

MANUAL USE
AND MAINTENANCE

CTA milk[®]

VACUUM PUMPS FOR MILKING MACHINES



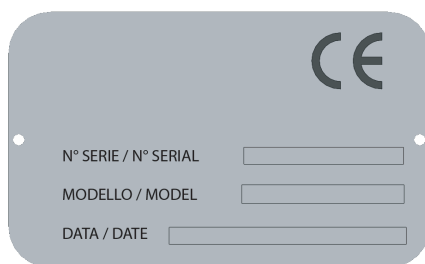
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1. INTRODUCTION

- 1.1 This publication was developed with the aim of making sure the 'use and maintenance of the machine.
- 1.2 The images used are indicative only and may differ from reality.
- 1.3 Before each operation to read the signs in this publication. When in doubt contact the manufacturer.
- 1.4 The incorrect use and the improper maintenance reduce the life of the machine.
- 1.5 This manual is an integral part of the machine. must be available for consultation in the vicinity of the machine and stored in a protected and dry place.
- 1.6 In case of loss request a copy of the manual from the manufacturer indicating the model and serial number of the machine.
- 1.7 The manufacturer reserves the right to update products and manuals, without any obligation to update the previous products and manuals, except in exceptional cases.
- 1.8 Failure to comply safety standards are the cause of accidents.

2. MACHINE IDENTIFICATION

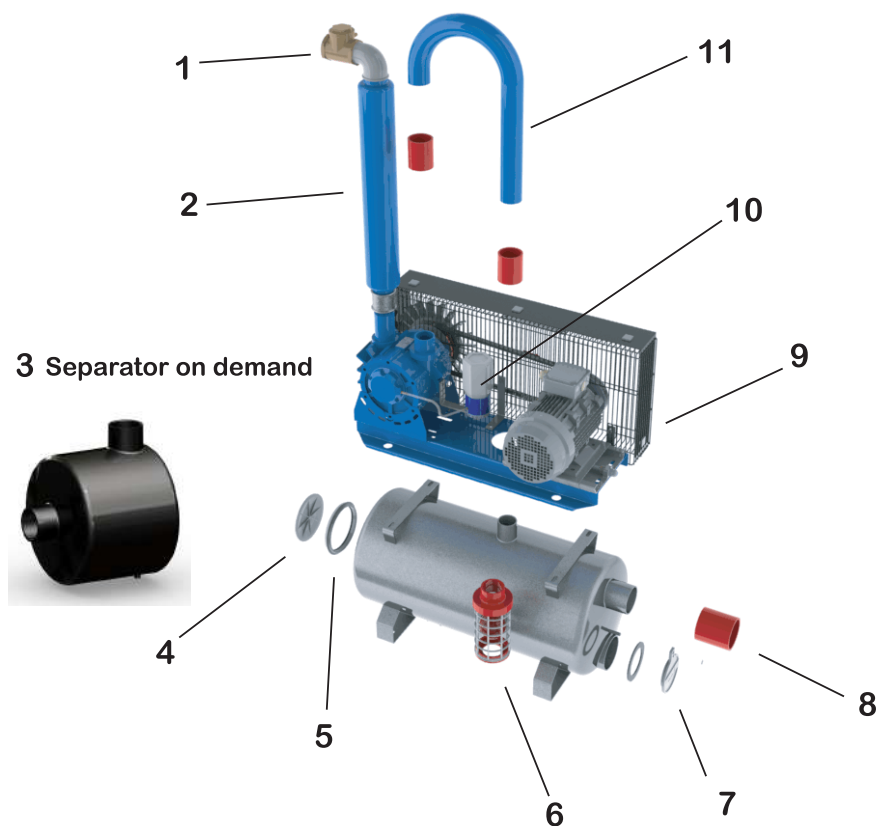


The CE mark above and the nameplate on the machine report the data manufacturer, the model, the serial number and the date of construction

The CE marking and declaration of conformity attached certifies that the machine is constructed in accordance with directives

- 2006/42/CE
- 2014/30/UE
- UNI EN ISO 12100 : 2010

3. DESCRIPTION OF THE MACHINE



N°	Description
1	Non-return valve
2	Silencer
3	Air-Oil Separator
4	Joint for the window's tank
5	Plastic seal gasket
6	Cartridge filter

N°	Description
7	Seal Condensate discharge
8	Sleeve Adp
9	Carter
10	Single Oiler
11	Connecting Curve for Tank

4. TECHNICAL SPECIFICATIONS

4.1 Utilization

The machine is designed to function as a vacuum pump for milking machines

There are no other conditions of use.

