Vincenzi & Gibertini srl

ITALIANO

MANUALE D'USO E MANUTENZIONE
POMPE CENTRIFUGHE PER TRATTORI
SERIE VG VGM

ENGLISH

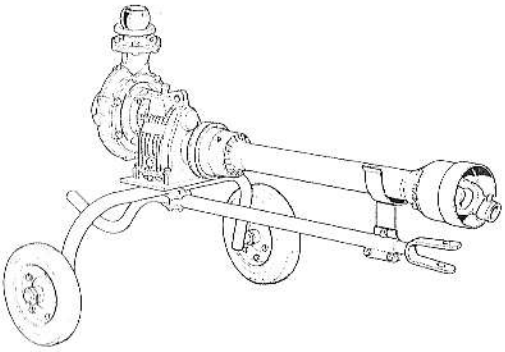
USE AND MAINTENANCE MANUAL
CENTRIFUGAL PUMPS FOR TRACTORS
VG VGM SERIES

DEUTSCH

BEDIENUNGS- UND WARTUNGSHANDBUCH
ZENTRIFUGALPUMPEN FÜR SCHLEPPER
SERIE VG VGM

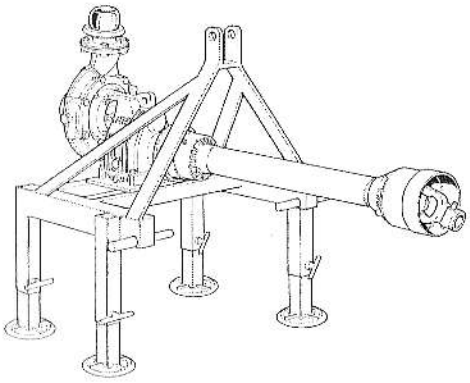
MONOGIRANTE
ONE-IMPELLER
EINSTUFIG

VG0-40/16
VG0-50/4
VG0-65/13
VG0-80/10
VG1-50/5
VG1-65/6
VG1-80/8
VG2-65/7
VG2-80/8
VG3-80/11
VG3-80/9
VG4-80/9



PLURIGIRANTI
MULTI-IMPELLER
MEHRSTUFIG

VGM3-50/2
VGM3-65/2
VGM4-80/2



CONTIENE DICHIARAZIONE DI CONFORMITA'
THIS MANUAL CONTAINS THE DECLARATION OF CONFORMITY
ENTHÄLT KONFORMITÄTSBESCHEINIGUNG

CE

VINCENZI & GIBERTINI S.R.L.
VIA A. LABRIOLA N° 25
41100 MODENA (ITALY)

DICHIARAZIONE DI CONFORMITA' CE

PRODOTTI:

POMPE CENTRIFUGHE SERIE 'VG' 'VGM'

Noi, Vincenzi & Gibertini S.r.l., Via A. Labriola, 25 (Modena) Italia, quali fabbricanti delle suddette pompe centrifughe, dichiariamo che dette macchine sono conformi ai requisiti essenziali di sicurezza menzionati nella direttiva macchine 89/392 CEE e successive modifiche.

DECLARATION OF CE CONFORMITY

PRODUCTS:

CENTRIFUGAL PUMPS 'VG' 'VGM' SERIES

We, Vincenzi & Gibertini S.r.l., Via A. Labriola, 25 (Modena) Italy, as manufacturers of the above mentioned pumps, hereby declare that these machines comply with the essential safety requirements of "Machinery Directive 89/392 EEC" and subsequent amendments.

CE-KONFORMITÄTSERKLÄRUNG

FÜR DIE PRODUKTE:

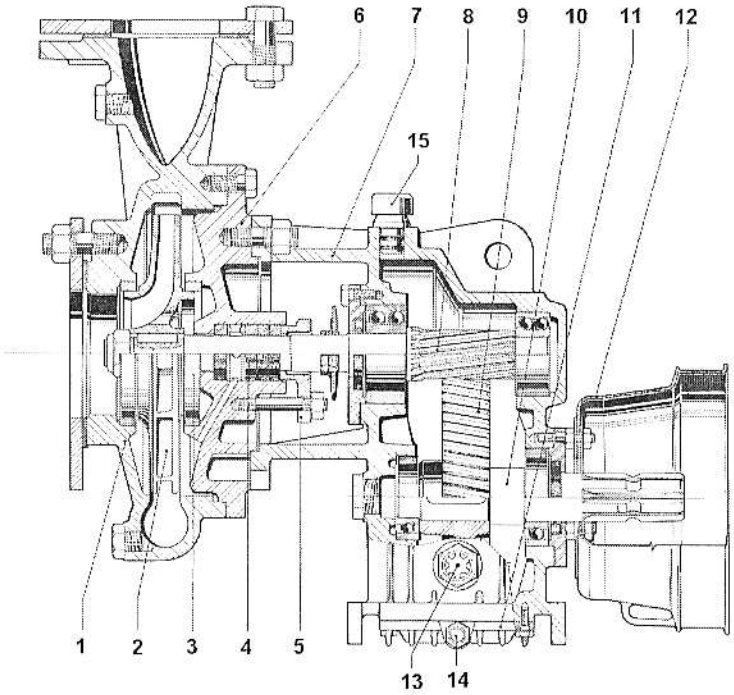
ZENTRIFUGALPUMPEN SERIE 'VG' 'VGM'

Die Firma Vincenzi & Gibertini S.r.l., Via A. Labriola, 25 (Modena) Italien erklärt als Hersteller der obigen Zentrifugalpumpen, dass diese Maschinen den wesentlichen Sicherheitsbestimmungen der Maschinenrichtlinie 89/392/EWG und ihrer nachträglichen Änderungen entspricht.

Modena, 01/01/09

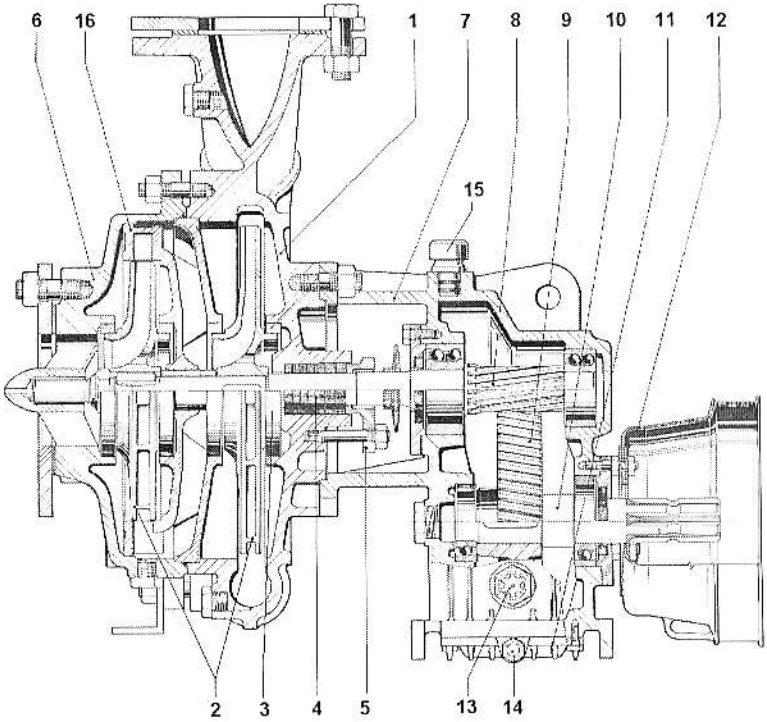
VINCENZI & GIBERTINI S.R.L.
Amministratore Unico / *Sole Director* / Geschäftsleiter
Rag. Romano Vincenzi

NOMENCLATURA / *NOMENCLATURE* / SACHVERZEICHNIS



SERIE VG / *VG SERIES* / SERIE VG

1	Corpo pompa	*Pump body*	Pumpenleibe
2	Girante	*Impeller*	Laufrad
3	Anello sede girante	*Impeller rings*	Laufraddichtring
4	Treccia	*Packing cord*	Zopfes
5	Flangia premitreccia	*Stuffing box*	Stopfbuchse
6	Coperchio pompa	*Pump cover*	Pumpendeckel
7	Scatola ingranaggi	*Gear box*	Getreibegehäuse
8	Albero pompa	*Pump shaft*	Pumpenwelle
9	Ruota condultrice	*Gear wheel*	Antriebsrad
10	Albero presa di forza	*Power-takeoff shaft*	Keilwelle
11	Coppetta olio	*Oil cup*	Ölwanne
12	Protezione albero p.d.f.	*Guard*	Schutzgehäuse
13	Indicatore livello olio	*Sight glass*	Standanzeiger
14	Tappo scarico olio	*Drainage plug*	Ölablassschraube
15	Tappo introduzione olio	*Filling plug*	Einfüllstopfen



