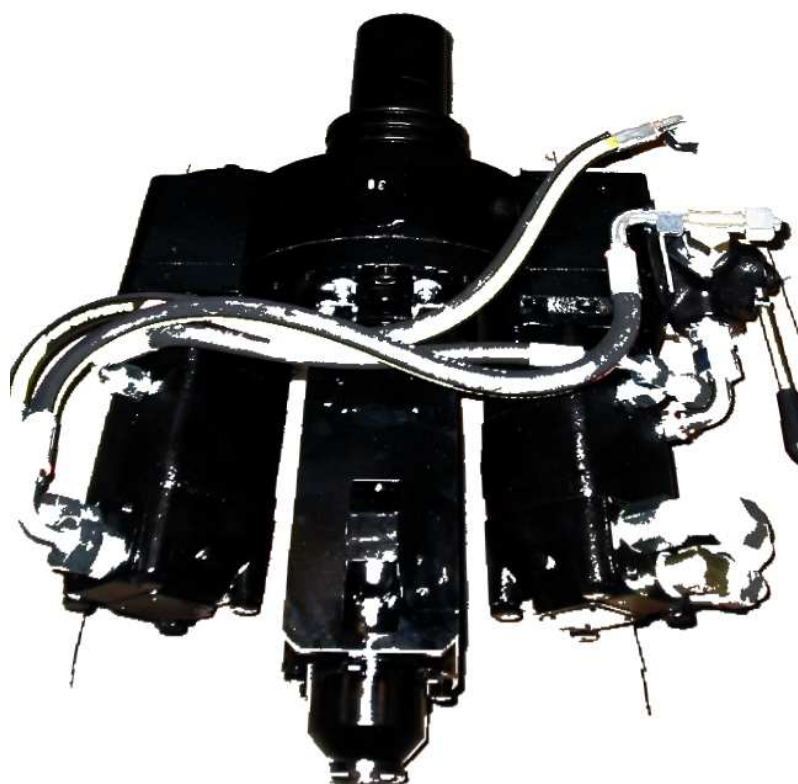


HYDRAULIC ROTARY HEAD



RP-500 series



User and Maintenance Manual

Cod. RP500 – V.1 / 08

Ripamonti

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IMPORTATORE / Importer / Maison d'importation:

ASSISTENZA AUTORIZZATA / Official Customer Service / Service après
vente:



WARNING!

Read carefully the user and maintenance manual before starting using the machine.

This manual contains reserved information. All rights reserved.
Any copy, adaptation or translation without the written consent of Ripamonti's is forbidden.

Ripamonti is not liable for personal or property direct or indirect damage due to the use of this manual or of the machine in conditions other than those indicated or that do not guarantee operator's safety.

Delivery remarks:

Upon machine delivery, open the package and check that the supply corresponds to order specifications and to the content of the shipping document attached.

In case of deterioration or lack of parts notify it immediately, clearly and in details to the carrier and send a copy to Ripamonti.

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1 Introduction

The user and maintenance manual is an essential and integral part of the machine and should be delivered to the user.

It should be kept with care and read with attention since it contains important safety information on operation and a proper maintenance. In case any doubts, please contact the Ripamonti's Customer Care.

The machine should be destined only to the use for which it was explicitly designed. Any other use is to be considered inappropriate and therefore dangerous.

The manufacturer does not have contractual or extra contractual liability for any machine damage caused by machine misuse or by manual disregard.

Note

RIPAMONTI reserve the right to modify the product and relative technical documentation without any obligation towards third parties. This user and maintenance manual version describes the characteristics relative to the standard machine as of the date of printing of this publication.

2 General information

The RP500 hydraulic head is delivered perfectly working and under warranty. Any original parts alteration, their tampering or lack of a right maintenance, described in the manual, forfeit a warranty.

3 Description of recommended use

The RP500 hydraulic rotary head was manufactured to drill boreholes in any kind of land and in compact rock with the following tools:

- DOWN HOLE HAMMER UP TO 5" DIAMETER
- THREE-WINGS ROCK BITS
- THREE-CONES ROCK BITS
- TC TOOLS
- DIAMOND TOOLS

ANY USE DIFFERENT FROM RECOMMENDED IS NOT AUTHORIZED.

To be used, the RP500 head should be installed on an adequate support and connected to power source. RP500 was designed for installation on SPEEDY DRILL® or STEEL 300 drilling masts. In

case of application on any other kind of support or mast, please contact RIPAMONTI before installation to check compatibility.