4.2 Models

G.P.V.1500

POWER MOTOR	Kpa	RPM PUMP	N.L./MIN.	PULLEY PUMP	MOTOR PULLEY	ASSORB (A)	PRESSURE EXIT	RPM MOTOR
4 Kw / 5,5 Hp	50	1350	1460	150 1B	140 1B	7,4 A	0,11 bar	1400
3 Kw / 4 Hp	50	1175	1250	150 1B	125 1B	5,8 A	0,10 bar	1400
2,2 Kw / 3 Hp	50	925	1020	150 1B	112 1B	4,8 A	0,08 bar	1400

MODELLO	Peso Kg	Lunghezza cm	Larghezza cm	Altezza cm	Serbatoio	Lubrificazione	Separatore olio / aria	Trasmissione
G.P.V. 1500	105	95	50	85	85/65 Lt	SI	NO (OPTIONAL)	Cinghia

G.P.V.1000

POWER MOTOR	Kpa	RPM PUMP	N.L./MIN.	PULLEY PUMP	MOTOR PULLEY	ASSORB (A)	PRESSURE EXIT	RPM MOTOR
3 Kw / 4 Hp	50	1250	1000	150 1B	130 1B	5,2 A	0,10 bar	1400
2,2 Kw / 3 Hp	50	1100	900	150 1B	112 1B	4,7 A	0,10 bar	1400

MODELLO	Weight Kg	Length cm	Width cm	Height cm	Tank	Lubrication	Oil / air Separator	Transmission
G.P.V. 1000	105	95	50	85	85/65 Lt	SI	NO (OPTIONAL)	Belt

NOTE:

- Height (without separator and silencer);
- The G.P.V. 2200 / 3300 are provided with double-oiler

5. GENERAL SAFETY PRECAUTIONS

- In order to ensure maximum reliability, the company has made a careful choice of materials and components to be used in the construction of the machine.
- It is forbidden to use the machine for other purposes than those indicated in the manual.
- The staff use and maintenance of the machine, as well as know the contents of this manual, must be appropriately educated and trained.
- Each operation that covers the supply must be performed by qualified personnel, able to meet the technical standards and laws in force, with permission of the installer.
- Dangerous conditions, and notices are identified by stickers on the machine. These labels must be replaced when worn or lost.
- Do not groped to change any product so as not to create conditions of insecurity and so do not miss all the guarantees.



**READ THE MANUAL BEFORE
USING THE MACHINE**



**BEFORE ANY ACTION ON
THE MACHINE TO REMOVE
THE POWER SUPPLY**



**KEEP HANDS AWAY
FROM PULLEYS AND BELTS
WHEN THEY ARE IN FUNCTION**



**CAUTION HOT PARTS
OF THE MACHINE.
DANGER TO BURNS.**



**WEEKLY CHECK THE OIL LEVEL.
IF THE PUMP SHOULD RUN WITHOUT 'OIL IT WOULD BE
EXPOSED TO RISK OF DAMAGE.**



**CHECK THAT THE NUMBER OF SPEED AND DIRECTION OF ROTATION
OF THE SHAFT MATCH THE INFORMATION THAT THERE ARE ON THE MACHINE.**



**THE MAINTENANCE, CLEANING, OR CASUAL OTHER OPERATIONS
SHOULD BE DONE WITH THE MACHINE OFF. PROTECTIONS MUST
BE TEMPORARILY REMOVED AND THEN AGAIN REINSTALLED
CORRECTLY.**

6. MOVEMENT AND PLACEMENT OF THE MACHINE



The movement and transport of machine can be made with standard lifting.