SERIE VGM / *VGM SERIES* / SERIE VGM

1	Corpo pompa	*Pump body*	Pumpenleibe
2	Girante	*Impeller*	Laufrad
3	Anello sede girante	*Impeller rings*	Laufraddichtring
4	Treccia	*Packing cord*	Zopfes
5	Flangia premitreccia	*Stuffing box*	Stopfbuchse
6	Coperchio pompa	*Pump cover*	Pumpendeckel
7	Scatola ingranaggi	*Gear box*	Getreibegehäuse
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13	Indicatore livello olio	*Sight glass*	Standanzeiger
14	Tappo scarico olio	*Drainage plug*	Ölablassschraube
15	Tappo introduzione olio	*Filling plug*	Einfüllstopfen
16	Raddrizzatore	*Straightener*	Gleichrichters

CONTENTS

ENGLISH

This symbol is used to draw your attention to instructions relating to safety.
Failure to respect these instructions may expose operators to health hazards.

1.1.1: 1 PRELIMINARY CHECKS

SUCTION:
The bottom valve must be at least 0.5 mm under hydrostatic head so as to avoid the creation of vortices.
The suction duct must prevent the formation of air pockets, must not lead to excessive head loss (it must be as short as possible) and must have a diameter that is larger than that of the delivery duct.

DELIVERY:
In the case of considerable differences in level, a quick closing check valve must be installed upstream to the pump in order to protect the latter from hammering.
Supports near the pump must be provided for suction and delivery piping since the pump should, in no case, be used as means of support.

CARDAN-SHAFT TRANSMISSION:
Make sure that the Cardan-shaft transmission is certified and that all guards fulfilling safety requirements have been installed.

: 2 COMMISSIONING

The pump is supplied without oil. Before use, fill the gear box with lubricant (see INSTRUCTION 1.1.3: 1).
If the stuffing box features a greaser, open the tap, provide grease and shut off the tap.
- *THIS OPERATION SHOULD BE REPEATED EVEN AFTER THE PUMP HAS ENDED ITS WORK OR IF IT WILL BE KEPT OFF-DUTY EVEN FOR SHORT LAPSES OF TIME.*

Make sure pump and tractor are properly aligned: the Cardan-shaft transmission should have a working angle of less than 15°.
Before starting, ensure pump priming.
If the pump is not installed in a positive head manner, proceed as follows: install a volumetric priming pump or fill the pump up to its delivery port.
Start the pump by gradually increasing speed of rotation until you reach the requested speed.

: 3 USE

After being installed, the pump has very low maintenance requirements. Every time a new pump is installed or at least every 500 hours of work, perform the following checks:
- *Adjust the stuffing box, see INSTRUCTION 1.1.2: 3*
- *Check the level of lubricating oil, INSTRUCTION 1.1.2: 3*
- *Check pump speed, INSTRUCTION 1.3.6: 1*

1.1.2: 1 OPERATING CONDITIONS

Never let the pump run dry or with its suction and delivery ducts unhooked.
Failure to respect the above DAMAGES THE PUMP AND PUTS IT IN UNSAFE WORKING CONDITIONS.

: 2 OPERATORS

The pump can be run by one operator, who will also perform routine maintenance.
The pump must never be used by two or more persons working together.

: 3 OPERATION

ALL OPERATIONS DESCRIBED BELOW MUST BE PERFORMED WITH THE MACHINE HALTED, WITH THE TRACTOR'S ENGINE OFF AND WITH THE TRACTOR'S KEY REMOVED FROM THE DASHBOARD.

- *Adjusting stuffing box (5):*
  The stuffing box must be adjusted in such a manner as to ensure, with the pump running, minor dripping from the seal. This will prevent overheating of the packing cord. When refilling, it is recommended to add one ring only.
- *Replacing packing cord (4):*
  Packing cord must be replaced when excessive leakage is noted after tightening the stuffing box or refilling it. Fit rings by alternating cuts by 180°.
- *Checking the level of lubricating oil:*
  Check the level of oil periodically by means of the sight glass (13), which can be found in the gear box (7). If necessary top up by pouring oil through the filling plug (15).