Fig. 1



THE INSTALLATION OF THE HEAD ON OTHER PRODUCERS' MAST IS NOT DIRECTLY MANAGED BY RIPAMONTI, BUT AN INSTALLER TAKES RESPONSIBILITY FOR DOING IT. DURING THE USE OF THE HEAD COMPLY STRICTLY WITH THE MAST MANUFACTURER INSTRUCTIONS.

RP500 hydraulic head (accessory for drilling masts) IS A "MACHINE-COMPONENT" OR "INCOMPLETE MACHINE", DESIGNED FOR DRILLING BOREHOLES UP TO MAXIMUM DIAMETER AND DEPTH CONSENTED BY INSTALLED ACCESSORIES AND DRILLING TECHNIQUE.



RIPAMONTI'S LIABILITY IS LIMITED TO WHAT IS ACTUALLY SUPPLIED. IF THE INSTALLATION IS EXECUTED BY THE CUSTOMER-USER, RIPAMONTI IS NOT LIABLE FOR THE SAFETY OF THE GROUP "ROTARY HEAD – TARGET MACHINE".

According to the Directive 98/37/CE "Machines" it is forbidden to use an incomplete machine supplied with the "B" type declaration before the machine or system in which it is installed are made and declared compliant with the provisions of the above directive (Art.4, section 2).

If the RP500 head is purchased installed on SPEEDY DRILL® drilling mast, the group "mast + head" is considered as a single machine and is supplied with its CE certification. In this case refer to the user and maintenance manual of SPEEDY DRILL® mast.

Note: The RP500 rotary head IS NOT appropriate for use in potentially explosive conditions.

4 Operators' competence

The maintenance and use operations described in this manual require the presence of operators with a long-lasting experience in the field of drilling machines.

All the operators have to know the machine performance and working limits, mobile equipment overall sizes and handling, both for transport and use.

Most of the accidents on building sites are due to the lack of compliance with basic safety standards or to negligence in the approach to working stages with a potential hazard in certain situations.

Machine operators should be well-prepared and possess proper instruments to execute operations.

Operators should never let anybody approach during the use of the machine and should prevent it from being used by staff unauthorized and not trained.

In case of any doubts call RIPAMONTI's customer service to get all necessary information.



THE PURCHASER AND THE OPERATOR OF THIS MACHINE SHOULD READ CAREFULLY THE USER MANUAL BEFORE THEY START USING THE DRILLING MACHINE.

IF THIS DEVICE IS SUPPLIED WITH USE AGREEMENT OR LEASE AGREEMENT, THE OWNER COMPANY SHOULD CHECK IF THE NEW USER READ AND UNDERSTOOD THE USER MANUAL.



ONLY SKILLED AND AUTHORISED STAFF CAN USE THE MACHINE. THE STAFF MUST HAVE EXPERIENCE AND KNOWLEDGE OF DRILLING PHASES AND TECHNIQUES.



THE USE OF PERSONAL PROTECTIVE EQUIPMENT IS OBLIGATORY.

(protective glasses, soundproof ear muffs, a working suit, protective gloves, a helmet and safety shoes).

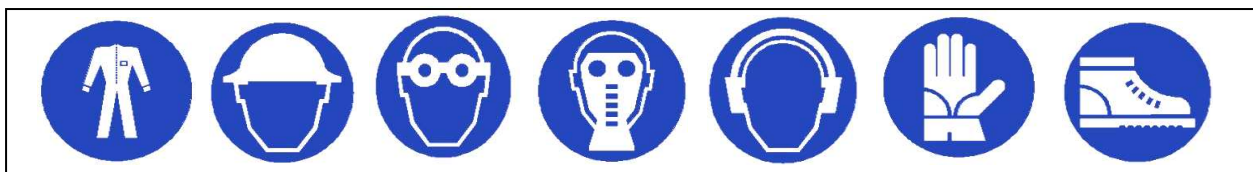


Fig. 2

5 Functioning

This type of rotary head has two hydraulic motors, rotating in the same direction. They are positioned on the central gear, to which rods are connected.
A hydraulic valve (10- fig 3) allows to feed one or both motors with one oil flow.