Never raise the machine using a single part of the base and always make sure that there is a proper weight distribution to avoid spills.

The installation must allow for appropriate ventilation for the cooling of engine and enough space for maintenance.

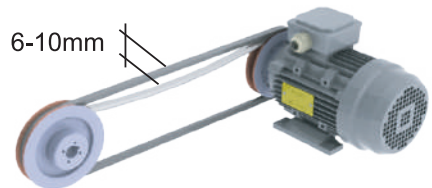
The machine at work could move for the vibrations ensure that it is properly secured on the base.

WARNING: The machine must not be shocks so as not to compromise the drive train.

7. BELT TENSION AND ASSEMBLY BELT PROTECTION

7.1 Each pump is tested and tested before delivery, so it's ready.

7.2 Verify that the voltage of Belt is between 6-10mm otherwise provide decreasing or increasing the voltage through the slide.



7.3 The pump should be installed in a suitable place, protected from weather extremes.

7.4 When the machine is installed in an enclosed area, the discharge of waste must be carried out with suitable piping.

7.5 Before using the machine check that guards are securely fixed and correctly.

For G.P.V. 1500 / 1000 without engine use the following guide for the installation kit of protective casing with cooling fan:

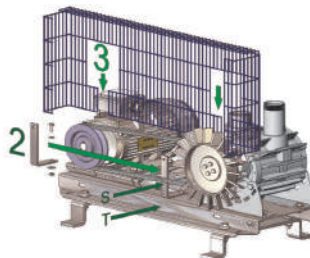
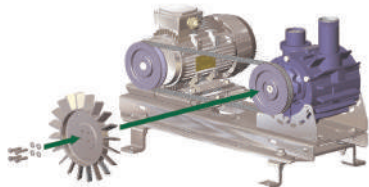
- Front and rear grille
- Locking plugs
- Directional arrow
- Protective casing

- kit A = screw kit fan
- kit B = kit center bracket
- kit C = kit side bracket



1° Installing the fan cooling kit screws "A".

2° Installation kit center bracket "B"
Surfaces "T" and "S" must be aligned.
3° Install 3 ° rear grille.

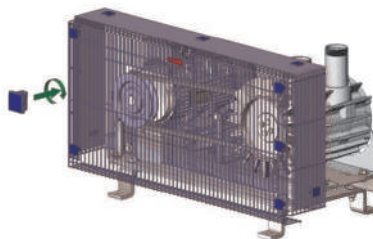
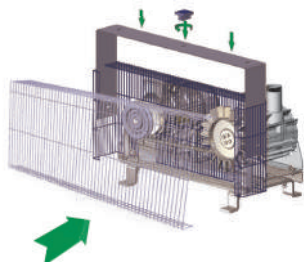


4° Horizontal and vertical adjustment of the rear grille;
the grid must be aligned approximately with the bracket, keeping a distance
20mm between the fan and the same grid.

5° Install side brackets kit "C".

6° Installation of the cover to 'internal
rear grille and subsequent installation
the front grille.

7° Attaching the front grille with
locking plugs.

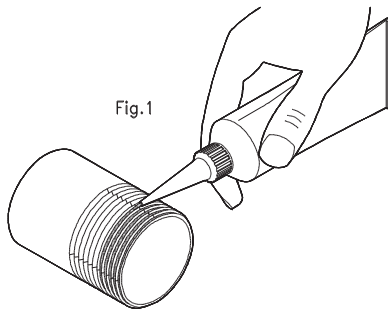


8. SILENCER and SEPARATOR ASSEMBLY

1) To avoid the dispersion of residues of the lubricating oil of the vacuum pump - image 2 - we ask to the installer of:

- to install a tube B2 joined to the valve of exit V by a union elbow B1,
- to put a drain tank B3 under the tube B2,
- to insert the flexible tubes A1 and A2 in a drain tank A3,
- to make a hole of bleed F on both the tanks.

Fig.1



2) The defective tightness of the threaded junctions of the group separator-silencer is source of drippings of lubricating oil with consequent formation of anaesthetic and ant hygienic sludges.

