WEDA PUMP

World leader in professional submersible drainage pumps

INSTRUCTIONS
&
SPAREPARTS CATALOGUE
RL 8010

RL8010 – IS – 10594 – ENG – GSNL

SAFETY INSTRUCTIONS

- **MACHINES SUBMITTED** : Powered with : Electric, Pneumatic, Petrol or Diesel engine.

- **SYMBOLS** : The words **WARNING** and **CAUTION** used in safety instructions, have the following meanings :

WARNING indicates hazards or hazardous procedures which could result in serious injury or death , if the **WARNING** is not observed.

CAUTION indicates hazards or hazardous procedures which could result in injury or damage to equipment if the **WARNING** is not observed.

- **IMPORTANT RULES FOR YOUR SAFETY** :

WARNING

The machine must not be modified without prior consent of the manufacturer. Use only original parts. If modifications are made without prior consent of the manufacturer there is a risk of serious injury to the personal.

- These safety recommendations have been compiled from international safety standards.
Local regulations must also be checked and observed. Before using the machine, read carefully these instructions and keep them in a safe place.
- Make sure that the signs about using, safety, and maintenance are always legible.
- The use of the machine is restricted to the applications specified in the product literature.
- Always change damaged parts immediately. Change wear parts in due time.

- **SAFETY EQUIPMENT** :

WARNING

The admissible sound level of 85 dB (A), can be exceeded because of the machine and/or the application. Long time exposure to loud noise without ear protectors can cause permanent damage to hearing.
Long time exposure to vibrations can damage the hands, fingers and wrists. Do not use the machine if you are experiencing discomfort, cramp or pain. Consult a doctor before working again with the machine.

- Always use approved safety equipment. The following safety equipment applies to operators and other personnel in the immediate vicinity of the working zone.
- Safety helmet.
- Ear protectors.
- Dust mask in dusty environments.
- Protective gloves.
- Protective shoes.
- Goggles.

To avoid the risk of clothes being caught in the machine, avoid wearing loose-lifting clothes. If you have long hair, cover it with a hair net.

- **WORKING AREA** :

WARNING

Do not use the machine in explosive environments.
Do not operate a machine powered by a petrol or diesel engine in poorly ventilated spaces. These types of engines produce toxic gases which can cause serious health troubles.

- **POWER SUPPLY** :

WARNING

Make sure that the power supply equipment complies with the relevant safety requirements of the local and the international standards.

- Electric machine : It must be ensured that the machine is connected to the voltage and the frequency specified on the name plate. The power supply cable has to be properly sized. Check that the cable and the plug of the machine are not damaged. Never switch off the machine by pulling the plug from its socket. Use the machine switch. Keep the cable out of the moving parts of the machine.

- Pneumatic machine : Check that the compressed-air hose and the hose coupling are not damaged. Never attempt to loosen a compressed-air hose which is pressurized. First switch off the air at the compressor and then leave the machine running itself to discharge the hose after some seconds.

- Machine powered by petrol or diesel engine : Petrol has an extremely low flash-point and can be explosive in certain situations. Keep away from all hot or spark-generating objects, do not smoke, when handling fuel. Wait until the machine has cooled before filling the tank. Avoid spilling petrol or diesel on the ground.

- **STARTING THE MACHINE** :

CAUTION

Before starting make yourself familiar with the machine and make sure that the machine does not show any obvious faults. Then start the machine according the instruction and spare parts catalogue.

- **OPERATION** :

CAUTION

Use the machine only for the purpose for which it is intended. Make sure you know how to stop the machine quickly in the event of an emergency situation. Do not touch rotating parts during operation.

- **MAINTENANCE** :

CAUTION

Maintenance work must only be carried out by skilled personnel. Keep unauthorized persons away from the machine. Do not carry out maintenance work while the machine is moving or the engine is running. Never use a machine which is damaged.

- **BE ALERT** :

CAUTION

Always concentrate on what you are doing. Use common sense. Never operate the machine if you are tired or under the influence of drugs alcohol or other substances which can affect your vision, reaction, ability or judgement.

GENERAL

The RL submersible drainage pumps are designed for pumping lightly contaminated water .

DESIGN

The heavy duty light weight aluminium construction includes a cooling jacket ensuring adequate motor cooling at all times .
The pumps are in 'plug and pumping design' , with built-in full overheat motor protection .
The versions with level float switch allow automatic operation .
The unique cartridge type seal package can be easily replaced on site with only minimum downtime **.**
For demanding applications as in construction works and mining , the impellers are made for wear resistant Hi-Chrome iron and all other components are rubber lined .
The impeller clearance is easily adjustable to compensate for wear .

