

USER'S MANUAL FLEXCOM



01
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Date:

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Rioned

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RIONED has the right to change parts at any time without any prior or direct warning to the client. Also, the contents of this manual can be changed without any prior warning.

This manual is to be used only for this machine.

For extra information on adjustments, maintenance and repair, please contact the

Foreword.

This user's manual is a manual for the professional user.

This user's manual has the purpose to control the machine in a safety manner and must be saved with the machine.

The photos and drawings help you understand the text easier.

First the user's manual gives you an overview of the most important safety aspects. Then we explain how the machine is built up and the global working of the machine. Chapter "Technical specifications" gives you information about the working characteristics, performance under normal use and construction specifications.

"Control" is the next chapter. This chapter explains how to use the machine systematically.

In the chapter "Maintenance", the user can do small maintenance on the machine.

Chapter "Trouble shooting" has the purpose to solve simple defects.

With the "Exploded views" you can order original spare parts, are also useful for mounting, and disassemble the machine.

Finally gives the chapter "Appendix" information about electrical and/or hydraulic connections.

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1 INTRODUCTION

RIONED thanks you for your purchase of the RIONED drain and sewer-clearing machine. We recommend that you read this manual thoroughly and see that the machine is handled and maintained in the proper manner. If your machine should give trouble and need servicing, when you want to order parts, or if you have any questions, contact your RIONED dealer.

The machine is built by:

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The Rioned high-pressure device has been especially designed and manufactured for cleaning drains, walls, floors, and terraces with cold or hot water. For cleaning drains, special nozzles are included in the delivery; for all other purposes, the spray gun, which is also included, can be used.

This manual contains all the necessary information concerning control and maintenance. If the device is positioned correctly, properly controlled, and regularly maintained, a warranty will be given according to the general conditions of delivery. However, should it arise that the control and maintenance procedures are not diligently followed, the warranty will become invalid.

Use this machine only for cleaning drains, walls, floors and terraces with cold or hot water and to drain liquid with or without pollution like sand, stones etc.

Use this machine only outside. If you want to work inside a building to have to ensure that there is enough ventilation.

During the time that the weather conditions are bad, we recommend that you do not use the machine (lightning)!

Authorised personnel may only use the machine.

The machine can not be used in an explosive environment.

Fill the clean water tank only with water.

It is strongly forbidden to drain flammable materials, chemicals, and elements with special regulations.

In this manual you will find all necessary information concerning operations and maintaining your machine. If handled properly, your machine is guaranteed according the general delivery conditions.

1.1 Use

The integrated engine drives the high-pressure pump, the hydraulic pump, and the vacuum pump via a hydraulic system.

The high-pressure pump receives water from the water tank via the water filter and pressurises it. The pressure can be continuously adjusted. The pressurised water leaves the machine via the high-pressure hose on the reel.

The vacuum pump is connected to the vacuum tank. When this pump creates a vacuum, the tank gets filled.

The hydraulic pump drives via a hydraulic system the hose reel.

2 SECURITY

Be responsible for other people when you are working with this machine.

This manual contains instructions for fundamental conditions that must be followed by use and maintenance of this machine.

That is why it is necessary that authorised and qualified personnel must read the user's manual and the user's manual must always be available with the machine. Near the general regulations in this chapter, you must also follow the security regulations in the other chapters.

2.1 Instruction indications in this manual

The in this manual containing security instructions, which are dangerous if they are not obeyed, are marked with general security signs.



Security sign DIN 4844-W9.

2.2 Description security measures

- Emergency stop

The machine is equipped with an emergency stop. By operating this stop, the machine will stop immediately. Do not use the button for normal stopping. Only use is when dangerous situations occur. After use, turn the emergency stop in order to be able to start up again. Make sure the emergency stop can always be reached.

- Over-pressure valve

Protects the pipe system and reservoir.

- Pressure regulator

The pressure regulator looks to it that the working pressure never gets to high. It functions like a security valve.

- Security covers

This machine is equipped with several security covers over parts that are rotating. It is forbidden to remove these security covers during operating this machine. You can only remove them if there is maintenance on the machine. Stop the machine.

2.3 Personnel protection outfit

- Ear protector
- Protection looking glasses
- Gloves (Recommended)
- Waterproof work clothing (Recommended)

- Spray boots by use of spray gun (Recommended)

2.4 Warnings

It is prohibited to drive with the water tank and vacuum tank full at the same time when the maximum allowed load of the vehicle is overstepped.!

Never block the control levers in any way, otherwise mentioned.

Put the personnel protection outfit on **BEFORE** you start the machine.

Ensure that the spraying nozzle does not leave the drain.

Before using a spray gun, you must always set the pressure below the maximum (\pm the half of the maximum pressure). You must do this before you start the machine.

Never exceed the maximum pressure that is marked on the manometer when using the spray gun.

After use of the high-pressure circuit depressurise it.

Look out for electric connections and other electric components if you are cleaning with a spray gun!

Never let the high-pressure hose spray outside a sewer, drain or pipe.

Do not let the machine operate without supervision.

Never stands between the tank and the tank cover unless there are precautions to prevent closing the tank cover.

Never stand behind the tank cover when it is opened or closed.

2.5 Personnel qualification and education

Personnel that use, maintain, and inspect the machine must have the right qualifications for this job.

Responsibility and authorisation of the personnel and the supervision on the personnel must be embedded. If the knowledge is not present, the user must provide for the necessarily education.

2.6 Danger that can occur if the security regulations aren't observed

If the security regulations are not observed, danger can occur for personnel and for the environment.

No amends are given if the regulations are not observed.

If the regulations are not observed, this can results in:

- Failure of important functions of the machine.
- Failure of prescribes methods for maintenance.
- Exposure of persons to dangers of electrical or mechanical failures

2.7 Working safely

The in this manual named security prescriptions, the national prescriptions to prevent accidents and the internal labour, company and security prescriptions must be followed by the user.

2.8 Security regulations for the user and technical service

- Protections of moving parts (for example couplings) may not be removed if the machine is working.
- Leakage of dangerous mediums must be disposed in a manner that there is no danger for the personnel and environment. Statutory regulations must be followed.
- Danger caused by electricity must be excluded.

2.9 Security regulations for maintenance, inspection, and mounting activities

- The user sees to it that qualified technicians do all maintenance, inspection and mounting activities. They must study the manual thoroughly.
- Maintenance may only be done when the machine is not functioning.
- The in the user's manual mentioned handling to stop the machine must be notified.
- Directly after maintenance of the machine, all the security and protection facilities must be functionally.
- Before starting the machine again, you must follow the instructions correctly.

2.10 Making changes and fabricate spare parts

Changes to the machine are only permitted if Rioned has given written authorisation. The use of original spare parts and accessories is for the safety necessary. Rioned is not responsible for injuries or damages if other spare parts are used.

2.11 Improper use


The security during working with the machine is only guaranteed if the use of the machine is conforming the user's manual. The limits that are written in chapter "Technical Specifications" and "Appendix" may never be overstepped.

If the machine does not work or give troubles, it is forbidden to work further with the machine. Telephone your dealer or the technical department of your dealer.

This manual contains all the necessary information concerning control and maintenance. If the device is positioned correctly, properly controlled, and regularly maintained, a warranty will be given according to the general conditions of delivery. However, should it arise that the control and maintenance procedures are not diligently followed, the warranty will become invalid.

3 TECHNICAL SPECIFICATIONS

3.1 General

Year of constructions (<i>month/year</i>)	:	See type plate on frame
Dimensions	:	
Capacity vacuum/water tank	:	3000 l (1200 Dirt/1800 Clean)
Colour	:	Gray RAL 7015 White W31 Black MM512 Blue 5017
Length HP hose	:	100 m
Diameter HP hose	:	1/2" (NW13)
Length supply hose	:	35 m
Diameter supply hose	:	3/4" (NW19)
Length suction reel hose	:	30 m
Diameter suction reel hose	:	2"
Oil hydraulic	:	HESTIA 46
 Important!	:	Replace once a year!
Capacity	:	±50 l
Capacity anti freeze tank	:	-

3.2 Pump

Type	:	Speck P45
Number of plungers	:	3
Number of valves	:	6
Maximum pressure (p)	:	250 bar
Maximum output	:	60 l/min.
Weight (m)	:	50 kg
Maximum water temperature (T)	:	60 °C
Oil	:	GX 80W90
Quantity	:	3,5 l

3.3 Vacuum pump

Type	:	SLS 54V
Capacity	:	290 m3/h
Capacity Suction	:	-0,8 bar (relative)
Capacity Pressure	:	0,49 bar (relative)
Oil	:	SummerWinter
	:	Essolub HDX 40Essolub HDX 30
	:	Esso-motor oil 40Esso-motor oil 30
	:	Shell Rotella SX 40Shell Rim-ula X 30

3.4 Customer service

When ordering spare parts it is recommended to give the following numbers:		
Machine number	:	120018002011(178-185)
Article number	:	22.110.431.000
Follow number	:	vo28623 - 28630

4 CONSTRUCTION

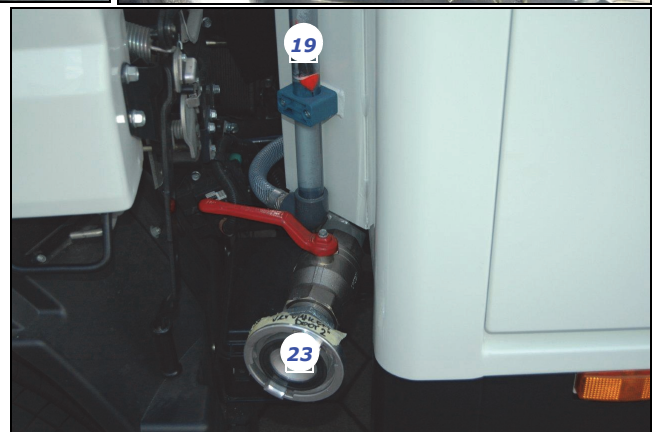
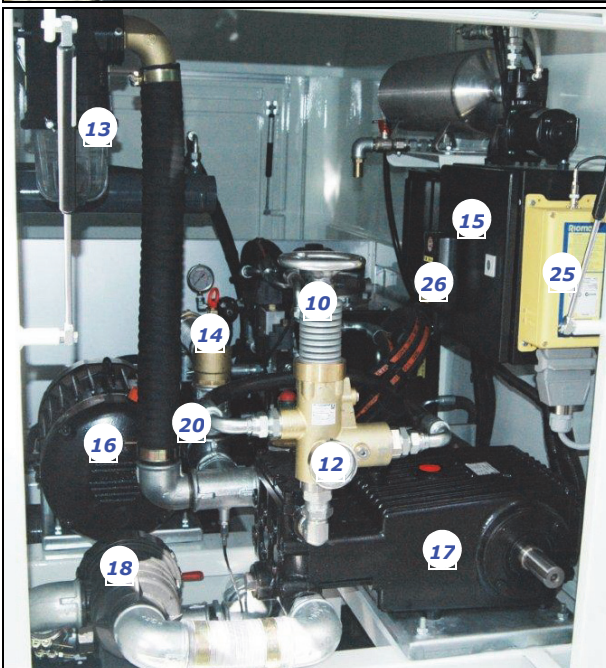
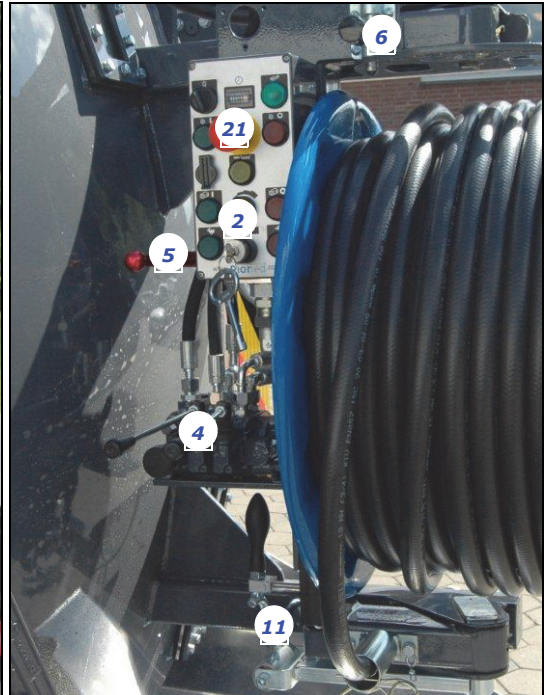
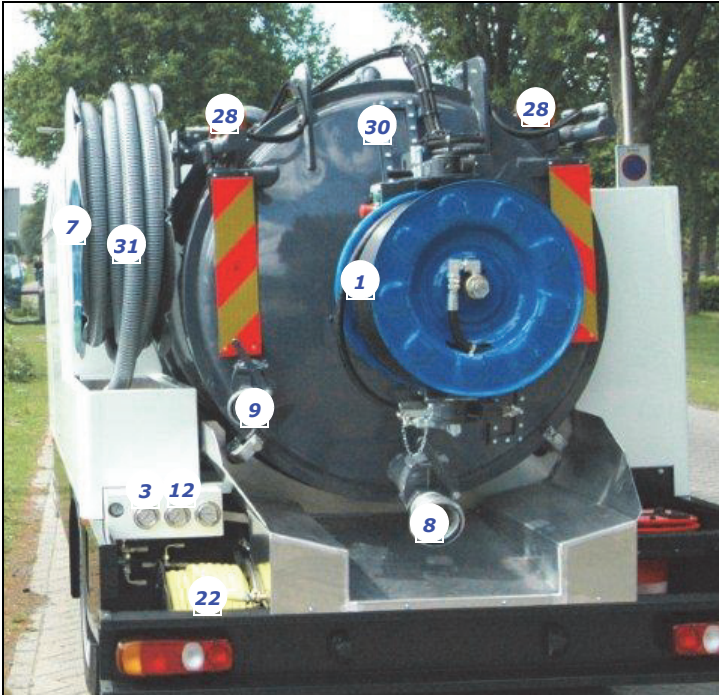
The suction unit contains the following main parts:

- 1.** High-pressure hose on reel
- 2.** Control box
- 3.** Vacuum/manometer
- 4.** Hydraulic reel control
- 5.** High-pressure (HP) valve
- 6.** Locking device swivel arm
- 7.** Suction reel
- 8.** Press valve
- 9.** Suction valve
- 10.** Pressure regulator
- 11.** Hose guide
- 12.** Pressure gauge
- 13.** Syphon
- 14.** Security valve
- 15.** Oil tank hydraulic system
- 16.** Vacuum pump
- 17.** High-pressure pump
- 18.** Water filter
- 19.** Water level indicator
- 20.** Handle Suction/Press vacuum tank

- 21.** Emergency stop
- 22.** Supply reel water tank
- 23.** Supply pipe water tank
- 24.** PTO Switch
- 25.** Receiver radio remote control
- 26.** Charger battery for transmitter
- 27.** Clamping bolts
- 28.** Flashing orange light
- 29.** Locking device suction reel
- 30.** Sight glass
- 31.** Suction hose

Options not present or visible:

- 32.** Switch box
- 33.** Oil tank vacuum pump
- 34.** Tank cooling water vacuum pump
- 35.** Oil separator
- 36.** Pulsator On/Off
- 37.** Working lamp
- 38.** Oil collector vacuum pump
- 39.** Spooling valve vacuum tank
- 40.** Choose valve Reel above/below
- 41.** Anti freeze tank
- 42.** Oil filter

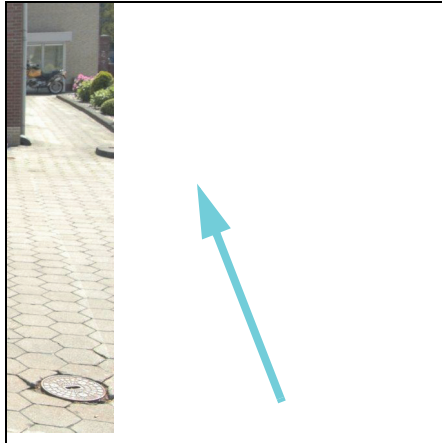


5 CONTROL



Emergency stop:

The machine is equipped with an emergency stop. By operating this stop the machine will stop immediately. Do not use the button for normal stopping. Only use it when dangerous situations occur. After use, turn the emergency stop in order to be able to start up again. Make sure the emergency stop can always be reached.



It is prohibited to drive with the water tank and vacuum tank full at the same time!

5.1 Before starting

1. Check the oil level in the high-pressure pumps (*High-pressure pump*), vacuum pump (*Vacuum pump*) and oil tank (*Oil tank hydraulic system*) using the dipsticks. Add oil, if necessary; see "Maintenance".
2. Check whether the water filter (*Water filter*) is clean. Clean the filter, if necessary; see "Maintenance".
3. Check whether the high-pressure valves on the reels are closed.
4. Check whether the supply valve to the water filter has been opened.
5. Check whether the drain valve is closed.
6. Fill the water tank.
 - a Via the supply hose (option):
Unlock the supply reel and couple the end of the supply hose onto a water tap. Open the water tap.
 - b Via the supply pipe (option):
Connect a supply hose to the supply pipe. Open the water tap.



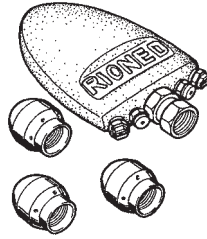
Switch on the level control (option).

- c Manually:
The water tank can be filled with water via the manhole on the water tank.

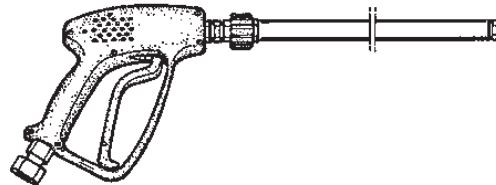
The maximum water temperature is 60°C

7. Loosen the control wheel of the pressure regulator.
8. Screw the appropriate attachment onto the high-pressure hose.

- a Unclogging of a drain: jet nozzle



- b Cleaning a wall, a terrace or floor: spray lance gun



5.2 Starting the engine

Cabin:

1. Push the clutch pedal.
2. Start the engine. Do not start the engine longer than 10 seconds!
3. Put the vehicle in fifth gear.
4. Put the machine after 6 seconds into the Power Take Off (PTO).
5. Release the clutch-pedal.



Let the engine warm up. After 3 minutes the machine is ready for use.

5.3 Unclogging a drain

1. Screw a suitable nozzle onto the high-pressure hose.
2. Put the hose through the hose guide for safety manners ([see chapter8.6 "Hose guide" page.: 33](#)).
3. Unwind the hose ([see chapter8.5 "Hydraulic reel control" page.: 32](#)).
4. Put the nozzle into the drain that is to be cleaned.
5. Open the high-pressure valve.
6. Screw the high-pressure regulator fully open (right).

7. Put the key into the keyhole



8. Choose "Radio" control or "Hand" control.



Start spraying:

- Control on machine:

- a Press button



(HP pump On).

- b Press button



(Throttle open).

- Control by remote control:

- a Press **button**



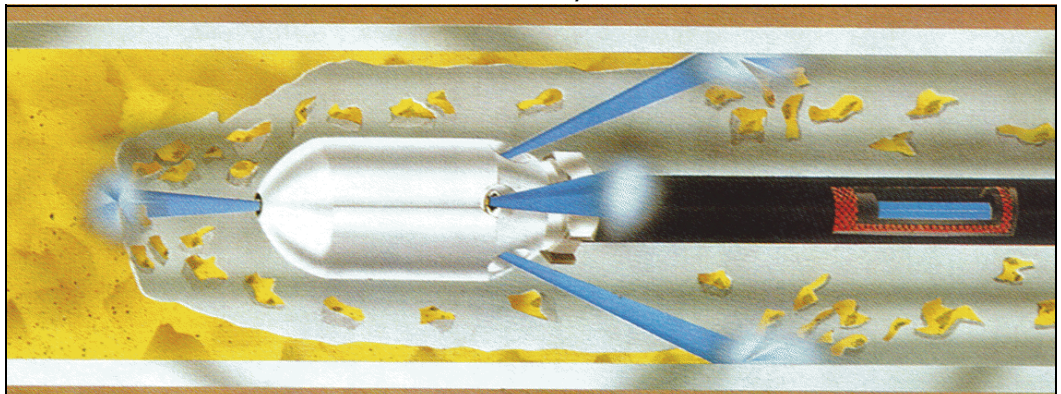
(HP pump on).

- b Press **button**



(Throttle Open).

The hose will now unwind and work its way into the drain.



9. Check that the water drains away. When the blockage has been cleared, continue to flush for a while. At the same time wind the hose up slowly.



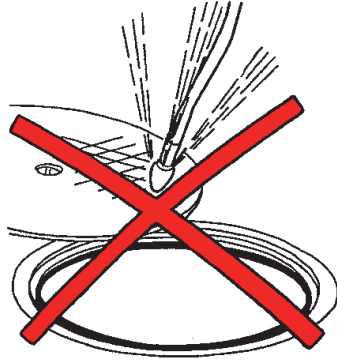
Important!

Rewind hose onto reel under pressure to avoid crushing. If machine has run out of water, ensure hose is unwound before pressurising.



Attention!

Ensure that the spraying nozzle does not leave the drain! Water under high-pressure may cause severe injuries!



Stop spraying:

- Control on machine:

- a Press button



(Throttle close).

- b Press button



(HP pump off).

- Control by remote control:

- a Press button



(Throttle close).

- b Press **button**



(HP pump off).

Treat the high-pressure hose carefully:

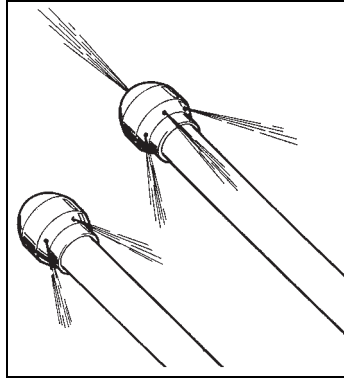
- Always clean it after use.
- Ensure that no sharp objects are near the hose.
- Ensure that no traffic crosses the hose.
- If the hose has to be repaired, use only the special repair couplings.

5.4 Cleaning a wall, terrace or floor.

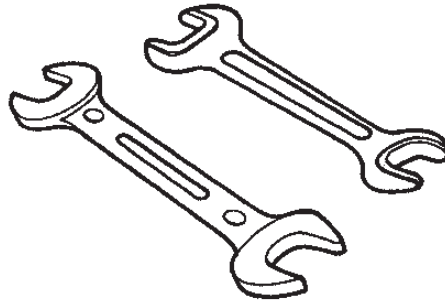
**Caution!**

Before using a spray gun, you must always set the pressure below the maximum (\pm the half of the maximum pressure). You must do this before you start the machine. If the machine is running, the pressure can be increased by turning the control wheel to his working pressure. Never exceed the maximum pressure that is marked on the manometer when using the spray gun.

1. Screw the spray gun including in the delivery onto the high-pressure hose.



Fasten it by using the two spanners provided.



2. COMPLETELY unroll the high-pressure hose ([see chapter 8.5 "Hydraulic reel control" page.: 32](#)).
3. Attach the spray lance gun. Secure the quick coupling tightly.
4. Check if the HP valve is open.

5. Press button  (HP pump On).

6. Press button  (Throttle open).

7. Screw the high-pressure regulator wheel upward on the high-pressure regulator until the required working pressure is reached. The adjusted pressure can be read from the pressure gauge on the machine when the spray gun is open.
8. Pull the trigger of the spray gun.

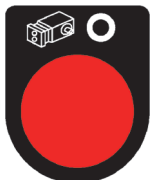
Stop spraying

1. Release the trigger of the spray gun.

Stop working

- Control on machine:

a Press button  (Throttle close).

b Press button  (HP pump off).

- Control by remote control:

a Press **button**  (Throttle close).

b Press **button**  (HP pump off).

5.5 PTO OFF

- If available, put the switch  at the control box in position

“O” and remove the (ignition) key.

- Push the clutch pedal (Cabin)
- Turn the PTO to position “off”.
- Put the vehicle in **free** gear!
- Release the clutch pedal.

Now you can drive with the vehicle.



5.6 Using the device during periods of frost (no option antifreeze tank available)

Your machine may freeze up during a period of frost. A number of safety precautions must be taken.

Additional preparations before departure:

1. Drain the water tank and the water filter.
2. Close the drain valve and mount the filter again.
3. Put enough antifreeze into the water tank.
4. Open the high-pressure valve.
5. Start the machine and let it run.
Note: it is not necessary to attach either a nozzle or a gun to the high-pressure control.

- 6.** Let the high-pressure pump remove all the water, which is still in the high-pressure hose.
- 7.** Close the high-pressure valve when anti freeze come out of the hose.
- 8.** Leave the engine running for some time: to allow all pipes to fill up with antifreeze.
Only with option supply hose:
- 9.** Uncouple the supply hose.
- 10.** Connect the high-pressure hose to the supply hose using the special GK hose coupling.
- 11.** Open the high-pressure valve and let the high-pressure pump fill the fill hose with antifreeze.
- 12.** Switch off the machine.

Now the machine is ready for departure!

5.7 Additional preparations when preparing for use:

- 1.** Turn on the machine and let the high-pressure pump drain all anti-freeze into a jerry can. The antifreeze can be reused. Ensure that no water is mixed with the antifreeze. If water gets into the antifreeze, it is not suitable for re-use. Dispose the used antifreeze properly, hand it into a local depot for disposal of industrial waste.
- 2.** Stop the machine and prepare it for use.

6 USING THE VACUUM DEVICE



**It is forbidden to drive with a vacuum tank and water tank that is completely full.
The maximum allowed load is overstepped.
Before you are going to drive, one of the two tanks must always be empty.**

Use the vacuum system only for cleaning sewers and tanks (*see chapter1 "Introduction" page.: 7*).

6.1 Before use:

1. Close the suction valve (*Suction valve*) and press valve (*Press valve*).
2. Clean the siphon (*Syphon*).
3. Check regularly if the inside siphon is clean. Clean it if dirty.
4. Check the oil level of the vacuum pump.
5. Check if the vacuum tank cover is closed and all bolts are tightened.
6. Fasten the suction hose at the suction valve, or use the suction reel with hose.
7. Push the handle of the vacuum pump. (Suction)

6.2 Fill the dirt water tank:

1. Put the end of the suction hose into the dirt.
2. Switch the vacuum pump on, press control box or with the Riomote remote control.
3. Check the vacuum/manometer (max. -0,8 bar).
4. Check the oil dropper (Only MEC 5000). The dropper must give 7-10 drops/min.
5. Open the suction valve.




con-




Caution!
The vacuum pump is protected against overheating and will be shut off automatically.

6.3 Empty the dirt water tank:

1. Fasten a suction hose onto the press valve.
2. Place the end of the suction hose where the substance must come out.
3. Open the press valve.
4. Put the handle of the vacuum pump to position "Press".