To avoid losses we ask to the installer to apply a motor silicone gasket - fig. 1:

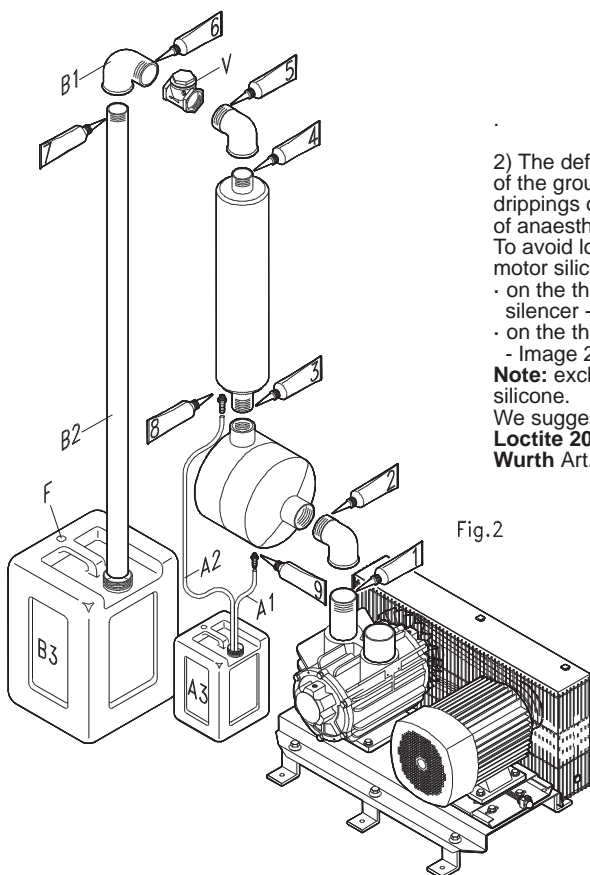
- on the threaded junctions of the group separator silencer - Image 2, pos. from 1 to 7,
- on the threads of the nipples of recovery oil - Image 2, pos. 8 and 9.

Note: exclusively to use plastic gaskets based on silicone.

We suggest the following makers:

Loctite 209079 Art.26807, Arexons Art.motorsil D, Wurth Art.0893 260 100 - S, Angst + Pfister

Fig.2



9. THE USING MACHINE

Before performing any work on the machine, disconnect the electric current of the motor which drives the pump.

For milking, the vacuum pump reaches the required vacuum.

The maximum level when the vacuum pump can work is 50 KPa.

The operating temperature is about 70/80 C °.

9.1 The machine is moved by an electric motor. Must install the contactor (TERMLD) to save the engine from possible anomalies in the lines of electric current.

9.2 The pump must be fitted correctly to prevent excessive vibration.

9.3 Connect the suction and discharge through the rubber joint. Make sure that the pipes are adequately supported and not a burden on the body of the pump.

9.4 The air/oil separator to make it to work properly, it must be screwed over the output of the vacuum pump. (Fig.1)

FIG.2 shows the **WRONG** positioning! The oil, when the pump stops, returning would flow into the pump compromising the operation.



FIG.1



FIG.2

10. VACUUM PUMP: COMPONENTS and FUNCTIONS

The vacuum pump is formed substantially from a stator which is mounted eccentrically inside a rotor supported by two bearings mounted on the pump flanges.

The bearings are lubricated by the oil that is sucked into the pump only when it is set in motion by an electric motor and then creates a vacuum to internal the pump.

With the rotation of the rotor, these are pushed out and make sure that the air moves from the tank outside the plant forming a vacuum.

Varying the size of the pump pulley you can get a greater or lesser number of pump revolutions, so you have more or less N.L / min.

WARNING: Strict adherence to the dimensions of the pulleys formed by the company.



11. MAINTENANCE

Since the machine is not complicated, it just needs a few tips:

- Keep clean rotating parts prepared for processing.