TECHNICAL DATA

	RL8010
Pump : Discharge mm - (in)	255 - (10")
Suitable for media with pH	5 - 8
Maximum water temperature	40°C
Maximum submersible depth m - (ft)	20 - (67)
Maximum solids size mm - (in)	Ø12 - (0.50)
Weight (excluding cable) kg - (lb)	550 - (1222)
Strainer	Holes Ø12 - (0.50)
Speed rpm 50Hz (60Hz)	1450 - (1740)
Stator insulation class	F (155°C)

Voltages V	**Phases**	**Frequency Hz**	**Rated current A**	**Rated electrical power (kW)**
380	3	50	110	63
660	3	50		
440	3	60	110	63

Other voltages upon request

IMPORTANT
The above information is a general description only, is not guaranteed and contains no warranties of any kind

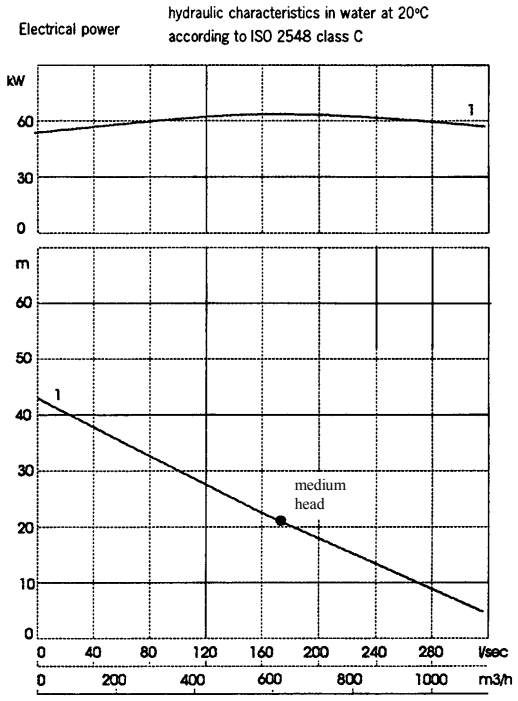
Power cables 50 / 60Hz

2 x 20 meters 4x25 mm^2

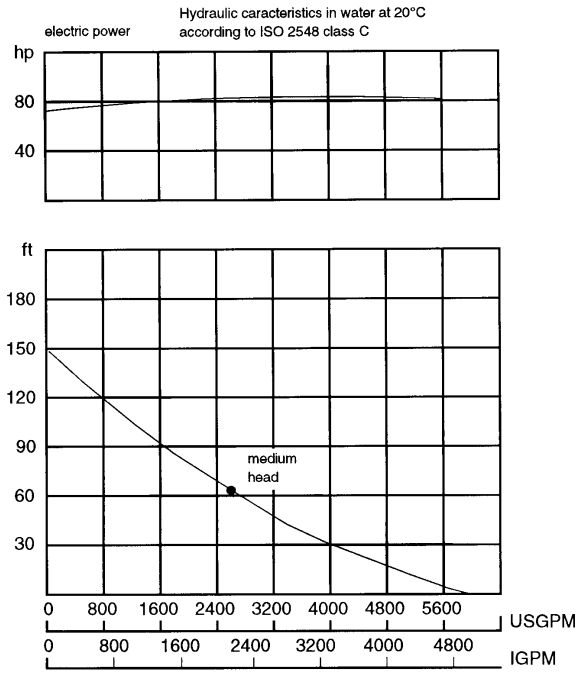
All cables polychloroprene type HO7RN-F .

Hydraulic characteristics

50Hz

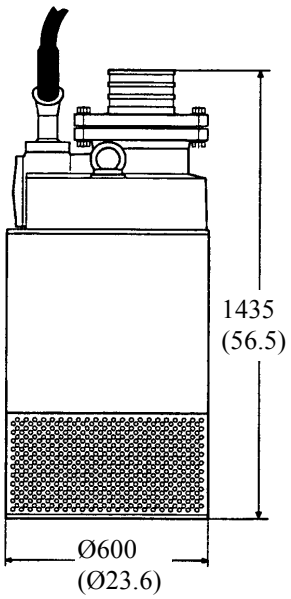


60Hz



Dimensions

Dimensions in mm
(Dimensions in inch)



DISCHARGES AVAILABLE

10" Hose standard P/N W494102
10" BSP - thread P/N W494103
10" NPT - thread P/N W494104
10" Alvenius P/N W494105

Note :the discharges have to be ordered separately .

PUMPS PART NUMBERS

Power supply	**Part Number (1)**
380/660V-3-50Hz	RL8014B37A6
440V-3-60Hz	RL8015B37A2

(1) The letter B means. basic construction, but the following main options are also available , according to the pump type :

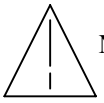
H : Canada Standard Association certified.
Z : Zinc anodes.

Here is the combinations for the most common pumps . In case of special applications please contact us .

INTALLATION

The pump must not be used in an explosive / inflammable environment or used to pump inflammable liquids !

- Route the cables so that connectors do not lie in the water. Consider the risk of electrical accident.



Never lift the pump by its power cable !

- Connect a discharge hose of approved pressure class.
- The discharge hose may be thrown off when the pump starts.
- No one must be allowed in the water, e.g. swimming pools, when the pump is running.
- Check that the pump is standing steady, or suspend it from its lifting ring.
- **Check the direction of rotation, pointed by the starting kick arrow printed in the outer casing (anti-clockwise)**
  The pump will start instantaneously when it is connected to the power supply.
  The pump may kick violently when it starts.
  In case of wrong direction of rotation two phases should be inverted from the supply.