- 5.** Switch the vacuum pump on, press  or use the Riomote remote control.

Let the vacuum pump press all the dirt out of the tank (max. 0.5 bar.)

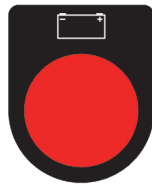
- 6.** Switch the vacuum pump off, press  or use the Riomote remote control.
- 7.** Open the suction valve for remaining pressure.
- 8.** Open the tank cover.
- 9.** Clean the vacuum tank.
- 10.** Check the float ball protection in the vacuum tank (dirt and functioning).
- 11.** Close the tank cover.

7 SYMBOLS

7.1 Control box



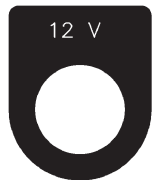
Engine stop.



Signal lamp "Charging" (*Burns if there is no charge to the battery*).



Signal lamp "Oil pressure" (*Burns if there is not enough oil in the engine*).



12 V accessories.



Vacuum pump ON



Vacuum pump OFF



Run dry protection



Throttle open



Throttle close



HP ON (Start spraying)



HP OFF (Stop spraying)



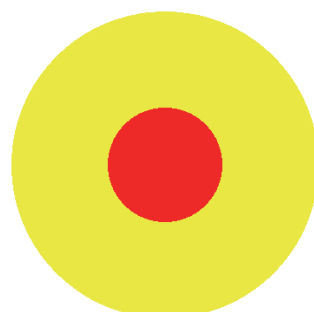
"Hand" or "Radio remote" control



Hand control

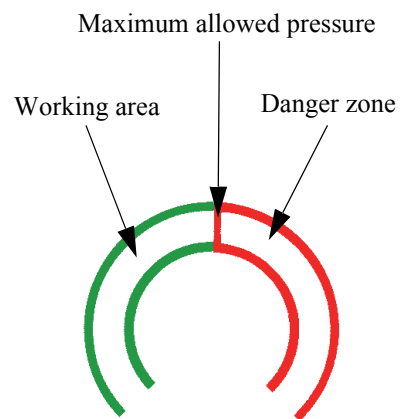


Radio remote control

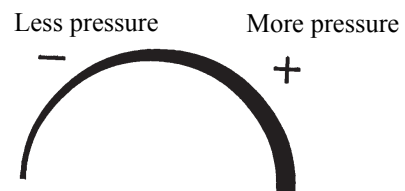


Back plate "Emergency stop"

7.2 Pressure gauge

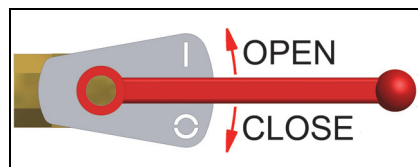


7.3 Pressure regulator



7.4 Valve control

Open and close valve:



7.5 Security sticker

1. Gehör- Kopf- und Augen Schutz tragen verpflichtet.
2. Sicherheitsschuhe mit extra Schutz verpflichtet.
3. Betriebsanleitung studieren verpflichtet.
4. Sicherheitshandschuhe mit Pulsschutz verpflichtet.
5. Schutzkleidung verpflichtet.
6. Kein Trinkwasser.
7. Gefahr für rutschen.
8. Pas auf für Handverletzung.
9. Drehende Maschine.
10. Achtung für automatische anlassende Maschine.

1. You must wear ear- head- and eye protection.
2. You must wear security shoes with extra protection.
3. Read the user's manual.
4. You must wear safety gloves with wrist protection.
5. You must wear protection cloth.
6. No drinking water.
7. Slip danger.
8. Look out for hand damage.
9. Turning machine.
10. Warning for automatically starting machine.

1. Gehoor- hoofd- en oogbescherming dragen verplicht.
2. Veiligheidsschoenen met extra bescherming verplicht.
3. Handleiding lezen verplicht.
4. Veiligheidshandschoenen met polsbescherming verplicht.
5. Beschermende werkkleding verplicht.
6. Geen drinkwater.
7. Gevaar voor uitglijden.
8. Pas op voor handletsel.
9. Draaiende machine.
10. Waarschuwing voor automatisch startende machine.

1. Protection obligatoire des yeux, de l'ouïe et de la tête.
2. Protection obligatoire des pieds.
3. Obligation de lire le manuel d'utilisation.
4. Protection obligatoire des mains.
5. Protection obligatoire du corps.
6. Eau non potable.
7. Attention Risque de sol glissant.
8. Attention Risque d'écrasement.
9. Attention Risque de dangers divers.
10. Attention Risque de démarrage automatique a tous moments.



8 OPTIONS

8.1 Open and close back cover

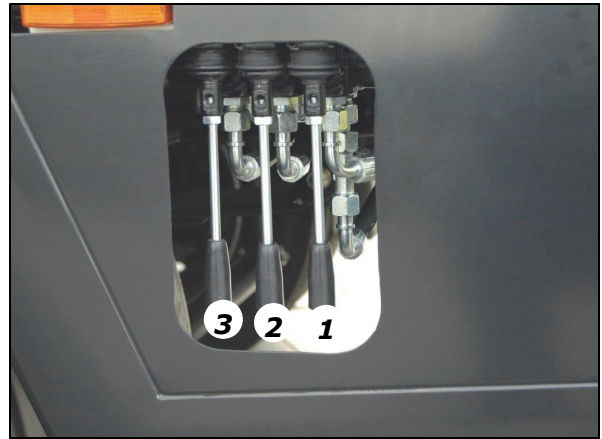
Operating procedure

Open

1. Unlock clamps under with lever (1)
2. Unlock clamps above and open cover with lever (2).

Close

1. Close the cover and the clamps above with lever (2)
2. Close the clamps under with lever (1)



8.2 Dividing wall inside tank


Move the wall with lever (3)

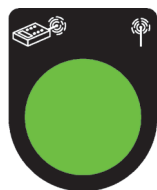
8.3 Radio remote control (Riomote 7)

Purpose: To operate the high-pressure machine from a distance.

To operate the transmitter

Check before working with the transmitter if the emergency stop works well. Proceed as follows:

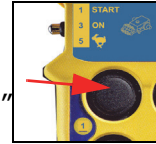
- Switch  on control box at "Radiographic operating"



- Switch the transmitter on .



- Start the engine by means of button “**START**”




- Push the “**STOP**” button



The machine has to cut off now

If this is not the case it is not allowed to work with the transmitter. Contact your supplier.

If the indication  on the transmitter starts burning it 's indicates that the battery must be changed with a new fully loaded battery.

If the battery isn't changed the transmitter switches off in a short time.

Reload empty batteries.

Functions 7-channel:

1. Vacuum On
2. Vacuum Off
3. High-pressure pump on (start spraying)
4. High-pressure pump off (stop spraying)
5. Open gas of the engine
6. Close gas of the engine



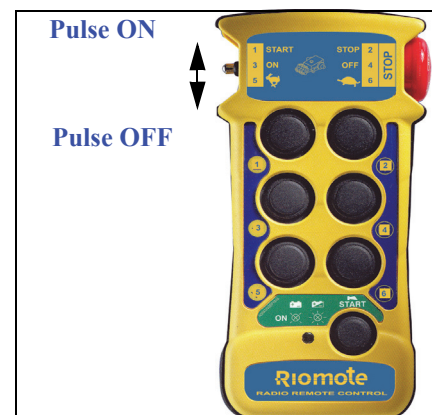
Trouble shooting

- Every system is checked on high quality before leaving the factory. If any disturbances would appear, check the part “trouble shooting”

8.4 Radio remote control (Riomote 9)

Functions 9-channel:

1. Vacuum on
2. Vacuum off
3. High-pressure pump on (start spraying)
4. High-pressure pump off (stop spraying)
5. Open gas of the engine
6. Close gas of the engine
7. Riopulse on
8. Riopulse off



8.5 Hydraulic reel control

By means of using the control lever the high-pressure hose can be unrolled or rolled up. Due to the proportional functioning of this valve you can also control

the speed of the reel. By putting the lever into position manual, you can unroll the hose manually.



Attention!

Never block the lever and always control it with one hand while guiding the high-pressure hose by means of the hose guide with the other hand to the required place.

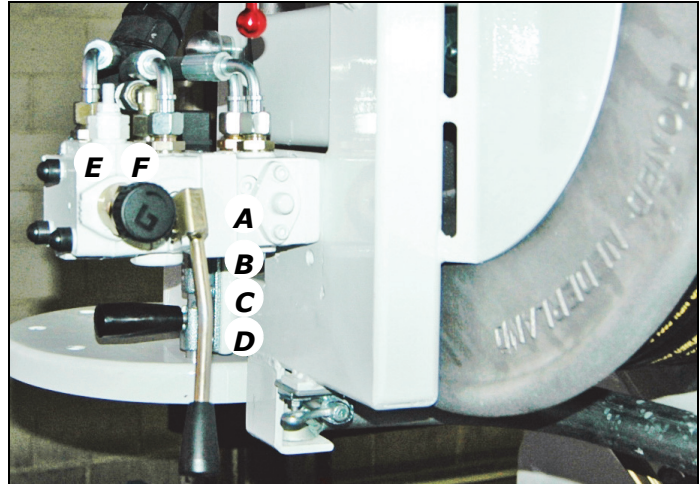
Functions:

Handle:

- | | |
|---|--------------------|
| A | Wind the hose |
| B | Reel locked |
| C | Unwind the hose |
| D | Reel "out of gear" |

Control wheel:

- | | |
|---|---------------------|
| E | Reel rotates faster |
| F | Reel rotates slower |



8.6 Hose guide

Purpose:

To guide safely the HP hose into the sewer.

To wind the HP hose safely on the reel drum.

Use:

- Put the end of the hose through the opening of the hose guide.
- By moving the hose guide to the right and left, you can wind the HP hose fluently on the reel drum.
- After use, lock the support.

Advantage

- No dirty hands
- Hose lives longer
- More freedom of movement
- Security
- Hose stays cleaner.

8.7 Run dry protection

The run-dry protection has the purpose to protect the high-pressure pump.

Functioning:

If the water level in the tank is too low, the run-dry protection activates.

Cancelling:

Fill the water tank. (Supply hose, Fill opening, Supply pipe...)

8.8 Pulsator system

Purpose: With less water use, quicker to the stoppage.

Construction:

The high-pressure pump has three cylinders. By normal use the three cylinders follows each other continuously. This gives a fluent volume stream. To stop one stroke, you get a pulsating water stream.

Control:

To close or open the 3-way valve, you start or stop the pulsator.

Use:

Use the pulsator system only to get quicker to the stoppage. Stop the pulsator when you are to the stoppage.

Use the machine mentioned earlier in this user's manual.

8.9 Working lamp

By means of switch



you can turn the working lamp ON and OFF.

8.10 Flashing orange light

By means of switch



you can turn the working lamp ON and OFF.

8.11 Using the device during periods of frost (with antifreeze tank)

Your machine may freeze up during a period of frost. A number of safety precautions must be taken.

Additional preparations before departure:

1. Drain the water tank and the water filter.
2. Close the drain valve and mount the filter again.
3. Put enough antifreeze into the antifreeze tank.
4. Mount the coupling on the pump and open the valves.

5. Open the high-pressure valve.
6. Start the machine and let it idle.
Note: it is not necessary to attach either a nozzle or a gun to the high-pressure control.
7. Let the high-pressure pump remove all the water, which is still in the high-pressure hose.
8. Close the high-pressure valve when anti freeze comes out of the HP-hose (Watch the colour).
9. Leave the engine running for some time to allow all pipes to fill up with antifreeze.

Return the antifreeze into the antifreeze tank

1. Couple the return hose on the HP hose.
2. Open the high-pressure valve and return hose valve.
3. Start the machine.
4. Let the high-pressure pump fill the antifreeze tank with the remaining antifreeze.



Warning:
The pump is not run dry protected!

5. Switch off the machine immediately in case no more antifreeze is pumped into the antifreeze tank.

9 RIOMOTE REMOTE CONTROL (RECEIVER)

1 INDEX & CONVENTIONS

INDEX

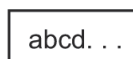
- 1 Index & Conventions
- 2 Introduction
- 3 Receiving units
- 4 Warnings for installation
- 5 Warnings for maintenance
- 6 Light signals
- 7 Programming
- 8 Receiving unit diagnostic

CONVENTIONS

In this manual, all important information is indicated using the following symbols and conventions:



abcd. . . : WARNINGS



abcd. . . : INSTRUCTIONS



abcd. . . : TECHNICAL DATA

abcd. . . : IMPORTANT TEXTS

THIS MANUAL REFERS EXCLUSIVELY TO THE RECEIVING UNIT: THE GENERAL USAGE WARNINGS ARE GIVEN IN THE TRANSMITTING UNIT MANUAL.

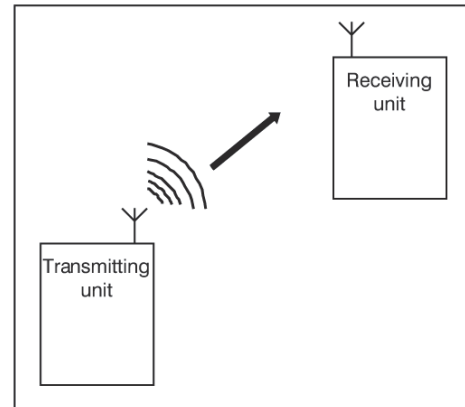
BEFORE INSTALLING, STARTING AND USING THE RADIO REMOTE CONTROL, THIS MANUAL MUST BE READ AND UNDERSTOOD CAREFULLY BY ALL PEOPLE WHO INSTALL, USE AND CARRY OUT MAINTENANCE ON THE RADIO REMOTE CONTROL.