- *Renewing lubricating oil:*
  Oil must be renewed every 500 hours of work or after long-term storage of the pump. Empty the box by removing the oil drainage plug (14) on one side of the oil cup (11). Keep the pump in horizontal position. Pour oil in through the filling plug (15).
- *Cleaning suction port and impeller:*
  To reduce cleaning requirements to a minimum, provide the bottom valve with a filter. If the pump is used for drawing water out of a ditch or irrigation channel, it is recommended to put the bottom valve in another filter, for instance a basket or cage. When working on the impeller (2), pay attention to the following indications: PUMP HALTED, ENGINE OFF AND KEY REMOVED.

: 5 SERVICE LIFE OF THE MACHINE

Check the trailer for wear regularly. In particular, check the wheels, pivots and bushings of backstops and tow bar. If wear is noted, replace the worn component.
Check and if necessary replace the guard (12) of the power-takeoff shaft (10).
To replace the guard of the propeller shaft, refer to the Use and Maintenance Manual of the Manufacturer.
IT IS IN ALL CASES PROHIBITED TO RUN THE PUMP IF THE PROPELLER SHAFT AND ITS GUARDS ARE NOT IN PERFECT WORKING ORDER.

1.1.3: 1 LUBRICATING OIL FOR THE STEP-UP GEAR

Type of step-up gear	Type of lubricating oil	Quantity of lubricant in kg
VG0	SAE 80 W EP For an ambient temperature up to: 30 °C – 86 °F ---------- SAE 80W/90 EP For an ambient temperature over: 30 °C – 86 °F	0.400
VG1		0.800
VG2		1.260
VG3		1.260
VGM3		1.260
VG4		1.800
VGM4		1.800

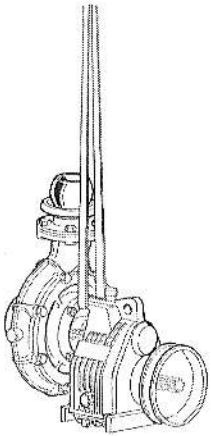
Physical-chemical characteristics:
Mineral oil for gear boxes, viscosity index 95/105, Class API GL 3-4-5.
Position of filling and drainage plugs: see INSTRUCTION 1.1.2: 3
To effectively collect waste oil, use a funnel.

1.1.4: 1 LIGHTING

If the pump is used at night, provide sufficient lighting so as to guarantee visibility over all danger signs.

1.1.5: 1 LIFTING AND TRANSPORT

Pumps can be lifted by means of a hoist. This should be inserted between the step-up gear and pump, and pass over the pump shaft, as shown in the figure.



If you are hitching the pump from the eyelet at the top of the step-up gear box, the hook used must be able to withstand the weight of the pump, as indicated in the following table and on the pump itself.

Pump type	Weight in kg	Pump type	Weight in kg
VG0-40/16	31	VG0-80/10	43
VG0-50/4	37	VG1-80/8	65
VG1-50/5	64	VG2-80/8	84
VGM3-50/2	100	VG3-80/11	88
VG0-65/13	41	VG3-80/9	105
VG1-65/6	61	VG4-80/9	135
VG2-65/7	87	VGM4-80/2	173
VGM3-65/2	107		

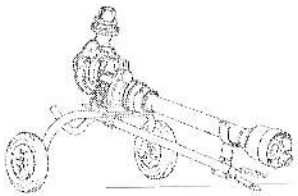
: 2 PACKAGING

Single pumps are packed in cartons, which are placed on a wooden platform. Sets of pumps can be packed in wooden crates or on pallets with shrink or stretch wrapping. Material must be transported covered.

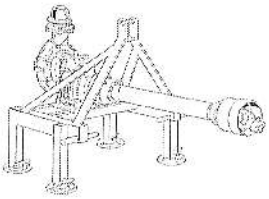
1.3.1: 1 INSTALLATION

ON TRAILER

In working conditions, the trailer must be hitched, by means of the tow bar, to the drawbar of the tractor. Wheels must rest firmly on ground and suction/delivery piping must be hooked to the pump. In idle condition, the drawbar eyelet must be restino on ground.



ON THREE-POINT LIFTER MOUNTING



In working conditions, the mounting must be hitched to the tractor lifting. The four adjustable feet must be resting on ground and suction/delivery piping must be hooked to the pump. In idle condition, the mounting must be resting on ground. The four feet must be fully retracted.

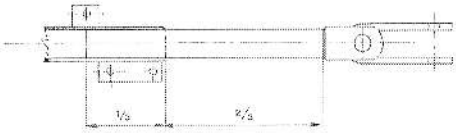
: 2 DRAWBAR SYSTEM

The pump trailer features an articulated drive ring that allows for the trailer to move comfortably over unlevel ground but prevents the tow bar from rotating about itself. This will prevent the pump tipping over when it is working.
In order not to damage the trailer during transport, hitch the tow bar to the tractor's articulated ring.