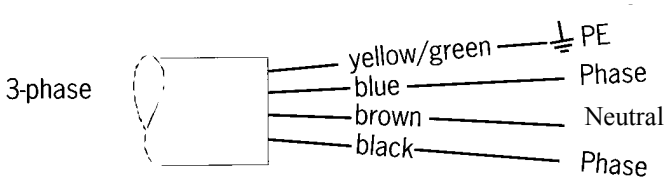
ELECTRICAL CONNECTION

Check that the details on the pump data plate match with the mains voltage and frequency.

The electrical installation must be carried out by a qualified electrician !
Local installation regulations must be followed !

Make sure that the pump is properly earthed. The earth conductor must be slightly longer than the phase conductors. If the motor power cable is accidentally pulled off, the earth conductor must be the last conductor to be removed from the terminals.

Never lift the pump by its power cable !



Pumps must be connected to an approved motor protection.

BUILT-IN MOTOR PROTECTION

Check that the pump is disconnected from the power supply before starting any work !

The pump's built-in motor protection switches off the contactor automatically if the motor overheats. Then, the fault must be identified and corrected. After cooling to normal working temperature, the motor protection switches on the contactor and the pump starts again.

TROUBLE SHOOTING

Fault location	Cause	Action
Pump will not start.	1. Fuses blown 2. Broken cable 3. Power failure 4. Jammed impeller 5. Faulty contactor 6. Stator winding burnt-out 7. Incorrect phase sequence (3 phases)	1. Replace fuses 2. Service 3. – 4. Clean bottom of pump 5. Service 6. Service 7. Change 2 phases in plug
Pump starts, but stops again.	1. Pump runs backwards (3 phases) 2. Pump connected to wrong voltage 3. Phase interruption 4. Strainer blocked 5. Insufficient water level 6. Voltage too low when using an extra cable 7. Water too hot	1. Change 2 phases in plug 2. Select the right voltage 3. Check fuses 4. Clean strainer 5. Stop the pump 6. Increase the extra cable section 7. Switch off power
Pump works, but delivers too small water volume .	1. Impeller worn 2. Pump runs backwards (3 phases) 3. Hose dimensions unsuitable 4. Insufficient discharge head	1. Adjust pump/replace impeller 2. Change 2 phases in plug 3. Change to suitable hose 4. Select a bigger pump

MAINTENANCE

Every 6 month the oil in the seal unit and the complete pump must be inspected .
The following figures shows the pump assembly (except for figures 7 and 8 which are showing specials disassembly tools) . For disassembly proceed in reverse order .

GENERAL
When dismounting the pump replace systematically all the O-ring , wear plate , diffusor centre and the damaged parts .
Replace the oil into the seal unit (7 l. SHELL Tellus Oil 32) .
Slightly oil the O-rings , the assembly surfaces and the threads . Tighten firmly all the nuts . The rotor shaft nut and the impeller nut have to be tight to 400Nm . These nuts and the pump stud bolts have to be glued with Loctite N° 242 .

PUMP UPPER PARTS
- Put the top bracket of the pump on a holder placed on the ground **Fig 2** . Note that the part is equipped with two lifting eyes in order to facilitate the pump manipulation .
- Screw in place 6 stud bolts P/N 69674 and set 2 O-rings W65142 in place into their grooves **Fig 3** .
Note : When delivered as spare part the top bracket cpl. P/N 492022 includes : Stud bolts W69674 (x6) , stud bolts W69652 (x4) , stud bolts P/N W69654 (x4) , stud bolts P/N W494079 (x2) and stud bolts W69658 (x4) .
Lubricate with high temperature bearing grease the emplacement for the bearing .
- Put in place the inner casing cpl . (including the stator) on the top bracket **Fig 3** and **fig 4** .