2 INTRODUCTION

Industrial radio remote controls are used to command machines from a distance. Each industrial radio remote control is made up of a portable transmitting unit, from which the user can remotely control the machine, and a receiving unit installed on board the machine itself.

The transmitting unit uses radio frequencies to transmit a coded message which contains a value called address. Each receiving unit can only decode the messages coming from its own transmitting unit with the same address.

This excludes the possibility of an interference activating any system function. If the radio frequency transmission is disturbed, incorrect or interrupted, the receiving unit autonomously stops the whole system.



**Each radio remote control is in conformity
with the R&TTE 99/05/CE Directive and all its essential requisites.**

Each radio remote control is also in conformity with the norms
given in the EC conformity declaration present in this manual.



**Rioned cannot be held responsible if the radio remote control is
installed on applications that are different from those permitted:**

PERMITTED USES

**Material lifting machines (construction cranes, industrial bridge cranes,
machines for moving material in general, ...).**

FORBIDDEN USES

**Machines installed in areas where equipment with explosion-proof
characteristics are being used.**

Machines for moving, raising and transporting people.



LIMITATIONS & AUTHORIZATIONS

It should be remembered that in some countries must be respected rules which control:

- the use and/or possession of a radio remote control;
- the use of operational frequencies which have not yet been harmonised in Europe.

All the indications that must be observed can be found in the "Limitations & Authorizations" document, which is included in the product's documentation.

As required by the Machines Directive and relative harmonised standards, all machines must undergo a risk analysis; therefore it is necessary to evaluate, within the limits of this analysis, if the machine can be radio remote controlled.

The machine producer and/or the person who decides upon radio remote control use and installation is responsible for this analysis.

Rioned cannot be held responsible if the risk analysis is not carried out correctly.

To guarantee correct radio remote control operation, all current regulations regarding safety at work and accident prevention should be respected. All current user country national laws regarding the use of both the machine and the radio remote control **MUST ALWAYS** be respected.

Rioned cannot be held responsible if the radio remote control is used in unlawful working conditions.



In any cases of emergencies, faults or damaged parts, ALWAYS stop the "machine + radio remote control" system until the problem has been solved.

Any damaged parts can **ONLY** be replaced by authorised Rioned personnel, and only using original Rioned spare parts.

INSTRUCTIONS FOR DOCUMENT MANAGEMENT

The following minimum documentation is supplied with each radio remote control:

- transmitting unit manual
- receiving unit manual
- battery charger manual
- a CE conformity declaration
- a guarantee certificate
- the radio remote control technical data sheet
- the enclosed "Limitations & Authorisations".

Make sure that the following documents have been supplied: if they are not, request them from Rioned. Please specify the radio remote control serial number.

CERTIFICATE OF GUARANTEE

The conditions of the radio remote control guarantee are given in the "Certificate of Guarantee" contained in this manual.

The electronic components which have a 3 year guarantee are: E16STXEU_, E16SRXEU_ and E16SCHEU_.

TECHNICAL DATA SHEET

The technical data sheet shows the wiring system between the receiving unit and the machine. It should be compiled and checked by the installer, who has the responsibility of correct wiring. Once all necessary checks have taken place the installer must sign the technical data sheet, which must be kept with the user's manual (always keep a copy of this data sheet in case it is needed for administrative purposes).

IDENTIFICATION PLATES

The radio remote control identification and approval data is given on plates that are on both the transmitting unit and the receiving unit.

The plates MUST NOT be removed from where they are placed or damaged otherwise the warranty will be forfeited.

TECHNICAL DATA

Frequency band.....	434.040 - 434.790 MHz
.....	* or 433.050 - 434.790 MHz
Programmable radio channel.....	16 (434.040 - 434.790 MHz)
.....	32 (433.050 - 434.790 MHz)
Channel spacing.....	25kHz
Hamming distance.....	≥ 8
Probability of non-recognition of error.....	<10 exp-11
Typical working range.....	100 m
Time of reply to commands.....	<100 ms
Time of reply to STOP.....	<100 ms
Passive emergency time.....	** 0,5 / 1 sec.

* refer to the "Limitations & Authorizations" insert to select the permitted working band and paragraph 7 "Programming" if setting is necessary.

** refer to paragraph 7 "Programming" DIP nr. 1 settings.

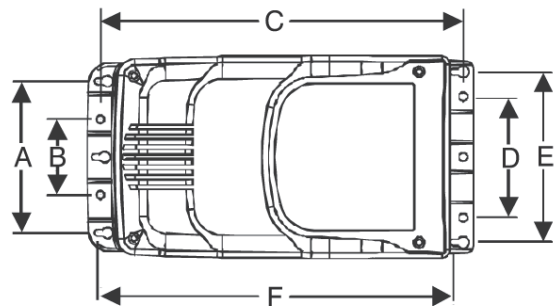
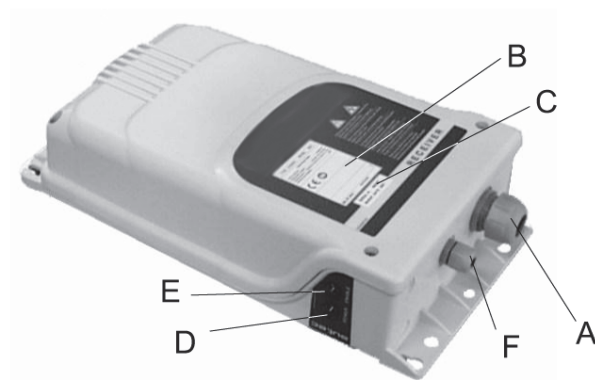
3 RECEIVING UNITS

The receiving unit Type R202 and Type R302 can be used with the following transmitting unit:

- SERIES E16
- SERIES LIGHT
- SERIES MODULAR

These transmitting units are equipped with a safety function called **SAFETY** that protects the “radio remote control + machine” system, when it is in neutral (rest position), from involuntary movements caused by possible radio remote control faults.

RECEIVING UNIT TYPE R202



A	cable holder (<i>opt. plug</i>)
B	data technical plate
C	identification plate
D	POWER light
E	ENABLE light
F	coaxial cable exit for stylus antenna or for blinker (<i>when present</i>)

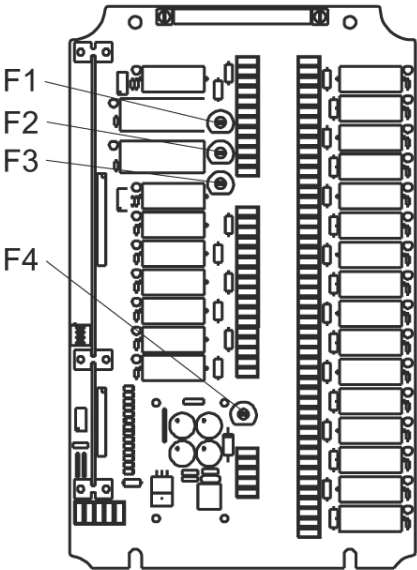
Drilling template

A = 150mm
 B = 75 mm
 C = 357,5mm
 D = 118,5mm
 E = 167mm
 F = 350,5mm

The master board in this type of receiving unit is E16B22DC for configurations of up to 22 commands (12 or 24 Vdc).

E16B22DC

F1	STOP circuit protection fuse
F2	SAFETY circuit protection fuse
F3	
F4	POWER SUPPLY protection fuse

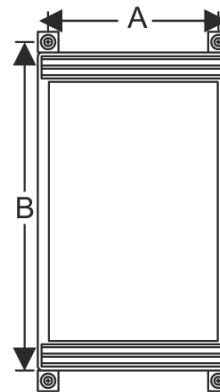
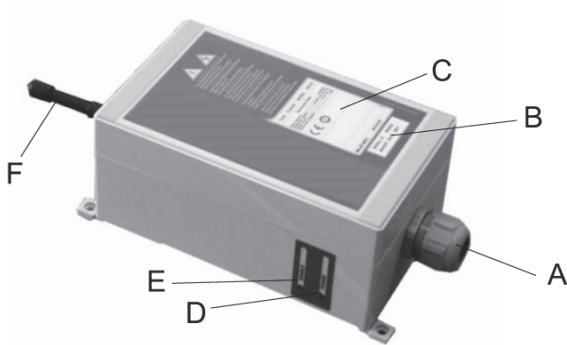


Receiving unit Type R202 TECHNICAL DATA

Power supply.....	12 or 24 Vdc ±25% (~15W)
Antenna.....	integrated or dedicated
Max switching capacity of STOP contacts.....	* 10A (30Vdc)
Max switching capacity of SAFETY contacts.....	2 x 5A (30Vdc)
Max switching capacity of command contacts.....	* 10A (30Vdc)**
Fuse F1 (STOP circuit).....	10A T 250V (5x20 mm)
Fuse F2 and F3 (SAFETY circuit).....	5A T 250V (5x20 mm)
Fuse F4 (POWER SUPPLY).....	1A (24Vdc) or 2A (12Vdc)T 250V (5x20 mm)
Working temperature.....	-20°C - +70°C
Housing.....	nylon (20% fg)
Minimum protection grade.....	IP65
Dimensions.....	(202x381x91) mm
Weight.....	max 3,5 kg

*Capacity only valid if both terminals are used for each contact.
 **If the radio remote control output have been cabled by Rioned, please see technical data sheet.

RECEIVING UNIT TYPE R302



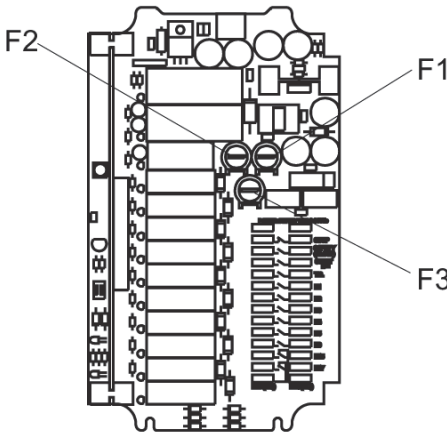
Drilling template
A=106 mm
B=213,5 mm

A	cable holder (<i>opt. plug</i>)	D	POWER light
B	identification plate	E	ENABLE light
C	data technical plate	F	antenna

The master board in this type of receiving unit is E16B10DC for configurations of up to 10 commands.

E16B10DC

F1	STOP circuit protection fuse
F2	SAFETY circuit protection fuse
F3	POWER SUPPLY protection fuse



Receiving unit Type R302 TECHNICAL DATA

Power supply.....	8 - 30 Vdc (~7W)
Antenna.....	dedicated
Max switching capacity of STOP contacts.....	* 10A (30Vdc)
Max switching capacity of SAFETY contacts.....	* 10A (30Vdc)
Max switching capacity of command contacts.....	** max 6A (30Vdc)
Fuse F1 (STOP circuit).....	10A T 250V (5x20 mm)
Fuse F2 (SAFETY circuit).....	10A T 250V (5x20 mm)
Fuse F3 (POWER SUPPLY).....	3.15A T 250V (5x20 mm)
Working temperature.....	-20°C - +70°C
Housing.....	Polycarbonate
Minimum protection grade.....	IP65
Dimensions.....	(120x200x90) mm
Weight.....	max 2 kg

*Capacity only valid if both terminals are used for each contact.

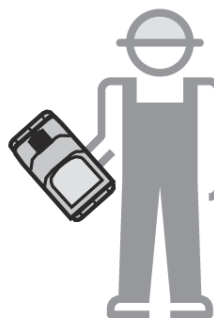
**If the radio remote control output have been cabled by Rioned, please see technical data sheet.

WARNINGS FOR INSTALLATION



Installation should only be carried out by qualified people and in accordance with installation country rules.

THE INSTALLER MUST



PLACE the receiving unit vertically, with the cable holder (or plug) facing down.

DO NOT MODIFY or **TAMPER WITH** the radio remote control, the machine or its electric panel. **DO NOT PERFORATE** the receiving unit for any reason whatsoever.

CHECK that the receiving unit power supply is inside the voltage range given in the “Technical Data”, and that the voltages and currents being used do not exceed the maximum permitted values.

DO NOT EXCLUDE the radio remote control safety mechanisms and/or those present inside the machine.

RESPECT the EN60204-32 (for hoisting machines) and/or EN60204-1 prescriptions (for machines).

NEVER SUPPLY the receiving unit directly from the DC power supply (i.e. battery). A main switch should always be present to permit power supply removal.

PLACE the receiving unit so that it is not completely screened by metal parts and that it must be easily reachable.

REMEMBER to carefully wire the **SAFETY** contacts in series with the movement commands inside the receiving unit.

After installation and wiring, **ALWAYS CHECK** that the maneuvers carried out are exactly the same as the commands given (in particular check the **STOP** command).

WARNING: The dedicated antenna (always present in the receiving unit Type R302, optional for the receiving unit Type R202), must never come in contact with metal parts.

If installing on machines that vibrate, it is advisable to fix the receiving unit to the machine with the appropriate antivibration absorbers.

The receiving unit should also be positioned away from heat sources (for example motor/exhaust pipes).



When welding on the machine, REMOVE POWER SUPPLY by disconnecting all the electric connections (both during installation and during normal operation).

If present, the switch that is enable to open the ground (e.g. battery negative) MUST OPEN also the receiving unit ground as well.

The installer must **CHECK** and/or **COMPLETE** the "Technical Data Sheet" indicating the date of activation of the system, putting his signature and stamp.

