

USER'S MANUAL MULTI JET



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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 technical department of your dealer.

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 kept with the machine.

The photos and drawings help to understand the text easier.

First the user's manual gives an overview of the most important safety aspects. Then it explains how the machine is built up and the global working of the machine.

Chapter "Technical specifications" gives 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.

With 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 wishes to thank 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 at:

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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.

The machine may only be used by authorized personnel.

The machine can not be used in an explosive environment.

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 via a V-belt. This pump receives water from the water tank via the water filter and pressurizes it. The pressure can be continuously adjusted. The pressurized water leaves the machine via the high-pressure hose on the reel.

2 Security

Be responsible for other people when 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 Descriptions security measures

- Emergency stop
This machine is equipped with an emergency stop. By operating the emergency stop, the machine will stop immediately. Do not use this button for normal stopping. Only use it when dangerous situations occur. After use, remove the danger and pull the emergency stop in order to be able to start up again. Make sure the emergency stop can always be reached.
- 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. Remove them only if there is maintenance on the machine. Stop the machine.

2.3 Personnel protection outfit

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

2.4 Warning

It is strongly forbidden to spray on humans and animals.

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

Machine cover must be closed during working with the machine.

Always use the break cable during transport.

Never exceed the maximum speed (50 miles/h).

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.

Be sure personnel understands the content of this manual.

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 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 are for the safety necessary. Rioned is not responsible for injuries or damages if other spare parts are used.

2.11 Improper use

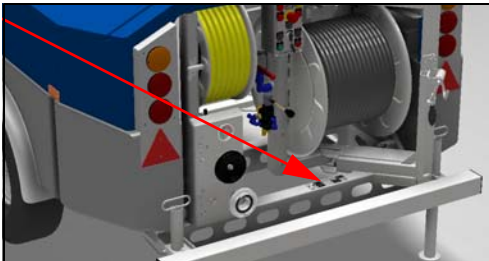
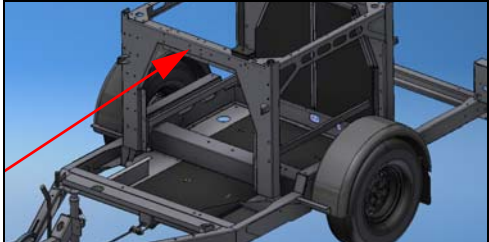

The security during working with the machine is only guaranteed if the use of the machine is conform the user's manual. The limits that are written in chapter "Technical Specifications" and "Appendix" may never be overstepped.

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

Description (<i>symbol</i>)	Unit
Dimension	: see chapter 11.3 "Dimensions" page.: 58
Weight (dry) (<i>m</i>)	: 1100 kg
Total weight (<i>m</i>)	: 1900 kg
Quantity water tank	: 2 x 400 l
Fill medium	: Water
Maximum temperature medium	: 50 °C
Type tyre	: 195R14
Recommended tyre pressure	: 4.5 bar 65 psi
Total length high-pressure hose	: 80-150 m
Diameter high-pressure hose	: ½" - 5/8" 13 mm - 16 mm
Total length 2e high-pressure hose	: 60 m
Diameter 2e high-pressure hose	: 1/2" 13 mm
Total length supply hose	: 35 m
Diameter supply hose	: 3/4" 19 mm
Place type plate	: 
Place chassis number	: 
Sound level	: see chapter 11.4 "Sound level report" page.: 59
Measure position	: see chapter 11.4 "Sound level report" page.: 59
 Oil hydraulic	: HESTIA 46 (order number 71003500046) Important!: Replace once a year!
Max. oil temperature	: 90 °C
Capacity fuel tank	: 30 litter
Year of construction (<i>month/year</i>)	: See type plate

3.2 Motor

Description (<i>symbol</i>)	Technical unit (<i>SI unit</i>)
Type	: Kubota V1505 Turbo
Number of cylinder	: 4
Bore x stroke (<i>d x l</i>)	: 78 x 78,4 mm
Power (<i>P</i>)	: 32,7 kW at 3000 min ⁻¹ DIN 70020
Fuel	: Diesel
Cooling	: Water cooled
Weight (<i>m</i>)	: 114 kg
Battery (<i>U, I</i>)	: 12 V, 63 A
Starter	: 12 V x 1,2 kW
Oil	: 10W30 API/SF-CC or better
Quantity	: 4 l

Type	: Kubota V1505
Number of cylinder	: 4
Bore x stroke (<i>d x l</i>)	: 78 x 78,4 mm
Power (<i>P</i>)	: 26,1 kW at 3000 min ⁻¹ DIN 70020
Fuel	: Diesel
Cooling	: Water cooled
Weight (<i>m</i>)	: 110 kg
Battery (<i>U, I</i>)	: 12 V, 63 A
Starter	: 12 V x 1,2 kW
Oil	: 10W30 API/SF-CC or better
Quantity	: 4 l

Description (<i>symbol</i>)	Technical unit (<i>SI unit</i>)
Type	: Kubota D1105
Number of cylinders	: 3
Bore x stroke (<i>d x l</i>)	: 78 x 78,4 mm
Power (<i>P</i>)	: 19,5 kW (26 PK) at 3000 1/min DIN 70020
Fuel	: Diesel
Cooling	: Water-cooled
Weight (<i>m</i>)	: 89 kg
Battery (<i>U, I</i>)	: 12 V, 63 A
Oil	: 10W30 API/SF-CC or better