Fig. 2

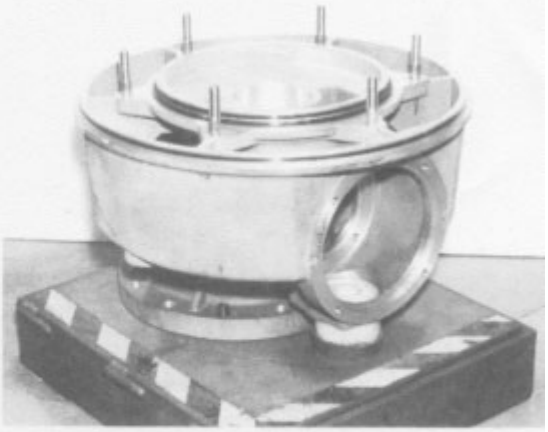


Fig. 3

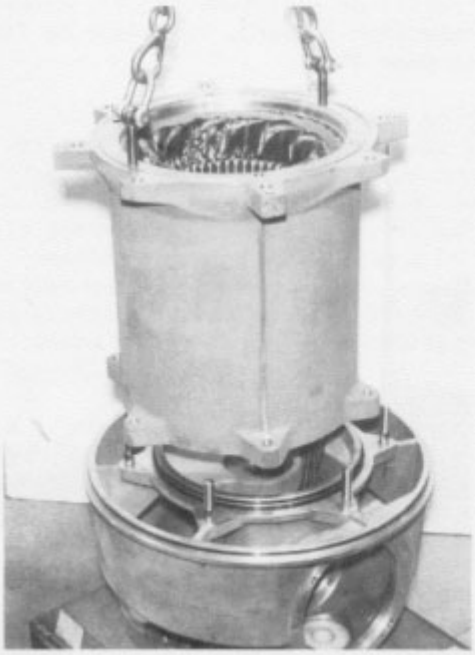


Fig. 4

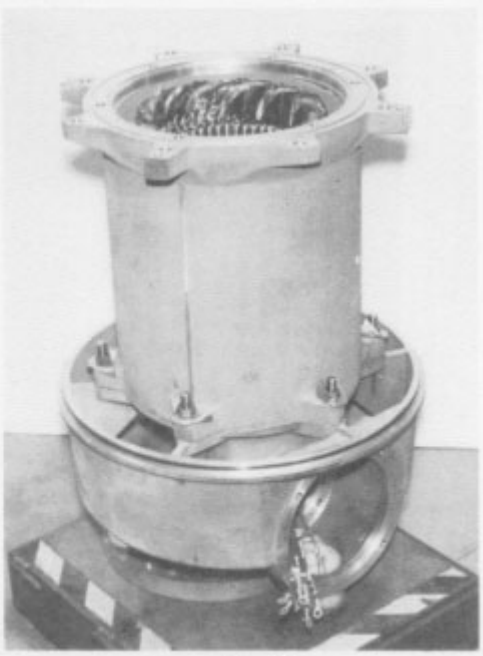


Fig. 5

BEARING HOUSING

- Slide the complete rotor assembly into the casing cpl. **Fig 6 .**
- Set the bearing housing complete (See page 19) on the rotor end **Fig 7** and secure it with retaining ring P/N W50553. Note : dismantling of bearing housing cpl . **Fig 8** .
- Slide the complete rotor assembly into the casing cpl. **Fig 6 .**

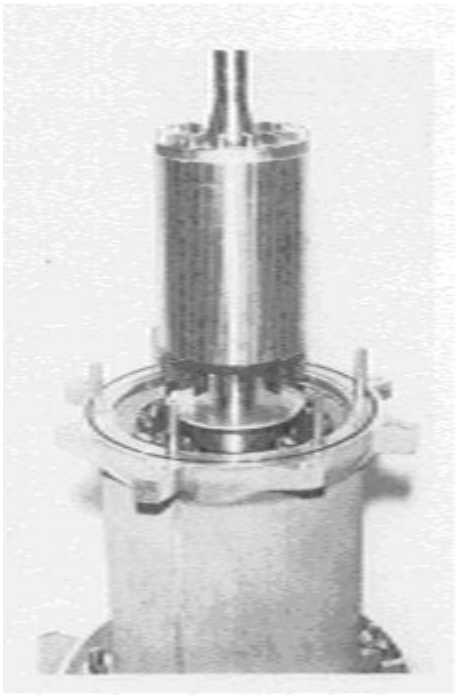


Fig 6

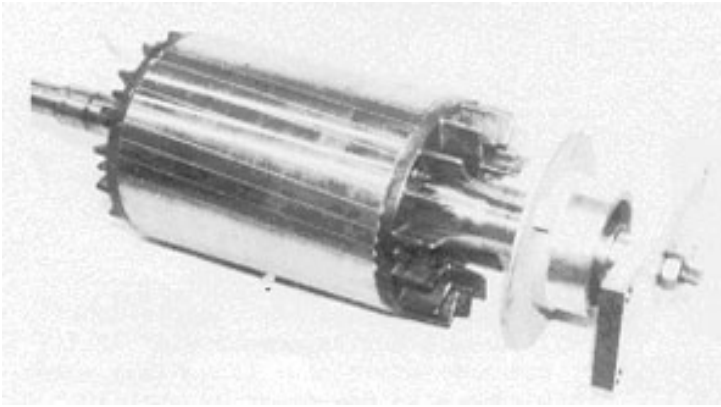


Fig 7

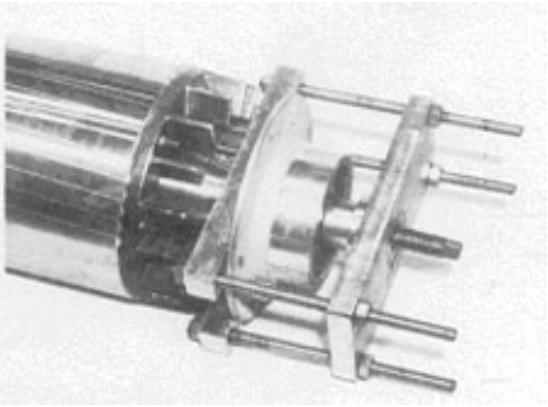


Fig 8

SEAL UNIT COMPLETE

- The seal unit complete is delivered with O-rings assembled . Put in place the seal unit cpl . on the inner casing on the stud bolts according to **Fig 9** .