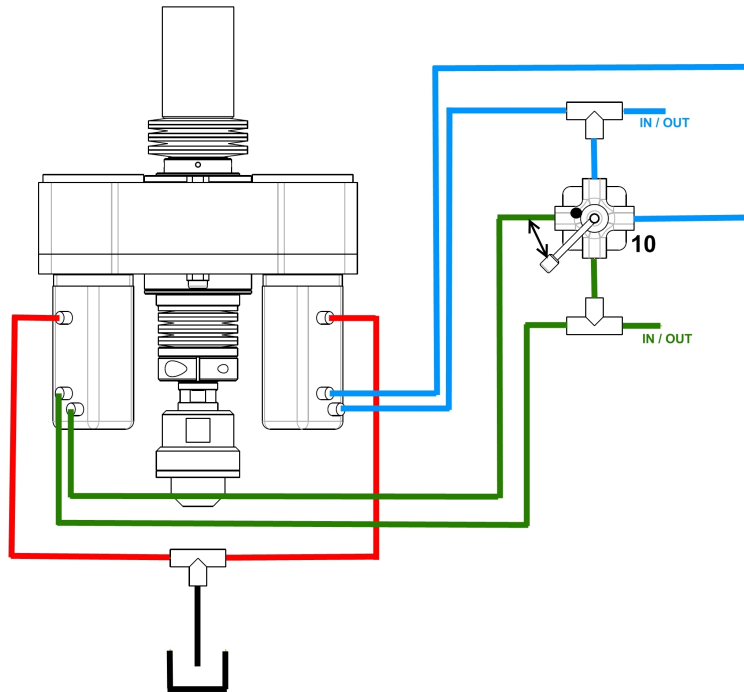


Fig. 3

If the rotary head is driven by one motor only with the same oil flow rotation speed is doubled and rotation torque is halved.



USE REDUCED SPEED (BOTH MOTORS) TO UNSCREW RODS.



DON'T CHANGE THE SPEED DURING ROTATION



TO BROADEN KNOWLEDGE ABOUT DRILLING TECHNIQUES NOT MENTIONED IN THE MANUAL, PLEASE CONSULT SPECIALIST PUBLICATIONS.

6 Safety regulations

The risk of accidents can be reduced or eliminated complying with the following simple rules and general precautions:

- The head should be used installed on a drilling mast or adequate support (See sect. 3)
- RP500 can be used only by trained operators (See sect. 4)
- Check if the head was maintained correctly.
- Before and during machine operation, check the state of pressure hoses. In case they have wear signs, replace them before starting the machine.
- Be cautious while using the machine. Do not approach the drilling centre, always keep a proper safety distance. Trapping hazards (limbs and clothes) while functioning.
- Pay the highest attention while changing rods. Make sure the machine is off and supplies are disconnected.
- Before any intervention on supply circuits, make sure they are not under pressure.

7 Residual risks

The versatile use of the RP500 rotation head exposes the operator to the following residual risks::

- SCATTERING OF DUSTS, FRAGMENTS OR SPLINTERS OF THE DRILLED ELEMENT;
- ACCIDENTAL CONTACT WITH PARTS IN MOTION;
- depending on the kind of drilling , PROLONGED EXPOSURE TO NOISE;
- BREAKDOWN DURING OPERATION.

THE MAIN PROTECTION FROM THE ABOVE RISKS IS THE FURTHEST POSSIBLE DISTANCE FROM THE DRILLING CENTRE.

The above described breakdown risk is not the one due to inappropriate use, but it is relative to some precise components (in particular PRESSURE HOSES and RODS).

Partly for use conditions, but mainly due to improper machine maintenance or negligence, the mentioned components can break during use with disastrous effects.



IT IS RECOMMENDED TO PRECISELY PERFORM ALL THE CONTROLS AND MAINTENANCE INTERVENTIONS SCHEDULED.

Especially the staff in charge should be aware of this.

8 Maintenance

The chapter contains the machine maintenance standards. It is required to read the manual before the machine use. The good maintenance includes ordinary controls carried out by operator or maintenance staff, and periodical maintenance: cleaning, registration and replacement carried by qualified staff.



IF NOT EXPLICITLY SPECIFIED, EVERY MAINTENANCE OPERATION MUST BE PERFORMED WITH MACHINE OFF, IMMOBILE AND IN STATIONARY POSITION.

8.1. General criteria

The maintenance operator is a person specialized in regulation, lubrication, greasing, assembly and disassembly of instrumentation, mechanical parts, gear wheels and mobile elements. He must be trained on maintenance and calibration of oil hydraulic systems and must be informed about safety standards needed while operating the machine. He must be equipped with all personal protective equipment needed during maintenance operations. He must be also aware of different hazards that may occur during work phases and must use proper devices to perform maintenance. The extraordinary maintenance must be performed only by qualified staff or staff authorised by a constructor. In case of any doubts or lack of knowledge, please contact Ripamonti's customer service to gain information needed.

It is recommended to use Ripamonti's original spare parts.



