMPA DOTATA DI TENUTA MECCANICA
NON LAVORARE A VUOTO

WARNING !

MECHANICAL SEALING
DO NOT WORK DRY

THIS STICKER REMINDS YOU THAT THE MACHINE IS EQUIPPED WITH A MECHANICAL CARBIDE SEAL AND THAT IT CANNOT FUNCTION WHEN DRY



Sticker indicating compliance with EEC regulations.

- 1) COMPANY NAME
- 2) MONTH AND YEAR OF MANUFACTURE
- 3) SERIAL NUMBER
- 4) MACHINE CODE

10. PERFORMANCE AND TECHNICAL DATA

- Pump body, rotor, suction bell housing and pump support in shockproof, freeze-proof ductile iron.
- Chrome-plated pump shaft corresponding to the case-hardened mechanical seal
- Pressed blades made from hardened manganese-vanadium steel alloy
- Carbide mechanical seal with carbide.

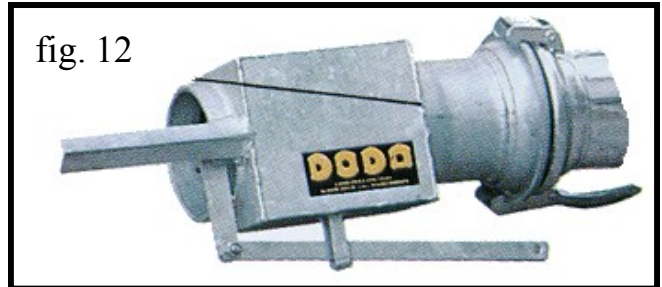
Tipo Typ Type Typ	Rapporto Ratio Rapport Verhältnis	Giri RPM Tours U/min.	Giri girante Impeller rev. T. roue U/aufrad	Portata in m³/h - Flow rate in m³/h - Débit en m³/h - Fördermenge in m³/h													
				24	36	48	60	90	120	150	180	240	300	360	540	720	
				Portata lt/min. - Flow rate in lt/min - Débit en litres/min - Fördermenge in l/min													
				400	600	800	1000	1500	2000	2500	3000	4000	5000	6000	9000	12000	
AFI-L20 PTO	1 : 6,417	540	3465	H CV		81 24	77 28	74 32	62 42								
AFI-L24K	1 : 6,2	540	3348	H CV	106 68	104 70	102 73	98 75	82 80	49 86							
	1 : 4,93	540	2662	H CV	60 48	59 50	57 55	56 57	48 64								
AFI-L24	1 : 1	2900	2900	H CV	79 30	32	28	32	62 42								
AFI-L24/5K	1 : 6,2	540	3348	H CV	117 73	114 76	112 80	111 81	101 87	88 93							
AFI-L25	1 : 3,88	540	2096	H CV			41 35	40 36	39 38	36 41	30 43						
	1 : 4,93	540	2662	H CV				57 64	56 68	52 71	48 74	40 70					
	1 : 3,35	1000	3350	H CV					89 102	87 105	82 108	76 112	48 118				
AFI-L27	1 : 3,88	540	2096	H CV			56 33	55 35	52 39	48 43	41 46	30 51					
	1 : 4,93	540	2662	H CV			91 59	90 62	87 69	83 73	76 81	66 89					
	1 : 3,35	1000	3350	H CV			145 114	142 117	138 127	133 135	125 144						
AFI-L27 H.D.	1 : 3,31	824	2727	H CV				98 78	96 85	91 93	83 100	73 108					
AFI-L35	1 : 2	1000	2000	H CV				84 69	83 73	80 78	77 82	72 87	58 96				
	1 : 3,88	540	2096	H CV				94 73	92 79	90 84	86 90	82 95	70 105				
	1 : 2,38	1000	2380	H CV				122 110	119 116	115 122	111 128	106 134	100 139				
AFI-L35 H.D.	1 : 2,73	1000	2730	H CV					152 197	152 205	151 212	149 220	140 235	120 250			
	1 : 3,05	910	2775	H CV					152 197	152 205	151 212	149 220	140 235	120 250			
	1 : 3,31	824	2727	H CV					152 197	152 205	151 212	149 220	140 235	120 250			
AFI-L20 PD	1 : 1	3000	3000	H CV			58 20	50 23	25 35								
AFI-L27 PD	1 : 1	1500	1500	H CV				26 17	24 19	19 22	10 24						
	1 : 1	2000	2000	H CV				50 32	48 36	44 38	37 42	25 45					
	1 : 1	2500	2500	H CV				79 52	77 57	73 63	67 70	56 76					
	1 : 1	3000	3000	H CV				114 90	112 97	108 104	102 111	91 119					
AFI-L35 PD	1 : 1	1500	1500	H CV				47 30	45 33	43 36	39 38	33 41	10 46				
	1 : 1	2000	2000	H CV				84 69	83 73	80 78	72 82	62 87	58 96				
	1 : 1	2500	2500	H CV					134 124	130 130	125 137	120 144	115 150				
AFI 35/2 PD	1 : 1	1470	1470	H CV				84 46	80 54	70 62	60 69	42 76					
	1 : 1	1770	1770	H CV					120 91	113 97	101 111	88 121					
	1 : 1	1900	1900	H CV								109 145					
AFI 45	1 : 1	980	980	H CV						33 40	32 43	30 46	27 51	23 57	17 62		
	1 : 1	1480	1480	H CV					77 121	76 126	74 130	73 137	69 146	66 156			
	1 : 1	2000	2000	H CV								135 312	132 338	129 360	125 380	106 448	75 516
	1 : 1	2200	2200	H CV								137 329	132 333	126 346	118 364	112 384	
AFI-57PD	1 : 1	1000	1000	H CV				84 46	80 54				53 42	50 65	40 75	33 110	10 130