1.3.2 ADJUSTMENT ELEMENTS

: 1 ADJUSTING TRAILER TOW BAR

The tow bar can be adjusted in terms of length by pulling out the drive ring.
Extraction must be limited to a maximum of two thirds the total length of the extensible pipe.



: 2 ADJUSTING FEET OF THREE-POINT MOUNTING

During adjustment of feet, the mounting must be supported by the tractor's lifter.
Perform regular checks on the stops that secure the feet at the required height.

1.3.3: 1 RISKS DUE TO FALLING OR EJECTED OBJECTS

Make reference to the RPM of the tractor's PTO, which is indicated on the pump's registration plate, e.g.: 450, 540, 830, 1000 RPM.
Exceeding these thresholds may cause breakage of the propeller shaft or of the pump hence causing serious damage to machines or persons.

1.3.6: 1 ADJUSTING RPM

The pump must be started and stopped gradually and never abruptly.
Also see INSTRUCTION 1.3.3: 1.

1.3.7 RISKS RELATED TO MOVING PARTS

: 3 PUMP SHAFT

The pump shaft (8), in the section near the stuffing box flange, is uncovered.
Pay particular attention when working on the stuffing box.
Work with the machine halted and proceed gradually when wrenching components.

: 4 PUMP IMPELLER

Never run the pump unless the suction and delivery pipes are firmly secured in place. Also see INSTRUCTION 1.1.2: 1.

1.3.8: 1 PROTECTION AGAINST RISKS RELATED TO MOVING PARTS

The guard for the propeller shaft on tractor side is at the user's care. The latter must check: if it is fitted, its condition and its use. (ISO 5674 STANDARD).

1.5.5: 1 OUTER SURFACE TEMPERATURE OF THE STEP-UP GEAR

Pay attention: the outer surface of the step-up gear can reach high temperatures. Avoid prolonged contact with bare hands.

1.5.9: 1 VIBRATIONS

Perform regular checks to make sure that the four screws securing the pump to the trailer or to the three-point mounting are firmly wrenched.

1.6.1: 1 MAINTENANCE

All lubricating and replacing operations must be performed with the machine halted and in safe conditions. See INSTRUCTION 1.1.2: 3.

1.6.3: 1 ISOLATION OF ENERGY SOURCES

Lifting systems with a pressure of over 10 Bar must be fitted with a quick closing check valve to be applied to the delivery port. This prevents the return of pumped liquid, which could transform the pump into a turbine and lead it to move by itself.

1.6.5: 1 INTERNAL CLEANING

During this operation, to put the machine in safe conditions, remove the propeller shaft from the PTO of the tractor and from the pump.

1.8.1: 1 DISPOSAL

During product disposal, the operator must follow decommissioning and dismantling instructions and must strictly adhere to the local rules and regulations for waste disposal and to all the instructions provided in the manual.

: 2 WARRANTY

This product is subject to the sales conditions applied to all products of
VINCENZI & GIBERTINI S.R.L.
In particular, bear in mind that application of warranty conditions is subject to observance of all instructions provided in attached literature and of all rules pertaining to hydraulic and mechanical equipment. These are also essential conditions for regular operation of the product.
Faults caused by wear and/or corrosion do not fall within the scope of the warranty.
To take advantage of warranty conditions, the product must be examined by our technicians or by authorised service centres.
Failure to adhere to the instructions provided in the product's literature will invalidate any warranty and relieve the manufacturer from any liability.