When the wash water or milk intake proceeds as follows:

- Remove the exhaust;
- Fill the pump with 0.25 lt. of diesel fuel;
- Rotate the hand pump for about 3 minutes;
- Allow the liquid in the pump for about 4 minutes;
- Disconnect the pump tubes of lubricant and to work the pump for about 5 minutes;
- Repeat the operation in case of loss;
- Replace the caps worn;
- Adjust the tension of drive belts loosening screws securing the support of the sled motor turning the screw adjustment at the side of the substrate;
- Pressing with the thumb drive belt, the intermediate zone of the two pulleys, its decline should not exceed 1.5 cm when replacing the belt is worn throughout the series.

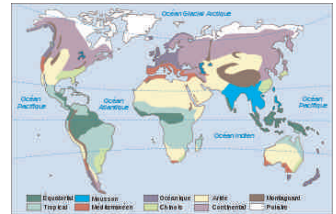
12. CHOICE OF OIL

CHOICE OF OIL

- Use only oil for vacuum pumps for milking;
- Do not use oils containing dyes, paraffin or other solvents;
- Do not reuse oil already used or exhausted;

The viscosity of oil varies according to climate:

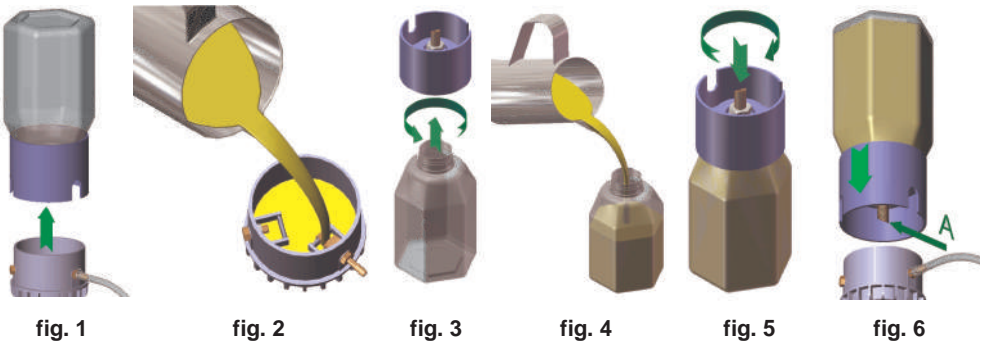
- Hot > 68 MIN 68/ISO
- Temperate > 46 MIN 46/ISO
- Cold > 32 MIN 32/ISO



13. CAPILLARY SYSTEM LUBRICATION

- 13.1 Optimal use of oil pump
- GPV 1500, single oiler $\Rightarrow 5 + 5 = 10 \text{ ml/h}$
 - MI / hour (ml / h) under the conditions tested: - GPV 1000, single oiler $\Rightarrow 4 + 4 = 8 \text{ ml/h}$
 - Oil used MIN = 46;
 - Suction pressure = 50 KPascal;
 - Ambient temperature = 18 C°;
 - Altitude above sea level = 500 m
- WARNING:** The consumption of oil is influenced by Seasonal temperature variations.

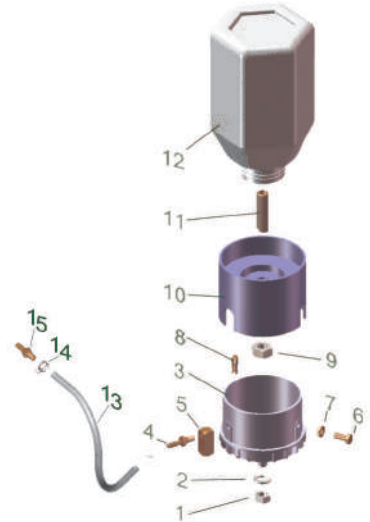
13.2 OIL RECHARGE INTO OILER



- (Fig. 1) Remove the empty container with the lid up
- (Fig. 2) Fill the tank with oil and support the two vacuum chambers.
The level should reach the slats placed in the slot inlet.
NOTE: This operation must be done only for the first time.
- (Fig. 3) Unscrew the lid of the container
- (Fig. 4) Fill the container with oil
- (Fig. 5) Replace the lid of the container
- (Fig. 6) Place the container in his tank into the tube closed with a finger to discharge