11. OPTIONAL EQUIPMENT

The following equipment, all manufactured by DODA, can be used with AFI pumps:

FOOT-VALVE: if the difference in level between the liquid surface and the suction cone is more than 3.5M, this system should be used to ensure optimal priming of the pump.

fig. 12



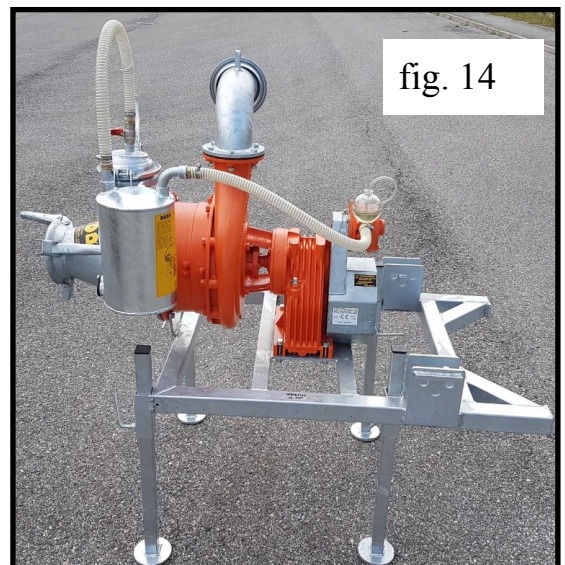
2-WAY VALVE: located at the pump outlet, this valve allows two different supply settings to be selected using a manual lever. This system is used if one of the two outlets is required for product mixing, or serving two different lines. Before using the relevant lever during operation, decrease the number of pump revolutions to a minimum.

fig. 13



VACUUM PUMP: serves to ensure quicker, safer priming. The instructions for using this system are described and illustrated in the sticker located on the tank (see the "STICKERS" chapter).

fig. 14



12. GUIDELINES FOR PUMP BODY

Follow the numerical sequence shown in figure 15 to disassemble the pump body, starting with the counter-blades marked as number "1".