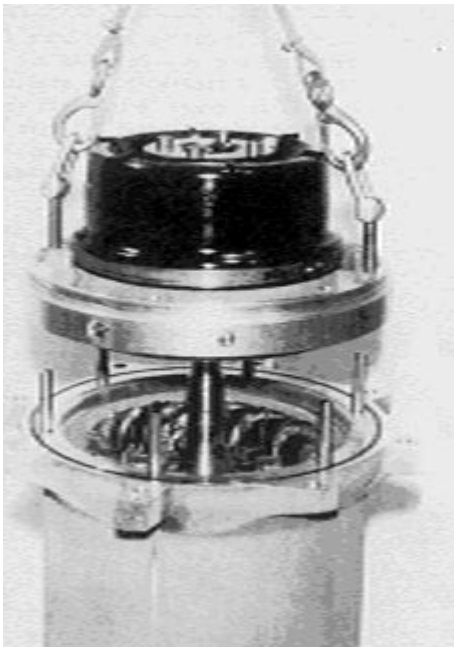


Fig 9

WEAR PLATE

- Set in place the wear plate P/N W492017 using a mallet . The wear plate should be replace at each pump dismantling .

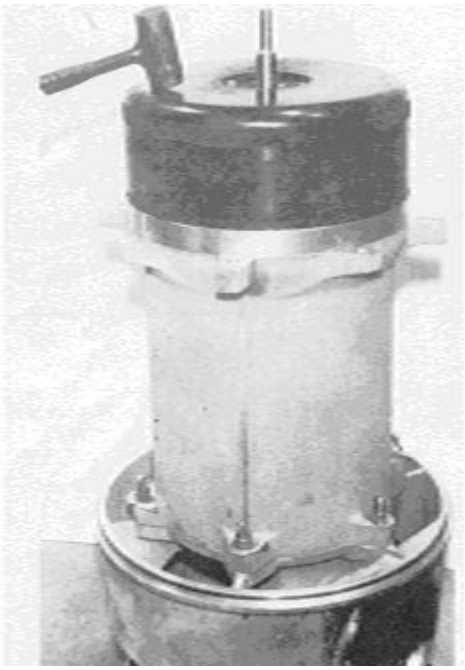


Fig 10

MOTOR SHAFT PARTS

- Screw in place the stud bolts P/N W494053 using Loctite N° 242 **Fig 11**.
- Side in place on the rotor shaft : the driving sleeve P/N W493029 , the washer P/N W494045 and the nut P/N 494091 **Fig 11** and **Fig 12 .**
- Glue the nut with Loctite N°242 and tighten it to 400 Nm .

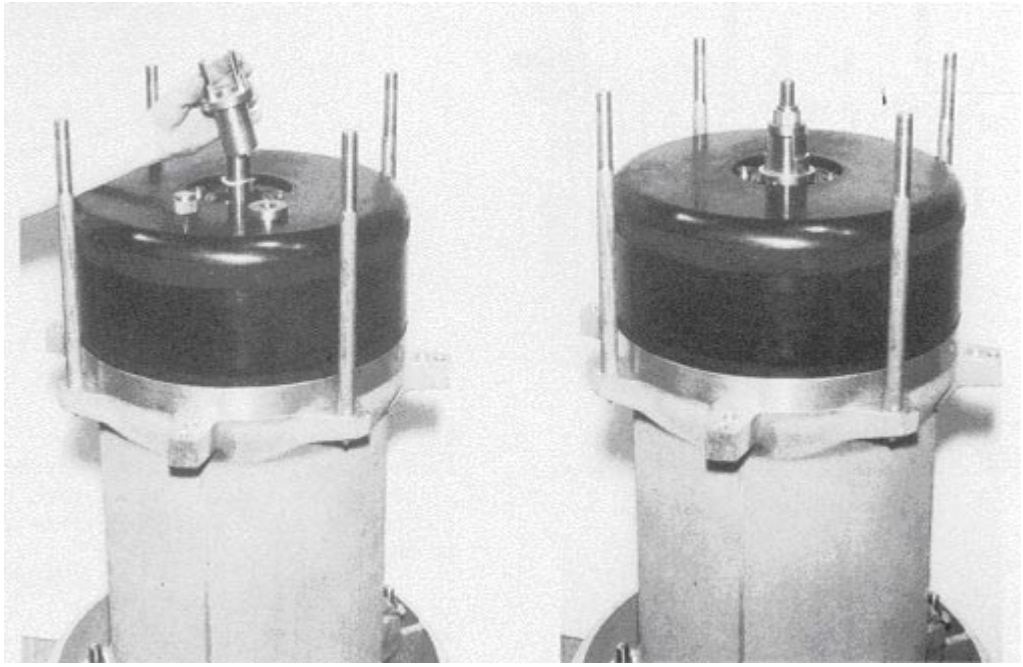


Fig 11 **Fig 12**

The gap between the impeller and the wear plate must be as small as possible. It is settled with Trimming spacers P/N W494044. On a new pump there is 5 washers in order to get the right gap. When the pump starts to wear the number of washers have to be reduced .