5

WARNINGS FOR MAINTENANCE



ALWAYS ENSURE THAT THE RECEIVING UNIT HAS BEEN DISCONNECTED FROM THE POWER SOURCE BEFORE CARRYING OUT ANY MAINTENANCE WORK.

All the faults should be repaired by authorised Rioned personnel using original Rioned spare parts only.



The receiving unit requires no special maintenance, but some simple things are necessary to work with apparatus that is always reliable and safe:

- check for signs of damage,
- remove dust or any other material that has deposited on the transmitting unit with a cloth that has been dampened with water (never use solvents or flammable/corrosive materials to clean, and do not use high pressure water cleaners or stream cleaners).



In order to close the receiving unit, tighten the two upper screws first and then the two lower ones.

The correct operation of SAFETY function must be checked every six months. The check can be carried out by inspection of the correct operation of the SAFETY relay when a movement command is activated.

SERVICE

When it is necessary to carry out special maintenance (radio remote control repair and replacement of damaged or faulty parts), contact only our Assistance Service. In order to make the intervention faster and more reliable, please help us identify the radio remote control correctly and completely by giving:

- the serial number
- the purchase date (given on the guarantee)
- description of the problem found
- the address and telephone number of the place where the radio remote control is being used
- the name of the person to be contacted
- the name of the company that supplied the radio remote control.

Before calling the Assistance technicians, it is advisable to make sure that the given instructions have been followed correctly.

SCRAPPING

When scrapping, entrust the radio remote control to the separate scrap collecting services in the user country.

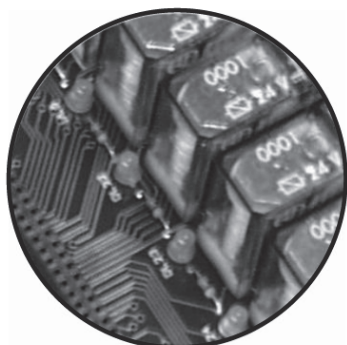
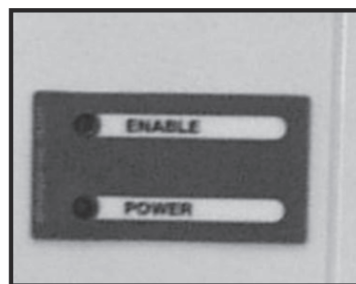
6 LIGHT SIGNALS

On each receiving unit
there are:

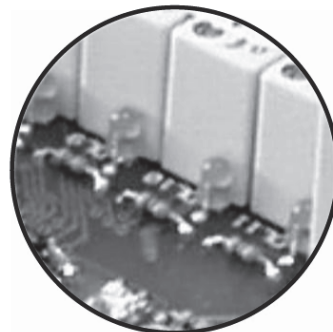


a **POWER** lamp
indicates the presence of power
supply in the receiving unit

an **ENABLE** lamp
which indicates radio link on
between the transmitting unit
and receiving unit

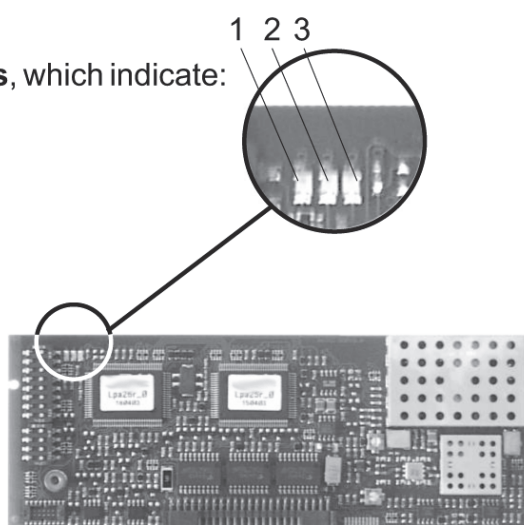


an **LED**
for each relay
on the master board,
which indicates
the activation of that relay



On the receiver module there are three **LEDs**, which indicate:

1. power supply
2. radio connection
3. frequency scanning search.



7 PROGRAMMING

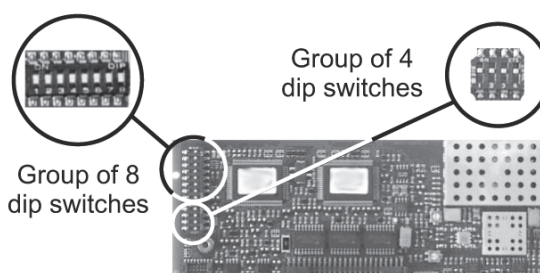


The dip switches must be programmed when the receiving unit is not powered and can be done only by authorised personnel.

DIP SWITCHES ON E16SRXEU1 RADIO RECEIVING MODULE

The group of eight dip switches found in the module permits the programming of different operating mode and the setting of operating frequency.

The programming set in the other group of four dip switches must never be modified.



Group of 8 dip switches

OFF	DIP	ON
Passive emergency at 1 second	1	Passive emergency at 0,5 second
Activation of low battery warning from horn on machine	2	Deactivated of low battery warning from horn on machine.
Automatic scan mode of the frequencies in the 434.040 - 434.790 MHz	3	Automatic scan mode of the frequencies in the 433.050 - 434.040 MHz
Automatic selection and scanning of frequencies (DIP 3 - DIP 7 OFF)	8	Manual selection of frequencies (DIP 3 - DIP 7 as table)



These eight dip switches must be programmed in the same manner as the group of 8 dip switches (excluding DIP 1) present in the radio module of the transmitting unit (see manual).

MHz	DIP SWITCH						MHz	DIP SWITCH					
	3	4	5	6	7	8		3	4	5	6	7	8
433.125	ON	OFF	OFF	OFF	OFF	ON	434.100	OFF	OFF	OFF	OFF	OFF	ON
433.200	ON	OFF	OFF	ON	OFF	ON	434.125	OFF	OFF	OFF	ON	OFF	ON
433.250	ON	OFF	OFF	OFF	ON	ON	434.150	OFF	ON	ON	ON	OFF	ON
433.325	ON	ON	ON	OFF	ON	ON	434.225	OFF	OFF	ON	OFF	ON	ON
433.400	ON	ON	OFF	OFF	OFF	ON	434.300	OFF	ON	OFF	ON	ON	ON
433.425	ON	ON	OFF	ON	OFF	ON	434.325	OFF	ON	OFF	OFF	OFF	ON
433.475	ON	ON	OFF	OFF	ON	ON	434.350	OFF	ON	OFF	ON	OFF	ON
433.500	ON	ON	ON	ON	ON	ON	434.375	OFF	OFF	OFF	OFF	ON	ON
433.575	ON	OFF	OFF	ON	ON	ON	434.400	OFF	ON	ON	OFF	ON	ON
433.625	ON	OFF	ON	OFF	OFF	ON	434.475	OFF	OFF	ON	ON	ON	ON
433.700	ON	OFF	ON	ON	OFF	ON	434.500	OFF	OFF	ON	OFF	OFF	ON
433.775	ON	ON	OFF	ON	ON	ON	434.525	OFF	OFF	ON	ON	OFF	ON
433.825	ON	OFF	ON	OFF	ON	ON	434.600	OFF	ON	OFF	OFF	ON	ON
433.900	ON	ON	ON	OFF	OFF	ON	434.675	OFF	OFF	OFF	ON	ON	ON
433.950	ON	OFF	ON	ON	ON	ON	434.700	OFF	ON	ON	OFF	OFF	ON
434.025	ON	ON	ON	ON	OFF	ON	434.725	OFF	ON	ON	ON	ON	ON

DIP SWITCHES ON MASTER BOARDS

There are a number of dip switches on the E16B22DC and E16B10DC master boards for programming various functions of the radio remote control, as explained in the following tables:

DIP SWITCHES ON E16B22DC MASTER BOARD

DIP SWITCH	POS. SEL.	DESCRIPTION
1	ON	E9 and E10 excite FLOW
1	OFF	function disabled
2	ON	E11 and E12 excite FLOW
2	OFF	function disabled
3	ON	E16 activated also E15
3	OFF	function disabled
4	ON	E18 activated also E17
4	OFF	function disabled

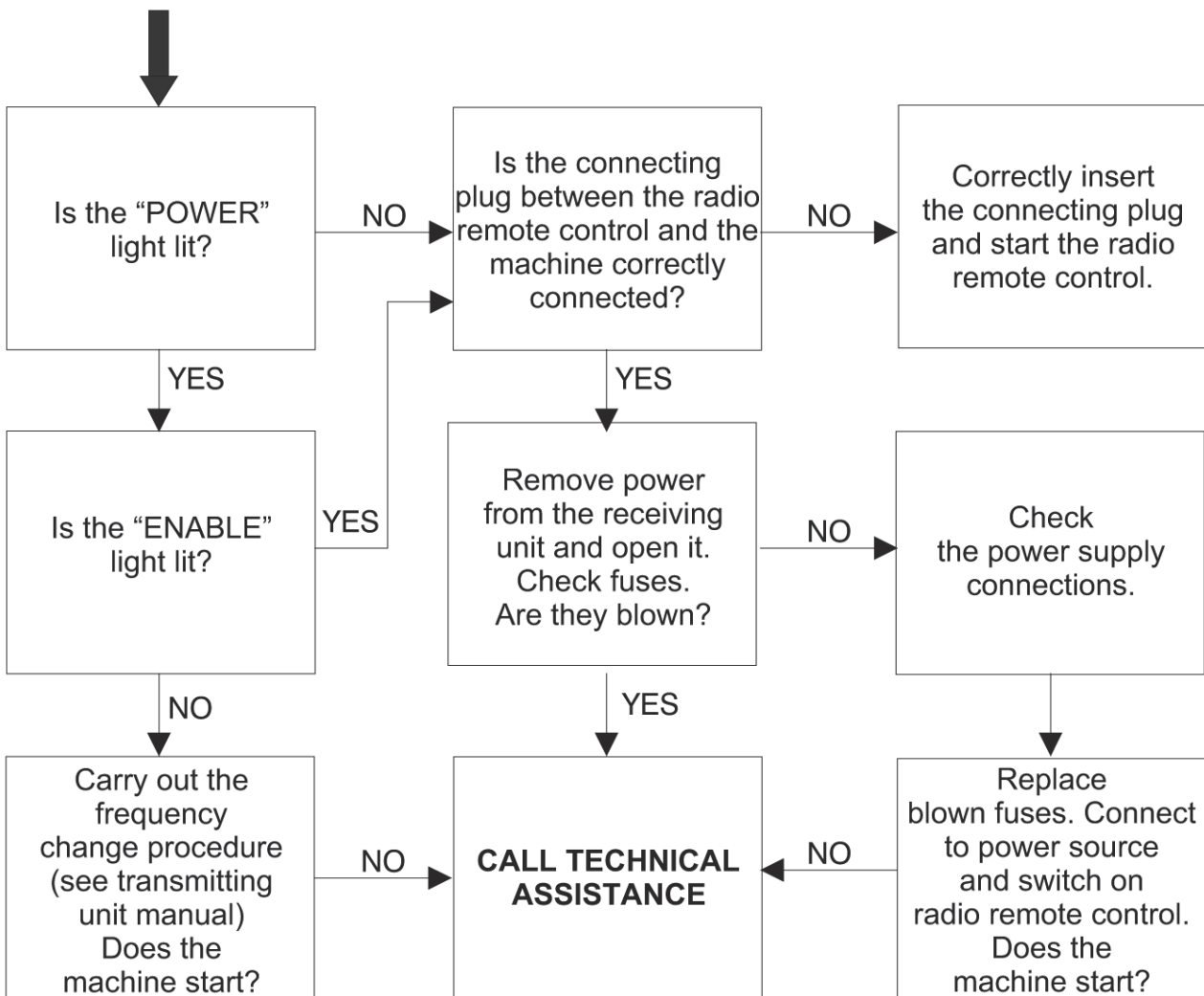
DIP SWITCHES ON E16B10DC MASTER BOARD

DIP SWITCH	POS. SEL.	DESCRIPTION
1	ON	E5 and E6 excite SAFETY / FLOW
1	OFF	function disabled
2	ON	E15 and E17 excite SAFETY / FLOW
2	OFF	function disabled

8 RECEIVING UNIT DIAGNOSTIC

If the “machine+radio remote control” system does not start, check if the problem is caused by the radio remote control or the machine. Before carrying out any verifications, check the functioning of the machine with the cable control panel: if it does not switch on, the problem lies with the machine itself.