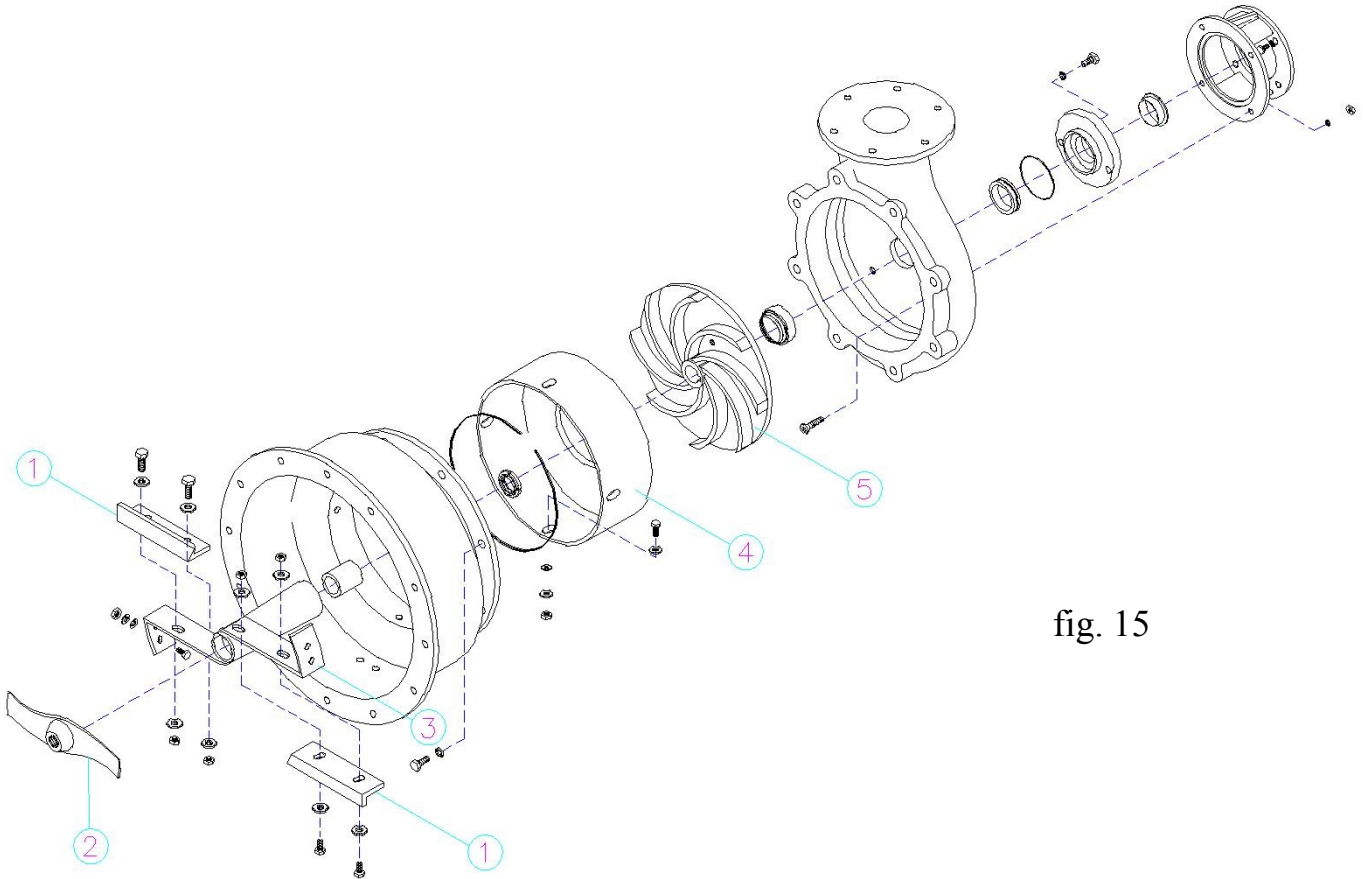


fig. 15

To remove the rotor from the shaft, screw two bolts into the holes "A" shown in the figure, until it is completely removed.

When reassembling the counter-rotor "B", position it so that the widest section corresponds to the delivery line, as specified in fig. 16.

When assembly is complete, the counter-rotor should be barely touching the upper part of the rotor blades.