- Put on the driving sleeve : The trimming washers P/N W494044 ,The impeller P/N W491011(60Hz) W491010(50Hz) the protective housing P/N W491046 and the nut P/N W84215 **Fig 13** .
- Glue the nut with Loctite N°242 and tighten it to 400 Nm .

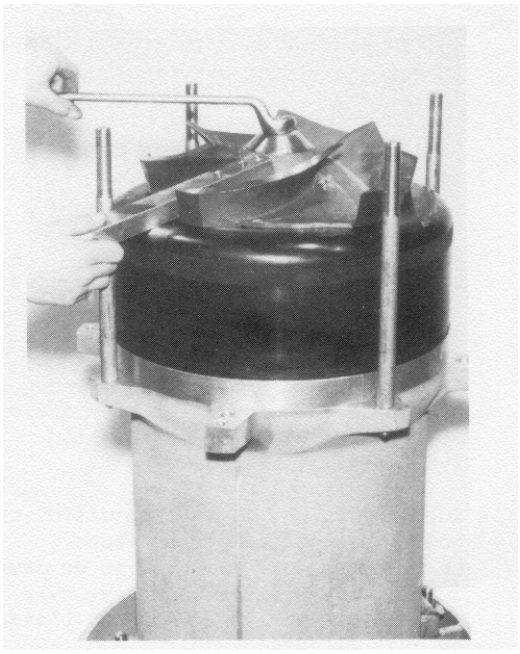


Fig 13

OUTER CASING

- Screw in place on the inner casing the bolts P/N W494054 using Loctite N°242 .
- Arrange to have the outer casing holes in front of the seal unit plugs . Then set in place the outer casing on the top bracket **Fig 15** .

Note : **Fig 14** disassembly tool for the outer casing .

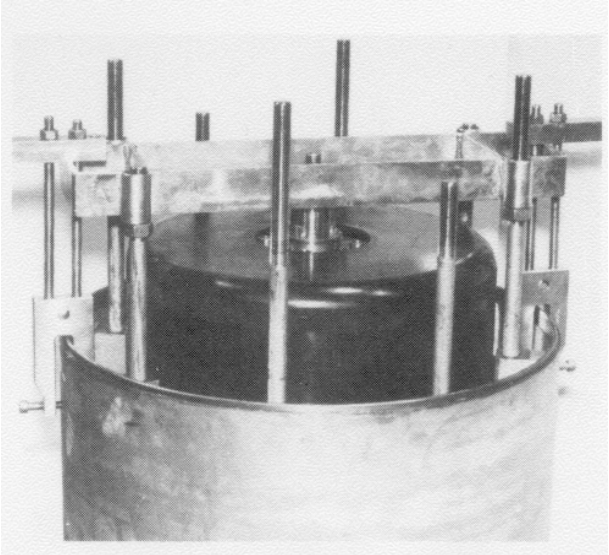


Fig14

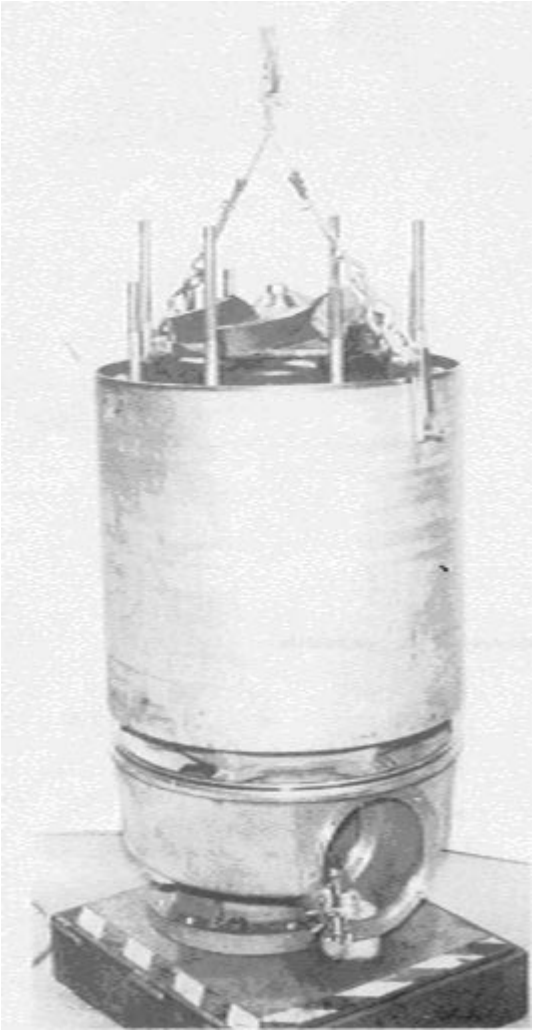
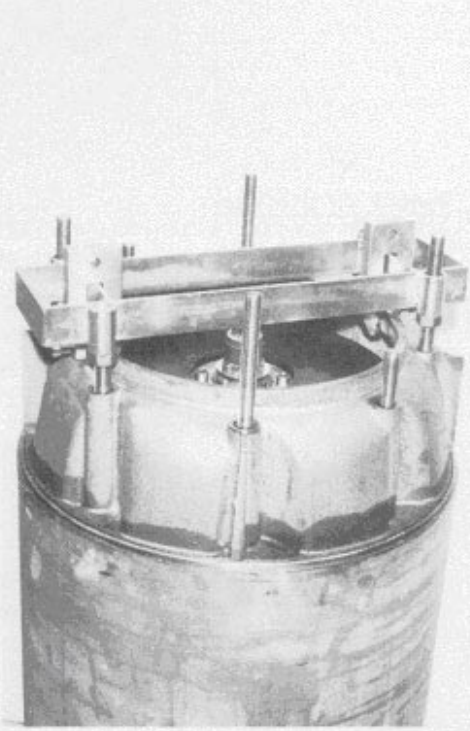