13.4 ARTICLES AND CODES

1)	Fixing nut for oil feeder	5000112
2)	Washer d.8	5000111
3)	Lower plastic body	5000110
4)	Brass nipples	5000107
5)	Brass support board 10 x 24	5000108
6)	Screw normal oiler	5000821
7)	Bolt normal oiler	5000809
8)	Suction tongue: 4 mm	5000109
	6 mm	5001109
9)	Fixing nut for set screw	5000105
10)	Upper plastic body	5000104
11)	Set screw	5000106
12)	Plastic trasparente container	5000101
13)	PVC trasparente tubing d.7 x 4	3000250
14)	clips	5000117
15)	Brass nipples	5000107.00
	Brass nipples	5000107.03



14. DROP SYSTEM LUBRICATION

- 14.1 Optimal use of oil pump
- GPV 1500 single oiler = 8 drops/minute
 - GPV 1000 single oiler = 8 drops/minute
- ml / hour (ml / h) under the conditions tested:
- Used oil MIN = 46;
 - Suction pressure = 50 KPascal;
 - Temperate environment = 18 C°
 - Altitude above sea level = 500 m

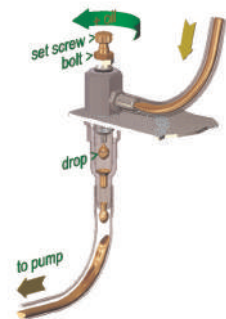
WARNING: The consumption of oil is influenced by Seasonal temperature variations.

14.2 ADJUSTING THE FLOW OF LUBRICATION

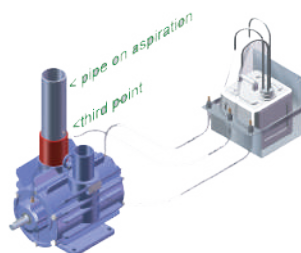
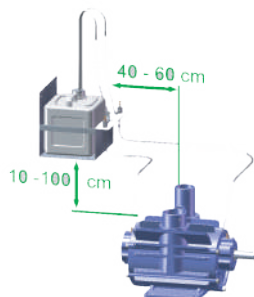
- Loosen the nut (bolt);
- Turn the adjusting screw (set screw);
- Clockwise to increase the flow,
- Clockwise to decrease the flow;
- Tighten the nut;

The flow of oil are visible in the tubes of the 'oil can indicate the pump is operating properly.
If not check them for oyster the passage of the car oil and that all components are in good condition.

WARNING: Do not disrupting the adjustment screw



14.3 INSTALLATION



- Do not install the wall mount directly on the pump;
- The ideal measurements are shown the figure.

- Only in the case of application of three oilers
- Drilling and threading (8 x 1M) the suction
 - Apply the sealant and screw the fitting
 - Making connections

14.4 CONTROLS

- In the case of two oilers make sure that:
- The third hole on the rubber stopper is clear (Fig. 7)
- In the case of three oilers make sure that:
- The central hole (venting) is free (Fig. 8)