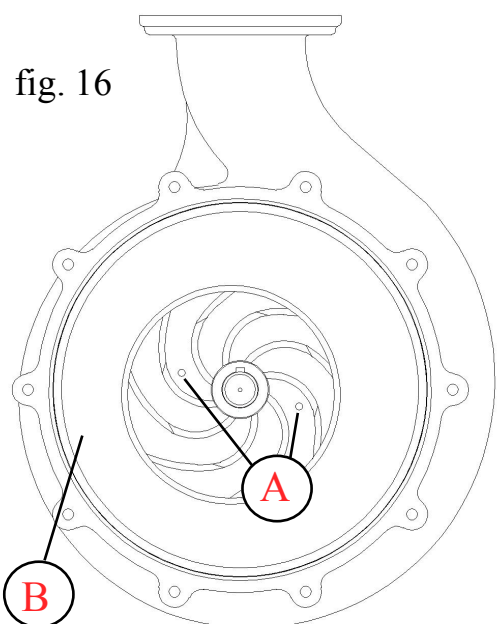
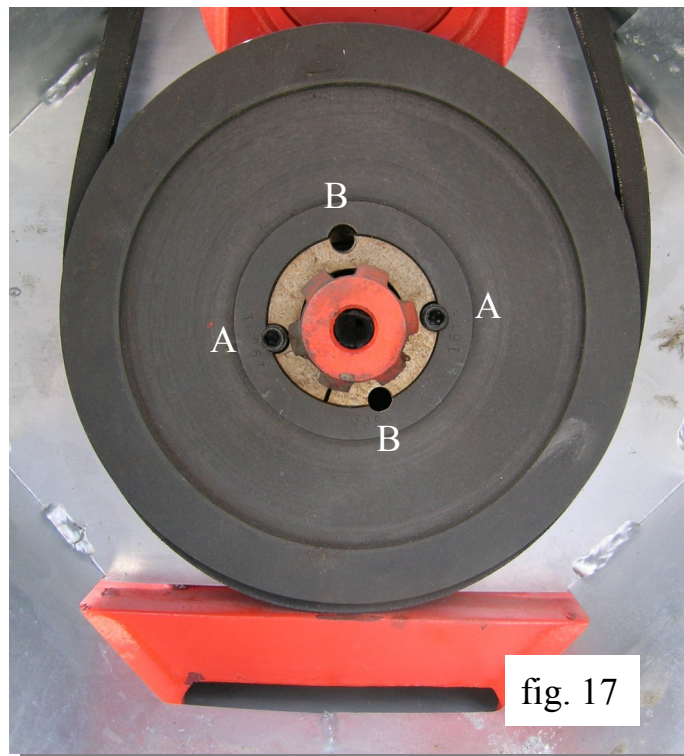


fig. 16

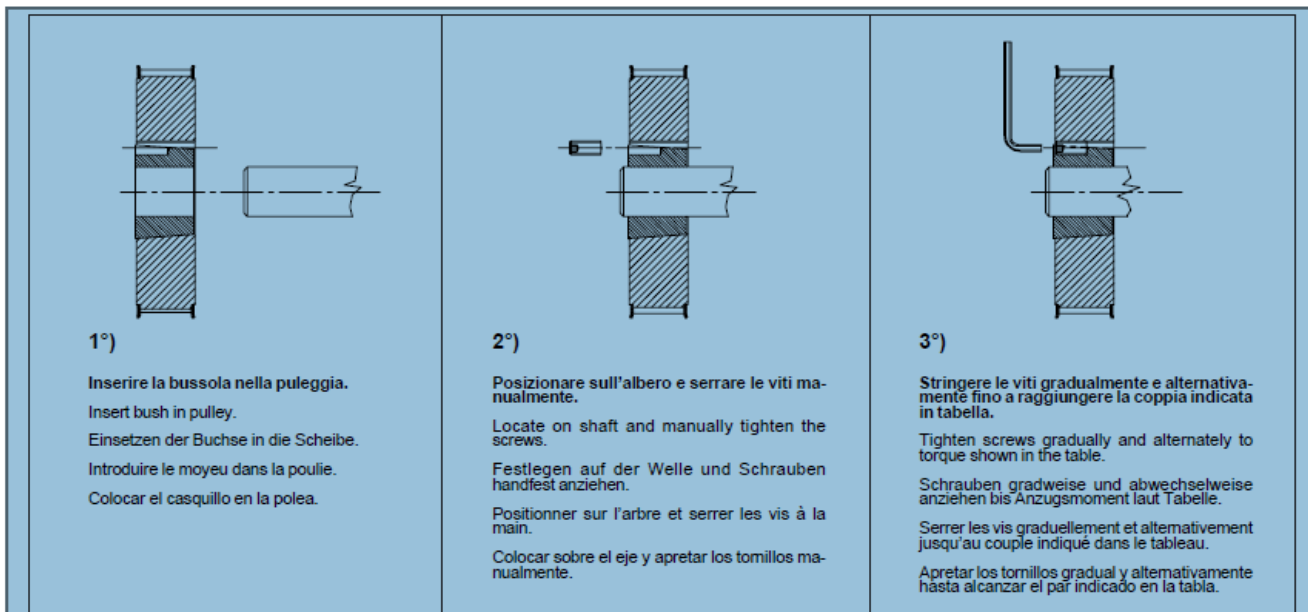
13. GUIDELINES FOR PULLEY DISASSEMBLY AND REASSEMBLY page 23