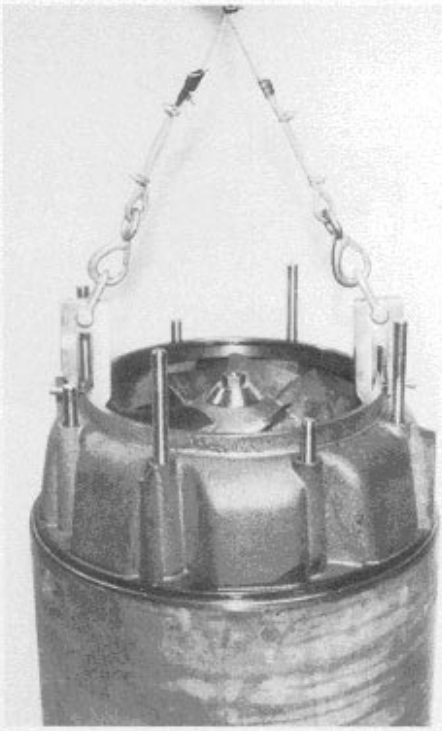
Fig 15

DIFFUSOR

- Set in place the diffusor P/N W491006 on the pump stud bolts and secure it with nuts P/N W84215 (x8) **Fig16** .Note : Disassembly method **Fig 17** and **18** .



16. Diffuseur sur la cloche extérieure



17. Dépose du diffuseur

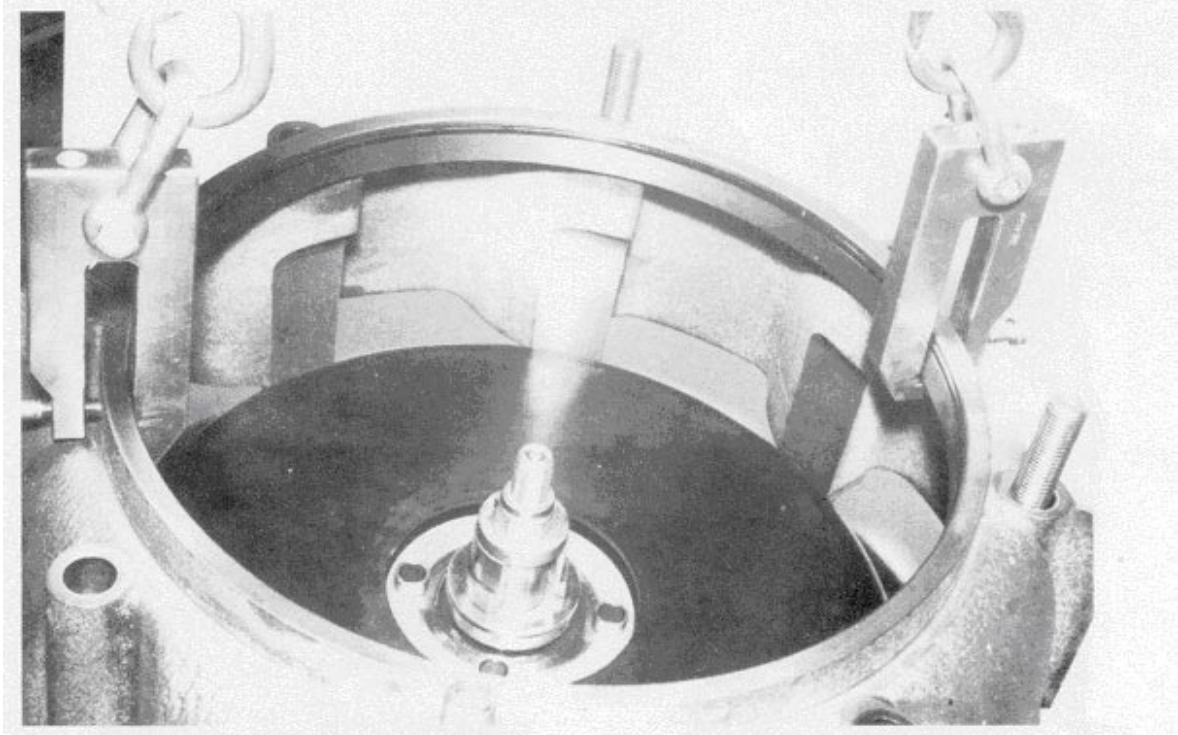


Fig18

DIFFUSOR CENTRE

- Screw a new set of nuts P/N W84215 on the pump stud bolts . Then set in place the diffusor centre P/N W492019 **Fig 19** .