If, on the other hand, the machine can only be switched on using the cable control panel, the problem lies with the radio remote control. In this case, follow diagnostics procedure for the transmitter unit and then proceed as follows:



CHANGE TRANSMITTING UNIT / REPLACEMENT CODEKEYS

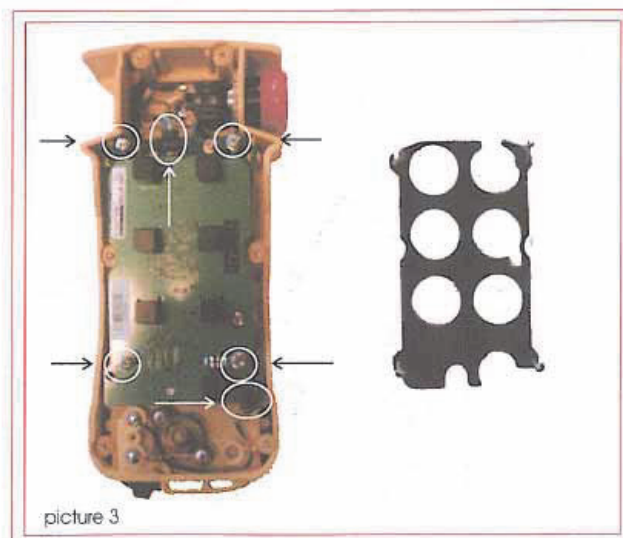
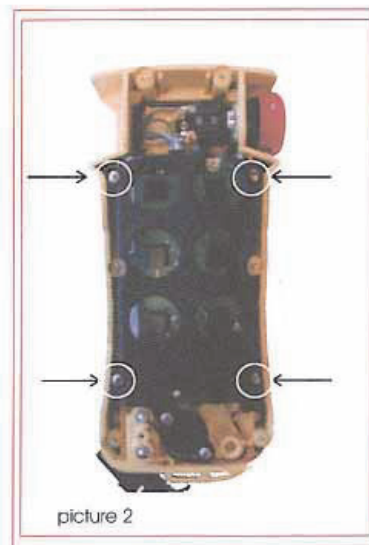
installation instructions

Please take next following steps to exchange the codekeys and/or replace transmitting unit:

Step 1: Please open the transmitter housing by unscrewing the 6 screws on the bottom of the transmitter (picture 1)

Step 2: Removing the frame which is mounted over the keypad (picture 2)

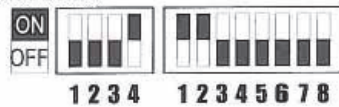
Step 3: Unscrewing of the keypad and unconnect connectors on which are attached on the keypad. Remove the keypad from the transmitting (picture 3).



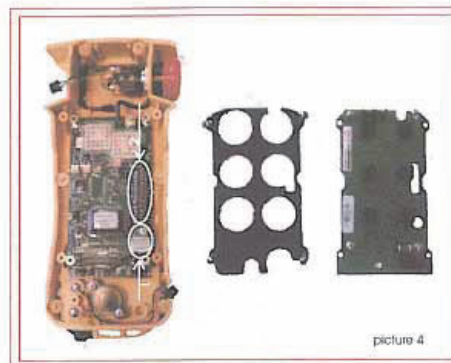
CHANGE TRANSMITTING UNIT / REPLACEMENT CODEKEYS

installation instructions

Step 4: Mounting of the codekey (1 in picture 4) in the transmitting unit. Programming the dipswitches (2 in picture 4) equal as in the old transmitter. Or, if the old transmitting unit is lost or not on the location, programming as mentioned below:

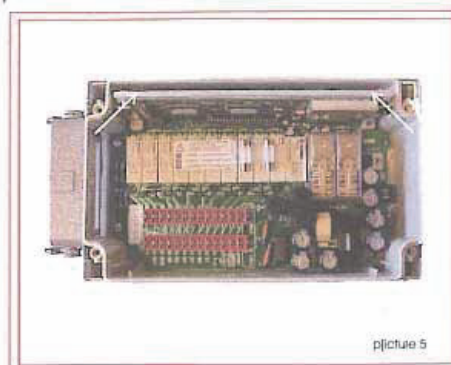


Dipswitch 3 till 8 are for programming fixed frequencies. These must be equal to the dipswitches mounted on the receivermodule (which is placed in the receiver). On this module you can find two identical dipswitch blocks (picture 8) figuur 8)



Step 5: Assemble and close the transmitter by the other way around as mentioned here above. (pay attention by closing the transmitter, the wiring must be free from the side and not be stuck between the lower and upper casing.

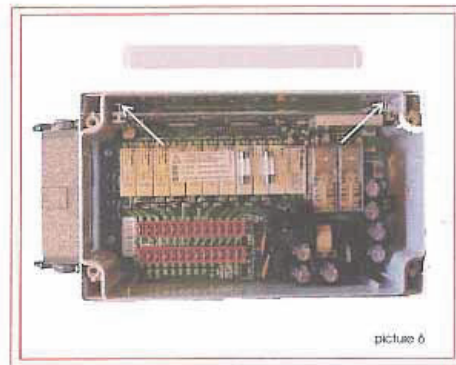
Step 6: Replacing the codekey in the receiverunit. Take the power of the receiver by disconnecting the connector which is mounted on the receiver. Remove the lid of the receiverunit. If the receiver is opened, take away the white strip behind the receivermodule (picture 5)



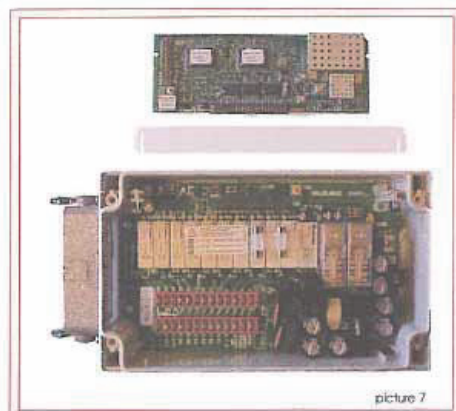
CHANGE TRANSMITTING UNIT / REPLACEMENT CODEKEYS

installation instructions

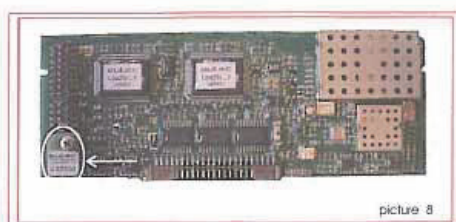
Step 8: Push the lockingclips back, so the receivermodule can be freely taken out of the receiver(picture 6).



Step 7: Take the receivermodule out of the receiver by pulling the receivermodule upwards (picture 7).



Step 8: Remove the mounted codekey and replace this with the new codekey (picture 8).



Step 9: Assemble and close the receiverunit by the other way around as mentioned here above. Switch the power on the receiverunit by connecting the connector on the receiverunit

When starting the system, push the startbutton for a few seconds so the receiver recognize the new codekey.

ONDERDELEN ACCESSOIRES



Accessoires

Batterij (1 stuk)
77700600111 (rioned nummer)

Batterijset (2 stuks)
695011704 (Bestelnummer)
77700600011 (rioned nummer)



Batterijlader 8-30Vdc
6950100004 (Bestelnummer)
77700600015 (rioned nummer)

Batterijlader 230Vac
6950100003 (Bestelnummer)
77700600021 (rioned nummer)

Behuizing batterijlader
6950030000 (Bestelnummer)
7700600022 (rioned nummer)

Antenne voor ontvangerunit
6950100265 (Bestelnummer)
77700600010 (rioned nummer)



Externe antenne voor ontvangerunit met 5 mtr kabel
6950001815 (Bestelnummer)
77700600500 (rioned nummer)

Externe antenne voor ontvangerunit met 2,5 mtr kabel
6950001816 (Bestelnummer)
xxxxxxxxxxxxx (rioned nummer)

Externe antenne voor ontvangerunit met 1 mtr kabel
6950001817 (Bestelnummer)
77700600100 (rioned nummer)



Light ACC. REV 00

01/09

Light series

ONDERDELEN

ONTVANGER A



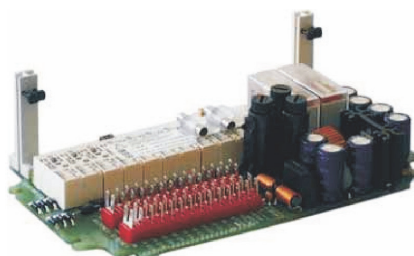
Complete Ontvangerunit 5-KAN
6908900012 (Bestelnummer)
XXXXXXXXXXXX (rioned nummer)

Complete Ontvangerunit 7-KAN
6908900112 (Bestelnummer)
90206000318 (rioned nummer)



Ontvangermodule (defecte retour)
6959013160 (Bestelnummer)
77700600017 (rioned nummer)

Ontvangermodule (geen ruil)
6950013160 (Bestelnummer)
77700600115 (rioned nummer)



Moederbod VDC (defecte retour)
6959009753 (Bestelnummer)
77700600020 (rioned nummer)

Moederbod VDC (geen ruil)
6950009753 (Bestelnummer)
77700600019 (rioned nummer)



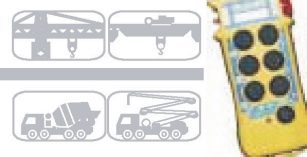
Onderdelen ontvanger

Light Series

01/09

ONDERDELEN

LK ZENDERUNIT



Bovenbehuizing zender 5 kan
6959999503 (Bestelnummer)
77700600026 (rioned nummer)

Bovenbehuizing zender 7 kan
6959999502 (Bestelnummer)
77700600027 (rioned nummer)



Rubberenafdichting 5 kan - 7 kan
6950300002 (Bestelnummer)
77700600002 (rioned nummer)



Frame voor drukknoppen 5 kan - 7 kan
6950300005 (Bestelnummer)
77700600028 (rioned nummer)



Drukknopprintplaat 5 kan
6950300008 (Bestelnummer)
77700600013 (rioned nummer)

Drukknopprintplaat 7 kan
6950300007 (Bestelnummer)
77700600014 (rioned nummer)



Behuizing zender 5 kan
6950300011 (Bestelnummer)
77700600005 (rioned nummer)

Behuizing zender 7 kan
6950300010 (Bestelnummer)
77700600007 (rioned nummer)



Zendermodule (defecte retour)
6959013162 (Bestelnummer)
77700600009 (rioned nummer)

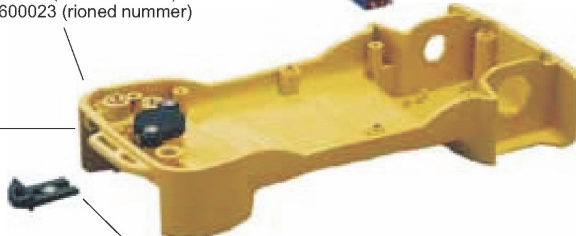
Zendermodule (geen ruij)
6950013162 (Bestelnummer)
77700600119 (rioned nummer)



Tuimelschakelaar 1-0-1
6950000247 (Bestelnummer)
77700600001 (rioned nummer)

Tuimelschakelaar 1>0<1
6950000249 (Bestelnummer)
77700600024 (rioned nummer)

Onderbehuizing 5 kan - 7 kan
6959999501 (Bestelnummer)
77700600023 (rioned nummer)



Sleutel Zenderunit
6950300000 (Bestelnummer)
77700600004 (rioned nummer)



Noodstopknop met contactelement
6950300012 (Bestelnummer)
77700600006 (rioned nummer)

Light series

Onderdelen LK Zenderunit

10 MAINTENANCE



Attention!

Always stop the engine first and depressurize the system before serving or repairing the machine.

To depressurize the system, you open the HP valve. If the spray lance gun is attached you must also pull the trigger.

10.1 Daily maintenance

1. Oil level

Check all oil levels once a week. Add oil, if necessary.

If an oil level has dropped, this implies a leak in the system. In which case, check all gaskets, couplings, and (hydraulic) pipes in the system. Immediately repair damage and fill the system with the correct oil.

Mark!

During the settling-in period, the oil consumption can be more than usually.

2. Cleaning water filter:

- a Close the supply valve in the suction pipe.
- b Unscrew cap from the filter piece.
- c Clean the filter and concerning parts.
- d After cleaning, assemble the parts in opposite order.
- e Open supply valve.
- f Check for leakage.

10.2 Weekly maintenance

1. Cleaning:

Clean the carriage weekly. Use car shampoo and plenty of water.

10.3 Minor servicing

Minor servicing must be carried out EVERY 250 WORKING HOURS (or at least once every 6 months) and includes the following parts of the machine:

1. Carriage:

Lubricate all mechanical moving parts in the system. Check that all nuts and bolts have been correctly tightened.

2. Pump system

• Cleaning the high-pressure control:

When the high-pressure valve has been closed, the pressure gauge should not indicate any pressure. Similarly, if the spray gun is connected and closed, the pressure gauge should not indicate any pressure. If the pressure gauge does indicate a pressure, this implies a leakage in the system or that the one-way valve may be dirty or damaged. In which case stop the machine, unscrew the hose coupling and clean or replace the one-way valve. Also, check the condition of the O-ring and gasket.

Regularly clean the high-pressure control. Carefully remove all dirt! Proper maintenance will increase the service life of this part.

• Changing the pump oil:

Change the pump oil in the high-pressure pump after every 250 working hours (or at least once a year).

For more information concerning the pump, you can find it in the enclosure delivered with this machine.

10.4 Hydraulic system

Renew oil



Important!
You have to renew the hydraulic oil at least ones a year!

Only use oil HESTIA 46.
Order number Rioned 71003500046
Check, every time before use, if the level of the oil is sufficient.

Proceed as follows:

1. Stop the machine.
2. Be aware that the machine is standing horizontal.
3. Take the dipstick out of the oil tank.
4. Clean the dipstick with a tissue.
5. Put the dipstick into the oil tank.
6. Take the dipstick back and watch at the dipstick if the oil is between maximum a minimum.
7. Fill oil, if necessary.
8. Fasten the dipstick onto the oil tank.
9. Start the engine and let it turn for about 5 minutes.
10. Stop the machine and repeat point 2 until 8.

10.5 Oil separator

Drain the oil regularly. See sight glass (*Oil separator*) or use the suction reel with hose.

10.6 Clean the vacuum tank

Before cleaning the dirt water tank always drain the tank.

1. Open the back cover, unscrew the clamping bolts (*Clamping bolts*);
2. Clean the vacuum tank;
3. Clean all pipes;
4. Clean the float ball;
5. Close the cover.

10.7 Cleaning the vacuum pump

If the vacuum pump has sucked dirt water or dung you have to clean the pump with diesel oil. Uncouple the suction hose from the vacuum pump and fill the pump with 1/21 diesel oil. Then, after cleaning, fill the pump with 60 - 70 gram clean diesel oil.