DISASSEMBLY

- 1) Loosen all screws "A" and remove one or two according to the push-off holes as indicated in figure 17. Insert the screws into the push-off holes after having lubricated them well.
- 2) Tighten screws "B" alternately until the bushing is loosened and the unit is free to move on the shaft.
- 3) Remove the unit from the shaft.



- 1) Remove the protective layer from the bushing and the pulley.
After having made sure that the conical contact surfaces are completely clean and free of oil and dust, insert the bushing into the pulley aligning the holes.
- 2) Lightly lubricate the screw threads. Position the screws without tightening them in the threaded holes, as shown in Figure 14.
- 3) Clean the shaft and mount the pulley-bushing unit on it in the desired position. Remember that the bushing tightens the shaft first and then the pulley.
- 4) Using a hexagonal key, tighten the screws gradually, alternating between them, until the torque value specified in the table is reached.
- 5) Tap against the thickest side of the bushing with a hammer, using a piece of wood or a shim to prevent damage.
(This ensures that the bushing sits exactly in position). Tighten the screws a little more. Repeat the hammering and screw-tightening steps once or twice more to obtain maximum grip on the shaft.
- 6) If the use of a key is required, place the key on the shaft before mounting the bushing. It is important to use a parallel key with play between the upper part and the bottom part of the space.
- 7) Check the tightness of the screws following a short period of operation.
- 8) Fill the unused holes with grease to prevent impurities from entering them.



Descrizione Designation Bezeichnung Désignation Referencia	S mm	D _b mm	Vite Screw Schraube Vis Tornillo B.S.W.	(1) Coppia Torque Drehm. Couple Par Nm	Peso Weight Gewicht Poids Peso kg
1008	22,3	35,0	1/4" x 1/2"	5,6	0,132
1108	22,3	38,0	1/4" x 1/2"	5,6	0,165
1210	25,4	47,5	3/8" x 5/8"	20,0	0,270
1215	38,1	47,5	3/8" x 5/8"	20,0	0,500
1610	25,4	57,0	3/8" x 5/8"	20,0	0,400
1615	38,1	57,0	3/8" x 5/8"	20,0	0,570
2012	32,0	70,0	7/16" x 7/8"	30,0	0,770
2517	44,5	85,5	1/2" x 1"	50,0	1,632
3020	50,8	108,0	5/8" x 1 1/4"	90,0	2,962
3030	76,2	108,0	5/8" x 1 1/4"	90,0	3,920
3525	63,6	127,0	1/2" x 1 1/2"	115,0	5,033
3535	88,9	127,0	1/2" x 1 1/2"	115,0	6,600
4030	76,2	146,0	5/8" x 1 1/4"	170,0	7,700
4040	101,6	146,0	5/8" x 1 3/4"	170,0	10,200
4535	88,9	162,0	3/4" x 2"	190,0	10,600
4545	115,0	162,0	3/4" x 2"	190,0	12,500
5040	101,6	177,5	7/8" x 2 1/4"	270,0	13,600
5050	127,0	177,5	7/8" x 2 1/4"	270,0	16,800

14. PROBLEMS AND SOLUTIONS

Before carrying out any maintenance, adjustment or repair operation, stop the machine. Ensure that it is fully disconnected from the main power supply line.

PROBLEMS	CAUSES	SOLUTIONS
The pump is running, but there is no liquid coming from the delivery pipe	<ul style="list-style-type: none">- The pump is not loading the matter.- The matter is too dense.- The pump supply line is blocked.	Check that the pump is connected and working properly. <ul style="list-style-type: none">- Check that there is no suction of air from the suction pipe connectors and the pump body seal.- Dilute the matter properly.- Replace the supply pipe or remove the blockage.

EC DECLARATION OF COMPLIANCE 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 PRODUCTS,
AFI SERIES CHOPPER PUMPS

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

CANICOSSA (MANTUA)

LEGAL REPRESENTATIVE

(Name, signature, corresponding stamp
of an authorised party)



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