2.1.1:1 IMPROPER PUMP OPERATION: TROUBLESHOOTING

FAULTS	PROBABLE CAUSES	REMEDIES
Pump is blocked.	1 - Rotating parts are oxidised due to long-term storage.	1 - Remove pump cover (6) and release rotor - FOLLOW INSTRUCTIONS: 1.6.5: 1 INTERNAL CLEANING -.
Pump does not deliver liquid.	2 - Suction piping and pump are not filled correctly and contain air.	2 - Fill the pump again. - SEE: 1.1.1: 1 PRELIMINARY CHECKS AND 1.1.1:COMMISSIONING -.
	3 - Air has entered suction piping, couplings or bottom valve, which is not fully submerged.	3 - Check and prevent entrance of air.
	4 - A faulty bottom valve empties pump and piping in the time running between filling and starting.	4 - Check condition of bottom valve. If it is damaged, repair or replace it.
	5 - Bottom valve is clogged by leaves, grass, mud.	5 - See point 4 and remove any obstructions.
	7 - Excessive suction height.	7 - Reduce distance between pump and water level.
	8 – Pump speed is too low.	8 - Check speed (RPM) of tractor's PTO. - NEVER EXCEED THE RPM THRESHOLDS SHOWN ON THE PLATE, SEE INSTRUCTION 1.3.3: 1 RISKS DUE TO FALLING OR EJECTED OBJECTS -.
	9 - Wrong direction of rotation.	9 - Check prime movers.
	10 - Foreign matters in the impeller or straightener channels.	10 - Remove foreign matters - FOLLOW INSTRUCTIONS 1.6.5:1 INTERNAL CLEANING -.
	11 - Head requested by system is higher than pump's capacity.	11 - Check type of pump and, if necessary, replace it with a more suitable pump.
Pump has insufficient capacity.	12 - Diameter of suction piping or bottom valve is too small.	12 - Replace suction assembly with a larger one.
	13 - Impeller is worn. Also see: 2-5-6-7-8-9-10-11.	13 - Contact a service centre that can replace the impeller and rings. Also see: 2-5-6-7-8-9-10-11-.
Insufficient pump pressure:	14 - Too much air or gas in pumped liquid.	14 - See point 7.
	15 - Viscosity of pumped liquid is higher than expected. Also see: 8-9-10-11-13.	15 - Dilute liquid. Also see: 8-9-10-11-13.
Pump stops delivering liquid.	16 - Suction piping has an upward curve in which an air pocket forms. Also see: 3-6-7-14.	16 - Correctly position suction piping. Also see: 3-6-7-14.

Pump's power draw is too high.	17 - Speed of rotation is too high.	17 - Reduce RPM of tractor's PTO.
	18 - Wrong type of pump.	18 - Contact an authorised service centre than can reduce the impeller or modify the step-up gear ratio.
	19 - Wrong alignment of assembly.	19 - Align correctly: pump / propeller shaft / tractor.
	20 - Higher capacity than expected.	20 - Act on the delivery gate valve to reduce the pump's capacity.
	21 - Stuffing box is wrenched too tight.	21 - Loosen stuffing box by acting on both nuts in the same manner. Minor dripping should be noted during pump operation. SEE INSTRUCTION 1.3.7:3 PUMP SHAFT-.
	22 - Abnormal internal friction (rotatine parts rub against fixed parts).	22 - Contact an authorised service centre.
	23 - Bearings are worn.	23 - Contact an authorised service centre for replacement.
Excessive dripping from the stuffing box.	24 - Shaft or bushing are worn near the stuffing box.	24 - Contact an authorised service centre to have the shaft overhauled or the bushing replaced.
	25 - Shaft turns off-centre due to worn bushings.	25 - See point 23.
	26 - Unbalanced rotating parts cause shaking.	26 - See point 22.
Stuffing box wears out early.	27 - There is sand or other foreign matters in the water for stuffing box lubrication. As a consequence, shaft or bushing go subject to early wear. Also see: 21-24-25-26.	27 - See: 21-24-25-26.
Pump is noisy or shakes.	28 - Pump works in cavitation conditions. Also see: 7-10-12-22-23-25-26.	28 - Reduce head loss during suction. Also see: 7-10-12-22-23-25-26.
	29 - Pump and piping are not secured in place properly. Also see: 19.	29 - See INSTRUCTION 1.5.9:1 VIBRATIONS – Also see point 19.
Pump tends to overheat.	30 - Too little or too much lubricant.	30 - See INSTRUCTION 1.1.2:3 CHECKING LEVEL OF LUBRICANT -.
	31 - Thrust caused by mechanical faults. Also see: 21-22-23-25.	31 - Contact an authorised service centre. Also see: 21-22-23-25.
Bearings go subject to early wear.	32 - There are foreign matters in bearings.	32 - See INSTRUCTION 1.1.2:3 RENEWING LUBRICATING OIL.
	33 - Bearings in the gear box are oxidised due to water seepage or condensate caused by damp air. Also see: 19-22-26.	33 - Perform regular checks to see if condensate has formed in the gear box and proceed as described in point 32. At the end of the damp season, repeat the operation after washing the box inside.

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pompe per acqua - water pumps - bombas para agua - pompes à eau - wasserpumpen

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