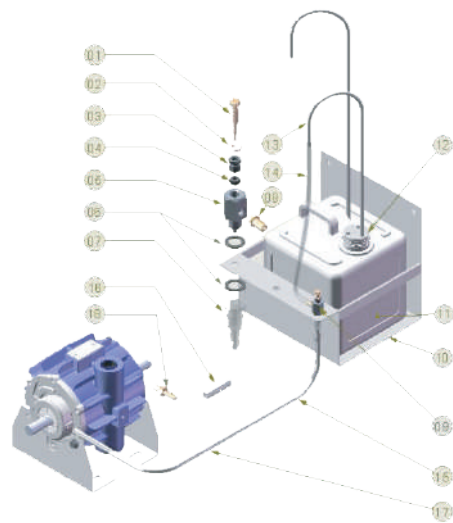


fig. 7



fig. 8

14.5 NAME AND CODES



- | | | |
|-----|----------------------------------|---------|
| 1. | Set screw | 5000808 |
| 2. | Locknut | 5000809 |
| 3. | Ring nut 8x7mm | 5000810 |
| 4. | OR | 2000551 |
| 5. | Body oiler | 5000811 |
| 6. | Flat gasket | 5000812 |
| 7. | Pls body trasparent | 5000813 |
| 8. | Nipples | 5000814 |
| 9. | Drip feed lubricator | 5000802 |
| 10. | Wall bracket | 5000801 |
| 11. | Oil jerry can 10Lt | 5000815 |
| 12. | Plug for jerry can Ø42 - 48mm | 5000803 |
| 13. | S/S suction-pipes "U" bend 62 cm | 5000816 |
| 14. | PVC trasparent tubing (0,70 mt) | 5000805 |
| 15. | S/S suction pipes 30 mm | 5000818 |
| 16. | PVC trasparent tubing (2,70 mt) | 5000805 |
| 17. | Pump nipples 14x27 mm Ø8 | 5000820 |

14.6 OVERHAUL FOR CAPILLARY OILER and FOR DROP OILER

- To check the oil level every start-up;
- Check the weekly oil consumption;
- Every six months completely disassemble the oliatoree in all its parts:
 - clean with a diesel
 - blowing with compressed air
- Replace every 2 years:
 - the transparent container
 - all transparent pipes

NOTE: empty the oil recovery"and collect the used oil into a container (not re-use and release to the environment)