The gap between the diffusor centre and the impeller must be as small as possible . Adjust this gap tanks to nuts P/N W84215 . Avoid to get any contact between the impeller and the diffusor centre **Fig 20** .
As soon as the setting is made put in place on the stud bolts protective sleeve P/N W494048 **Fig 21 .**
The diffusor centre is a wear part . It must be changed at each pump disassembly .

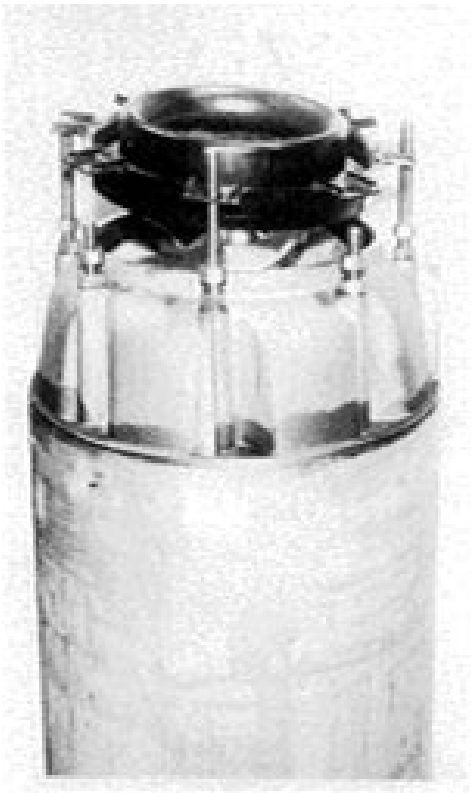


Fig 19

Fig 20

Fig 21

STRAINER

– Put in place the strainer P/N W491007 using nuts P/N W54215 (x4) . Then return the pump **Fig 22** and screw in place lifting eyes P/N W494085 and the pump discharge (See discharges available page 6) .

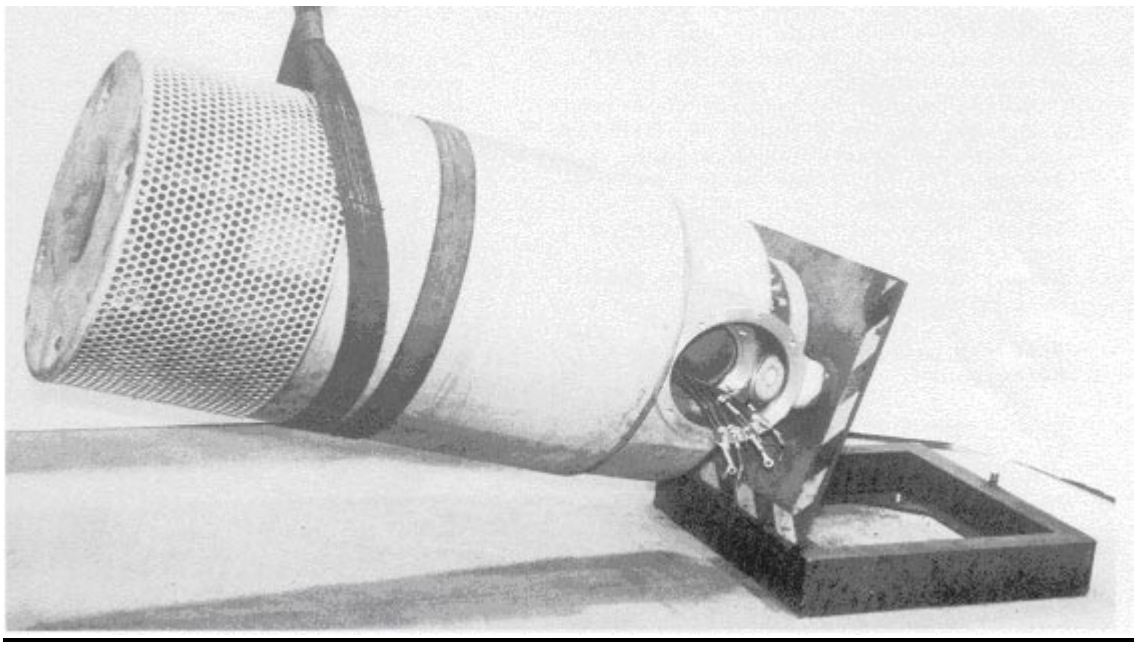


Fig 22

WEDA PUMP

World leader in professional submersible drainage pumps

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