If you don't need the pump for a long period:

- Disassemble the hose between the vacuum tank and vacuum pump;
- Clean all parts;
- Shut the pump hermetically (inlet and outlet).

10.8 Maintenance vacuum pump

- Check ones a year the overload valve on functioning;
- You can check this when you let the vacuum pump press. The pressure gauge may never come above the 0,8 bar.
- Change the pump blades if they are 10-15% damaged;
- Check the blades ones a year or every 600 hours;
- Spool the oil tank ones a year;
- Spool the pump house every time after a long period of stoppage;
- Clean the protection of the vacuum pump ones a month;

- Check regularly the oil level.

The most causes of early failure are:

- Overheating;
- No lubrication
- Dirt in the pump;
- Working in the red danger zone (pressure gauge);
- Rust;
- Running dry;
- Suction of sand or dust;

Let the pump suck in some diesel when he is not in use.

10.9 Cleaning the float ball at the outside (Siphon)

Unscrew the cover (*Syphon*) or use the suction reel with hose, drain the water and clean the float ball.

10.10 Extensive periodical maintenance

Have the high-pressure machine checked and maintained from time to time by the technical service of Rioned. In this way, long life and quality will be guaranteed.

10.11 Maintenance scheme

Interval

Check oil levels	: Every time before use
Cleaning water filter	: Every time before use and with strong pollution.
Cleaning carriage	: weekly or with strong pollution.
Lubricate moving parts	: Every 250 working hours or at least once every six month
Cleaning pressure regulator	: Every 250 working hours or at least once every six month
Renew HP pump oil	: Every 250 working hours or once a year
Renew oil hydraulic system	: Once a year
Decalcify suction valves	: Once a year
Decalcify pressure valves	: Once a year
Puncture nozzle holes	: Every 50 working hours

Replace all parts immediately if there is wastage or defect.

11 TROUBLESHOOTING

Failure	Reason	Solution
The high-pressure pump does not produce the required pressure.	Water tank empty	Fill the water tank
	Supply valve to water filter closed.	Open the supply valve
	Water filter clogged.	Stop the machine and clean the water filter
	Air in high-pressure pump	Allow the machine to run a few minutes. The failure will normally disappear. If not, contact the service department of your dealer
	Suction valves blocked	Carefully loosen the valves and descale them, if necessary
	Suction valves worn out.	Contact the service department of your dealer.
Pressure varies.	Water level in tank too low	Stop the engine, refill the tank and restart engine
	Water supply valve not sufficiently opened	Open the supply valve completely
	Water filter clogged.	Stop the machine and clean the filter
	Pump sucks air	Stop the machine and check all hoses and couplings for leakage
	Nozzle clogged	Stop the machine and clean the nozzle (clean the nozzle holes)
	Pressure valves dirty or worn	Stop the machine. Check the condition of the pressure valves. Clean or replace them
	Pump gasket worn out	Stop the machine and replace gasket
	Ceramic plungers in the pump damaged	Contact your dealer
	Pressure control clogged or internally damaged.	Contact your dealer.

Failure	Reason	Solution
Hydraulic reel does not wind the hose	Handle not on right position	Put the handle into the right position
	Hydraulic tank almost empty	Refill the tank. Check the system on leakage
	Drive chain not sufficiently tightened	Tighten the chain
	Attachment bolt for control lever of hydraulic system loosened	Fasten the bolt and put the lever into the correct position
	Working pressure set too low	Increase the working pressure, if possible
	Return filter hydraulic tank dirty	Switch off the machine and clean the return filter
	Hydraulic system damaged	Contact your dealer
No suction of the vacuum pump	Switch doesn't supply current to magnet coupling	Contact your dealer
	Magnet coupling doesn't work	Contact your dealer
	Vacuum valve or press valve in open position	Close the valve
	Lever vacuum valve suction/pressure in wrong position	Put the lever in the right position
	Clamp bolts not well-fastened	Fasten the bolts
	Float ball protection dirty or stacked	Clean or loose the ball
	Still pressure in tank	Open the vacuum valve
	Oil separator not drained	Drain the oil separator
	Oil in the pump	Press, at low speed of revolution, the oil out of the pump
	Vacuum pump too hot or not greased sufficiently and blades of the pump stuck or burned	Contact your dealer
	Bad cleanness of float ball protection	Clean again and press out the dirt, if necessary.
	Dirt reached the pump and blades stuck off.	Contact your dealer.
No reaction by switching in transmitter	No current	Load battery
		Use new battery
		Control contact points on dirt and dust
		Check fuses
		Contact your supplier by repeating disturbances
	Transmitter is not on	Put button 0/1 to position I
	Transmitter out of reach from receiver	Put the machines closer on. Put transmitter closer

Failure	Reason	Solution
Warning signal after short working time	Battery empty / defect	Load or replace
	Battery not loaded or defect	Change battery complete
		Check if the charging works well
		Check battery points / clean it
		Use other battery
Transmitter indications are good but functions are not executed	Emergency stop pushed in	Unlock emergency stop
	Receiver has no current	Check / replace fuses
	No radio connection	Check functions of control lights
Certain functions are not executed	Receiver is faulty	Contact your supplier
	Interruption in electric circuit	Check all plugs. Plug in and push. Check control lights if functions are indicated

12 APPENDIX

12.1 EC declaration Of Conformity For Machinery

RIOR B.V. / RIONED
Centaurusweg 45, Tilburg, The Netherlands,

Herewith declares that:

High pressure device RIONED FlexCom,

- is in compliance with the Machinery Directive (2006/42/EC);
- is in conformity with the provisions of the following other EEC directives:
2004/108/EC
- the following harmonized standards have been applied:

NEN-EN-ISO 12100-1, NEN-EN-ISO 12100-2, NEN-EN-ISO 13850,
NEN-EN-ISO 13857, NEN-EN-349, EN 60204-1

Tilburg, The Netherlands, Thursday 28 January 2010

A handwritten signature in black ink, appearing to read 'J. Pieters', written over a horizontal line.

J. Pieters
Managing Director

12.2 Sales Managers

EXPORT

D.Maas / H. de Laat
Centaurusweg
5015 TC Tilburg
Tel.: +31 13-547 91 00
Fax: +31 13-547 91 04

REPAIR

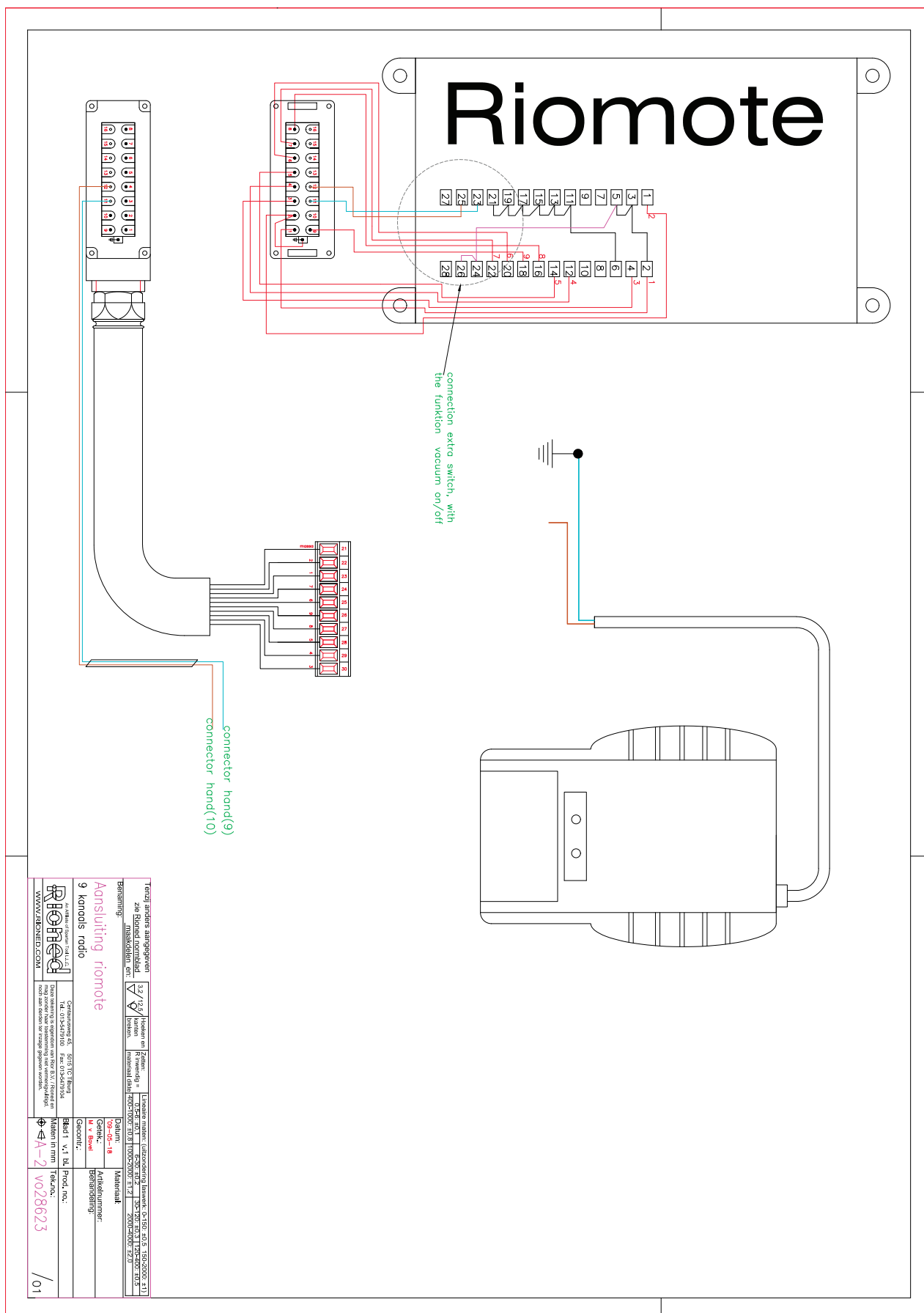
THE NETHERLANDS

Rioned
Centaurusweg 45
5015 TC Tilburg
Tel.: +31 13-547 91 00
Fax: +31 13-547 91 04