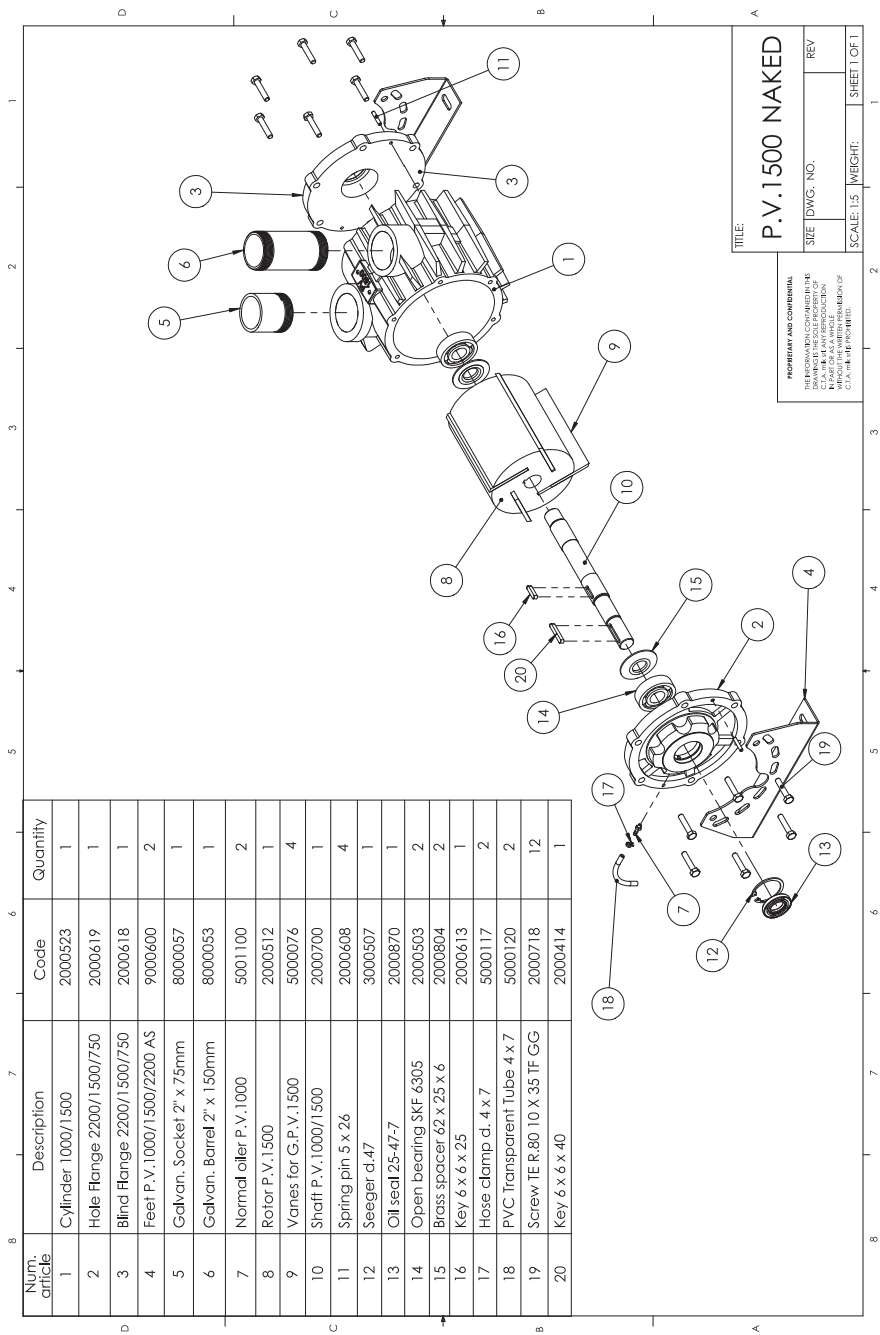
15. TROUBLESHOOTING

P R O B L E M	C A U S E	R E M E D Y
- Abnormal absorption power	<ul style="list-style-type: none"> - Bad connection - Loose straps - The motor shaft is deformed or deteriorated - Obstruction of the pump body - Obstruction in piping 	<ul style="list-style-type: none"> - Connect the electric motor adequately - Adjust the straps - Replace the 'tree - Clean the pump house - Clean the 'entry of' in the air system
- The machine hangs, tries or not pump uniformly	<ul style="list-style-type: none"> - Loose straps - Impediments in the rotor - Rotation in the opposite direction 	<ul style="list-style-type: none"> - Adjust the straps - Clean the rotor - Reverse the direction of rotation engine
- Squeak of the rotor	- Insufficiently lubricated	- Lubricate
- Audible vibrations	<ul style="list-style-type: none"> - Bearing failures, rotor unbalanced - Clamped no silencer 	<ul style="list-style-type: none"> - Replace bearings, replace rotor - Put a silencer bracket
- Pump overheating	<ul style="list-style-type: none"> - High oil consumption - Control valve does not works well 	<ul style="list-style-type: none"> - Clean the lubricator/oiler adjusting - Check valve adjustment

WARNING!

When you turn off the system, make sure the valve is working properly!
If the pump should rotate in the opposite direction would cause the breaking of the vanes!

16. EXPLODED DRAWING



17.

WARRANTY

The company guarantees its equipment against defects in material and construction and agrees to replace ex-works defective components, provided they meet the following conditions:

- The defect must occur within 12 months from the date of commissioning of the machine;
- The machine must not have been modified, damaged and improperly used;
- The machine must be used following the instructions in the user 'user and maintenance;
- The guarantee does not apply to shares that are not original;
- The components that are not original manufacturing, such as engines and electrical parts are covered by warranty provided by the respective manufacturers;
- The above warranties are invalid if they are recognized defects due to regular wear and tear or a lack of maintenance, or accidents resulting from negligent use.

18. DECLARATION OF CONFORMITY CE

CTA milk®

VACUUM PUMPS FOR MILKING MACHINES

Manufacturer's name:

CTA milk srl

Manufacturer's Address:

**Via Laghi di Avigliana, 91
12022 Busca (CN) Italy**

Declares the partly completed machinery / equipment:

Modello

- P.V. 1500 / G.P.V. 1500
- P.V. 1000 / G.P.V. 1000

Serial Number:

The machines are conform with the essential safety requirements of the directives:

- 2006/42/CE
- 2014/30/UE
- UNI EN ISO 12100 : 2010

Depository of the technical documentation: CTA milk srl .

Busca, /

CTA milk SRL
Via Laghi di Avigliana, 91
12022 BUSCA (CN) - ITALY
VAT No. IT 02462390044

NOTE

Stamp of the retail

A large, empty rectangular box with a thin black border, intended for a retail stamp.