CONTROL EVERYTHING EVERY TIME YOU WANT TO SWITCH ON OR USE THE MACHINE



ALWAYS WEAR PERSONAL PROTECTIVE EQUIPMENT. ALWAYS WORK IN GOOD LIGHTING CONDITIONS. IF NECESSARY, USE ARTIFICIAL LIGHTING

RIPAMONTI recommend eco-friendly methods of machine storage and disposal. Do not contaminate ground, sewer or river basin with liquids. Use proper tanks for liquids and dispose of them in a proper and approved way. Verify and respect all the standards of waste storage, disposal and recycling.

8.2. Maintenance instructions

The RP 500 hydraulic head is normally delivered with grease lubrication on the bearings as shown in the following figure. Anyway a customer should check if the head is greased sufficiently before using it. Control if there is sufficient oil in toothed gear box and add it if needed.

At the beginning of work

- Control the tubes. If there are any losses, close the connections. If the tubes are worn, replace them.



DO NOT USE THE MACHINE IF YOU OBSERVE ANY LOSSES OR VISIBLE DAMAGES OF HYDRAULIC SYSTEM PIPING OR CONNECTIONS. CONTACT WITH HYDRAULIC LIQUIDS UNDER PRESSURE MAY BE DANGEROUS TO PEOPLE.

- Grease the flushing head.
- Verify if there are not any oil losses in the head case. If there are, control nuts' and bolts' locking and seal if necessary.
- Control the head connection on the drilling mast.

Every week (about 50 hours)

- Check the oil level in the gear box case. The proper oil level must be minimum 2/3 of the case inner volume. If not sufficient, add gear oil type 80-W 90.
- Verify shaft stroke and adjust it through disc springs (3): unscrew the locking ring bolt (1), adjust the locking ring (2) (right hand rotation increases spring compression, left hand rotation decreases spring compression). After adjusting, lock the bolt (1).

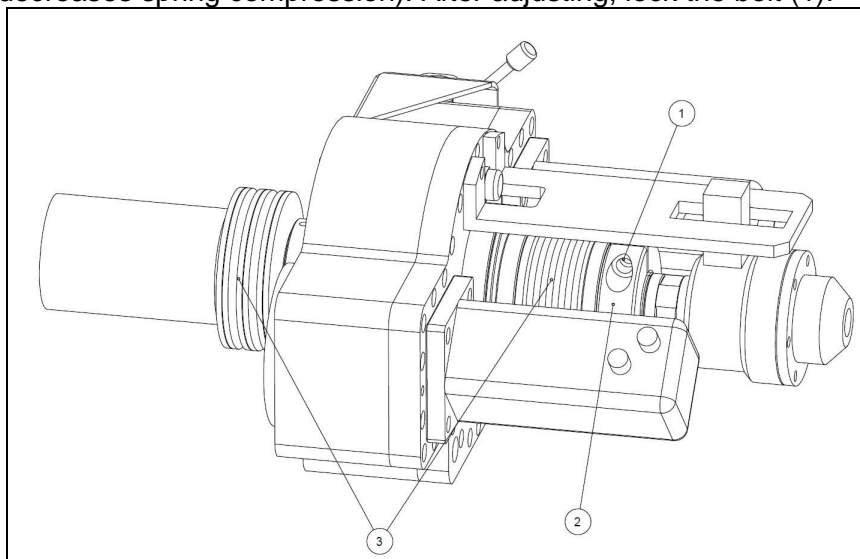


Fig. 3

Every 500 working hours

- Change oil in the gear box, clean and check inner parts: gears, bearings, seals. To do it, take the drilling head off the mast. Disconnect hydraulic and air hoses after having released pressures.



FOR FLUSHING HEAD DISASSEMBLYING , CONSIDER THAT CONNECTION THREAD IS LEFT-HAND.



ALL MAINTENANCE OPERATIONS SHOULD BE MADE WITH MACHINE OFF. BEFORE ANY OPERATION DISCONNECT ALL ENERGY SOURCES AND CHECK IF THERE ARE NO CIRCUITS UNDER PRESSURE.

9 Technical data

9.1. Performance and consumptions

RP500 head performance with different hydraulic motors:

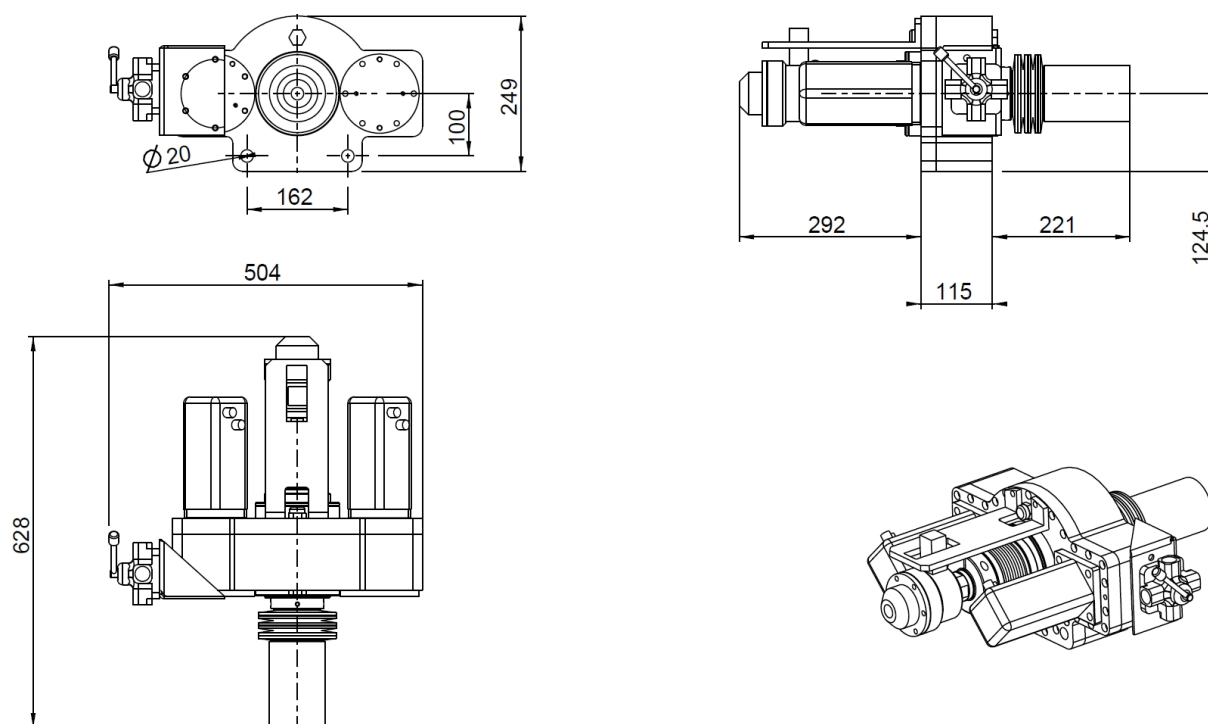
OIL FLOW	OIL PRESSURE	MOTOR TYPE	TORQUE (daNm)		RPM	
			1 motor	2 motors	1 motor	2 motors
l/min	bar	cc				
60	150	315	223,11	446,22	57,20	28,60
60	150	250	189,81	379,62	72,07	36,04
60	150	200	153,18	306,36	90,09	45,05
60	150	160	109,89	219,78	112,61	56,31

9.2. Lubrication

- Use gear oil type 80-W 90. Gear box capacity: about 2 l (2/3 of total inner volume)

9.3. Weight

Total weight **100** kg

9.4. Dimensions**9.5. Shaft thread connection**

Standard..... **2" 3/8 API regular**

9.6. Spare parts

See spare parts list **RP500 – Exp.1/08**

10 Warranty terms and conditions

The Ripamonti company guarantee for a period of twelve months* from the purchase date that the machine and its components are manufactured properly and free of any fault or manufacturing defect ; in this period the warranty covers all machine parts with manufacturing faults.

The warranty is limited to manufacturing faults and does not cover wear parts. For warranty acknowledgement, faulty parts should be returned to the Manufacturer's plant and will be repaired or replaced as soon as possible. Shipment and transportation are charged to the Customer.

With this warranty Ripamonti undertake to repair or replace all those parts that are considered as faulty.

Concerning the commercial origin motors, the warranty is regulated according to terms and conditions of the manufacturer.

The warranty does not cover faults and malfunctions due to:

- a - Wrong positioning or misuse of the machine.
- b - Operator's inexperience or inadequacy; overloads.
- c - Wrong maintenance or lack of it.
- d - Late communication of machine malfunctioning.
- e - Use different from recommended.
- f - Any modifications
- g - Use of non-original spare parts or repairs without prior notice and/or consent of the Manufacturer.
- h - Failure to comply with standards and procedures in this manual.

If an intervention by the Manufacturer in the warranty period is later found to be due to a failure not attributable to the Manufacturer and therefore not covered by warranty, all expenses incurred, the cost of replaced parts, and of workforce will be charged to the Customer. In case of machine stops due to failures, even if covered by warranty, the Manufacturer will be entitled to a reasonable time proportionate with respect to the importance of the inconvenience to make necessary repairs and to remove the problems found by the Customer. Anyway, no indemnity will be granted for downtime.

Note * :

If the machine is used with working times higher than 45 weekly hours, the Manufacturer reserves the right to apply a proportional reduction of the warranty period.

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