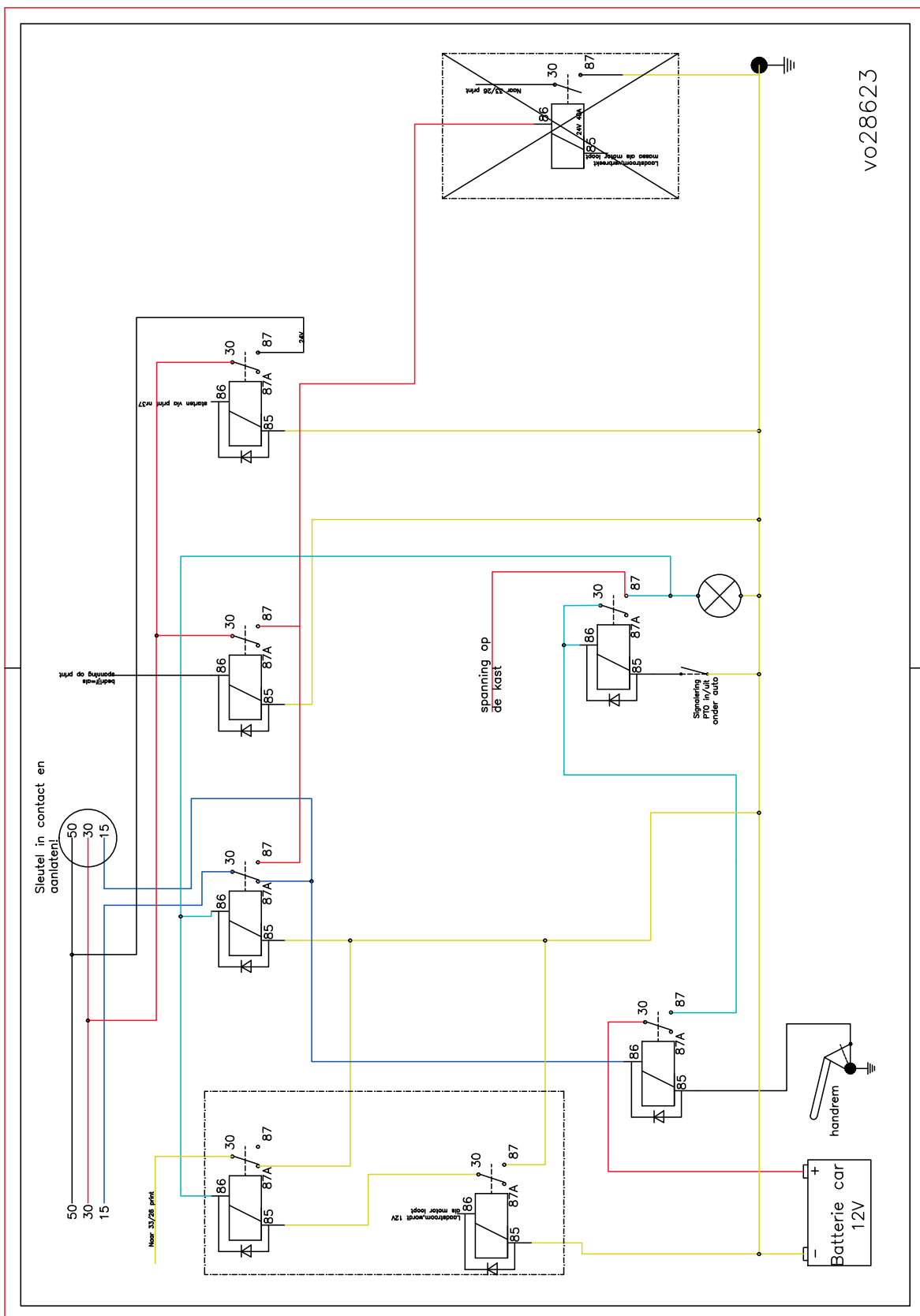
02/12



12.4 Electric scheme Riomote

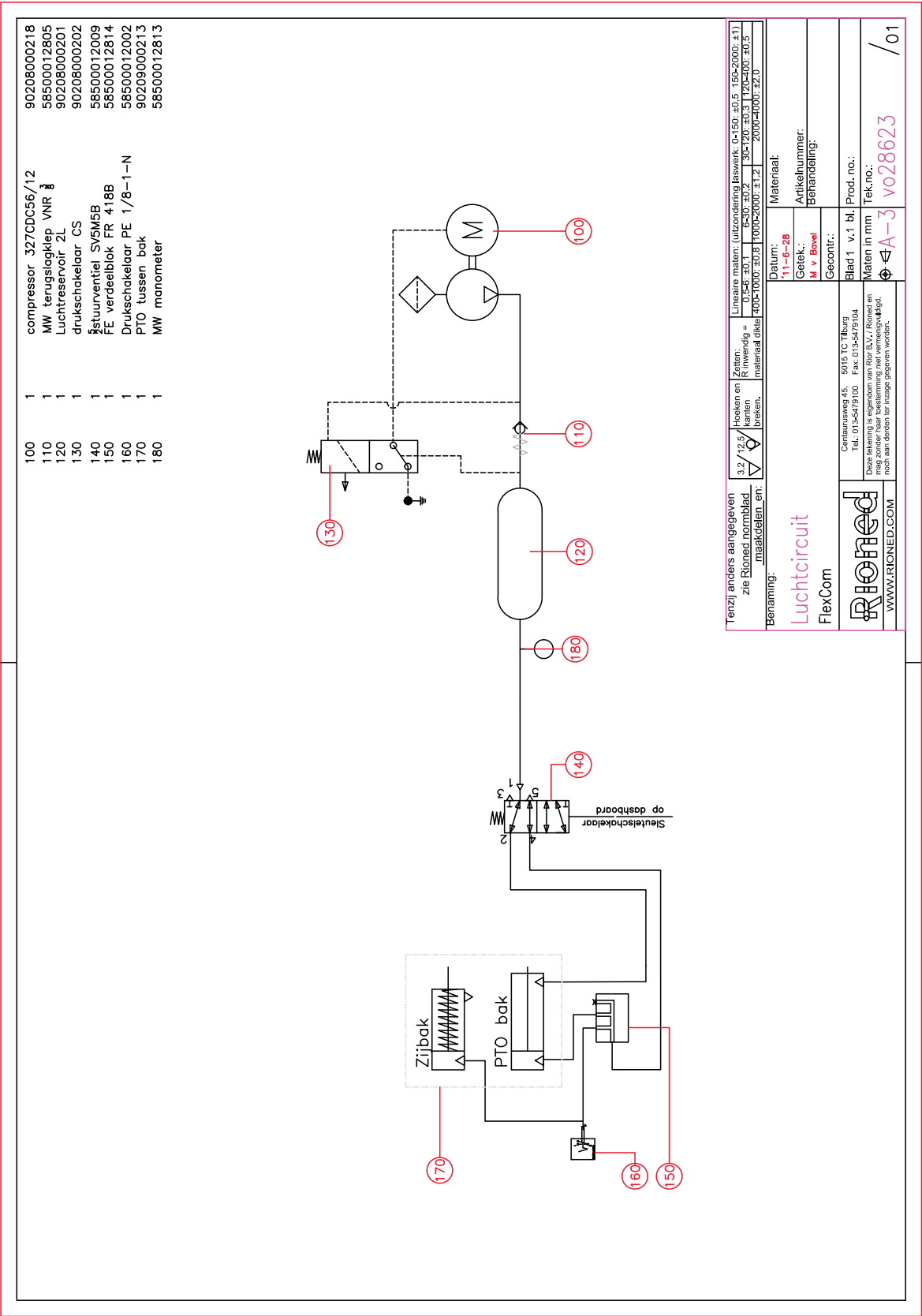


12.5 Switch scheme



vo28623

12.6 Air circuit



12.7 Hydraulic oil

Important!

You have to renew the environment friendly hydraulic oil ones a year.

Description

Hydraulic oil is an environment friendly oil based on vegetable oil. By use of natural vegetable oil, the hydraulic oil is neutral for the environment and is biologically decomposable. When spilling some oil, the ground as well the around water are less damaged by contamination.

Characteristics

It is possible to use the oil for a wide temperature range by having of good viscosity from different temperatures.

The good lubrication characters take care of protection against wastage.

If this oil should be used, one have to remind that the standing time of this oil is shorter than the standing time of a premium mineral hydraulic oil.

The quick connect couplings can get stocked in consequence of the resinification of spilled oil. It's recommended to remove the spilled oil as soon as possible.

This oil meets the requirements of the lubrication technical characteristics, like they are being stated in DIN 51 524, part two for HPL hydraulic oils.

This oil goes well together with elastomer, which is made of nitrorubber, polyacrylate, silicone and epihydrogen chloride.

Use

This oil is universal as hydraulic oil and is very suitable for use in hydraulic installations, which are being used often in environmental areas, like: close to rivers and lakes in water catchments areas in the wood construction

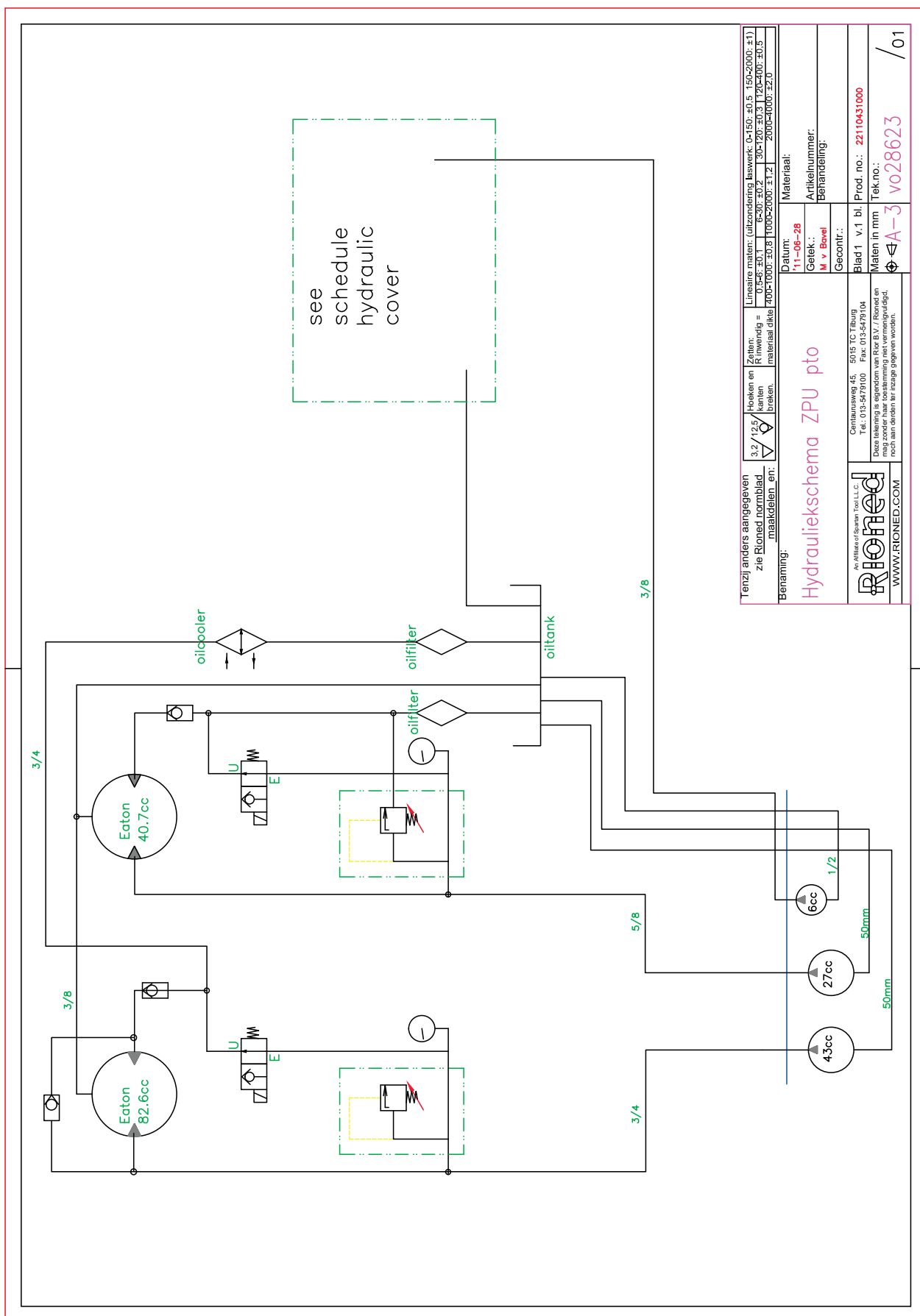
Precautionary measures

The mixing with motor oils has a negative influence for quality of this oil; consequences: formation of foam and obstruction of filters.

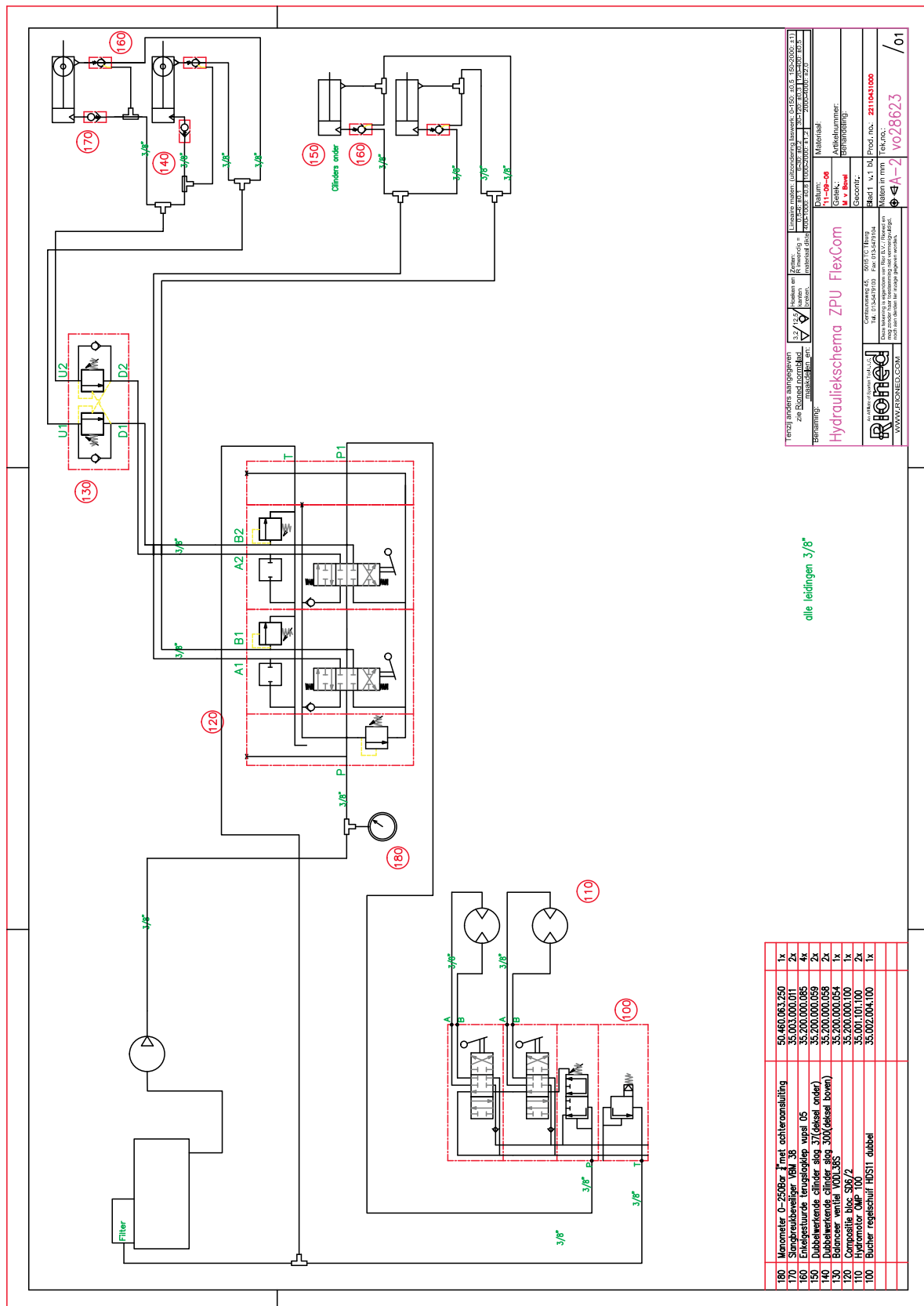
Hygiene and health

This oil is a safe product, but too much and long contact with skin is bad and one also have to take care of personal hygiene. If some more information is needed with regards to toxicology or the safety of petroleum products please do not hesitate to contact us.

12.8 Hydraulic scheme PTO



12.9 Hydraulic scheme



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