Normal coolant engine is protected to -28 °C

Special coolant engine is protected to -38 °C

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

3.3 Pump

Description (<i>symbol</i>)	Technical unit
Type	: Speck P45
Number of plungers	: 3
Number of valves	: 6
Maximum pressure (<i>p</i>)	: See type plate on frame
Maximum output	: See type plate on frame
Weight	: 50 kg
Maximum water temperature	: 60 °C
Oil	: GX 80W90
Quantity	: 3.5 l

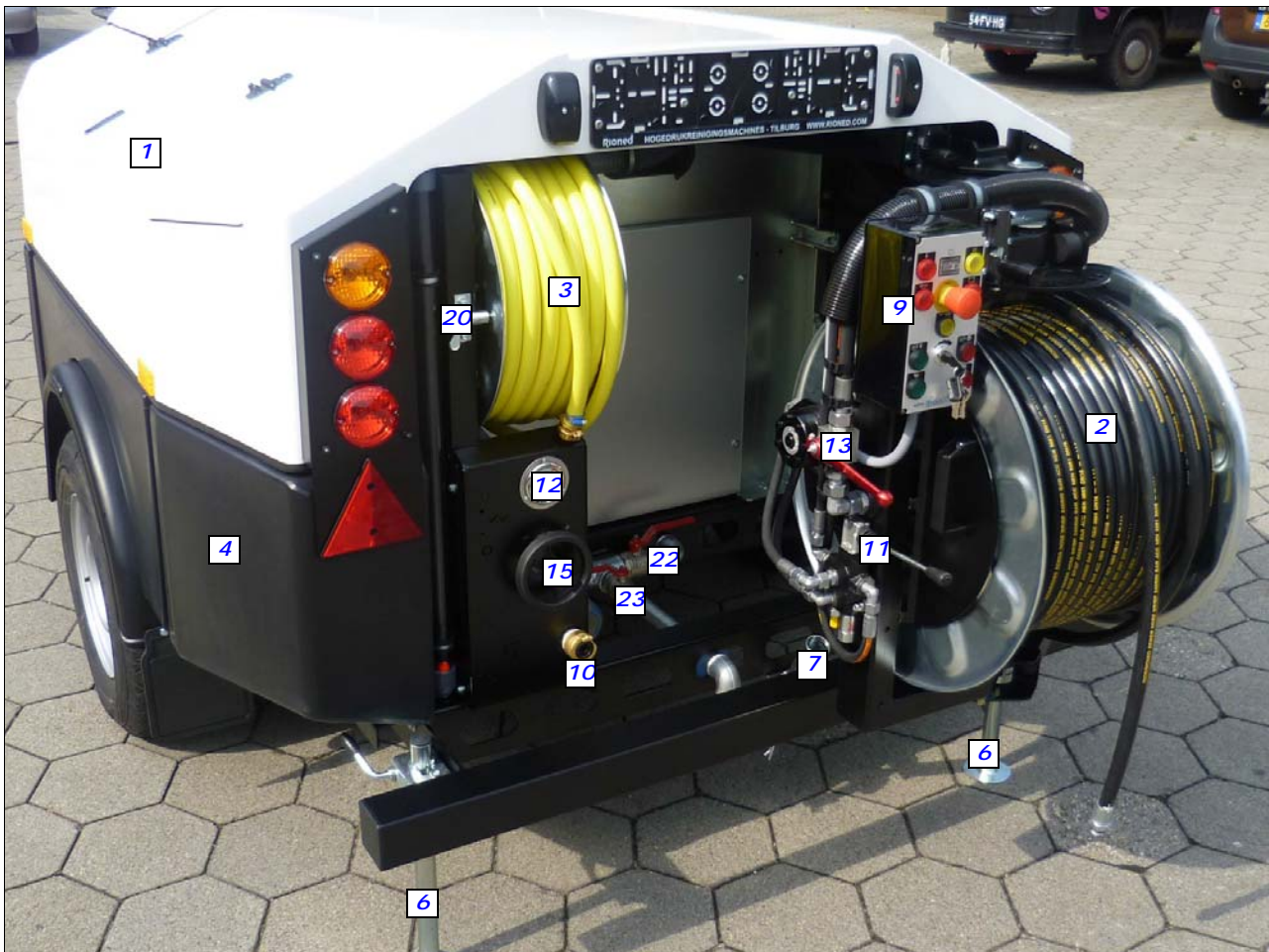
Type	: Speck P52
Number of plungers	: 3
Number of valves	: 6
Number of revolutions	: $\pm 1000 \text{ min}^{-1}$
Maximum pressure (<i>p</i>)	: See type plate on frame
Maximum output	: See type plate on frame
Oil	: GX 80W90
Quantity	: 1 l
Weight (<i>m</i>)	: 54 kg
Maximum water temperature (<i>T</i>)	: 60 °C
Quantity	: 3.5 l

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

4 CONSTRUCTION

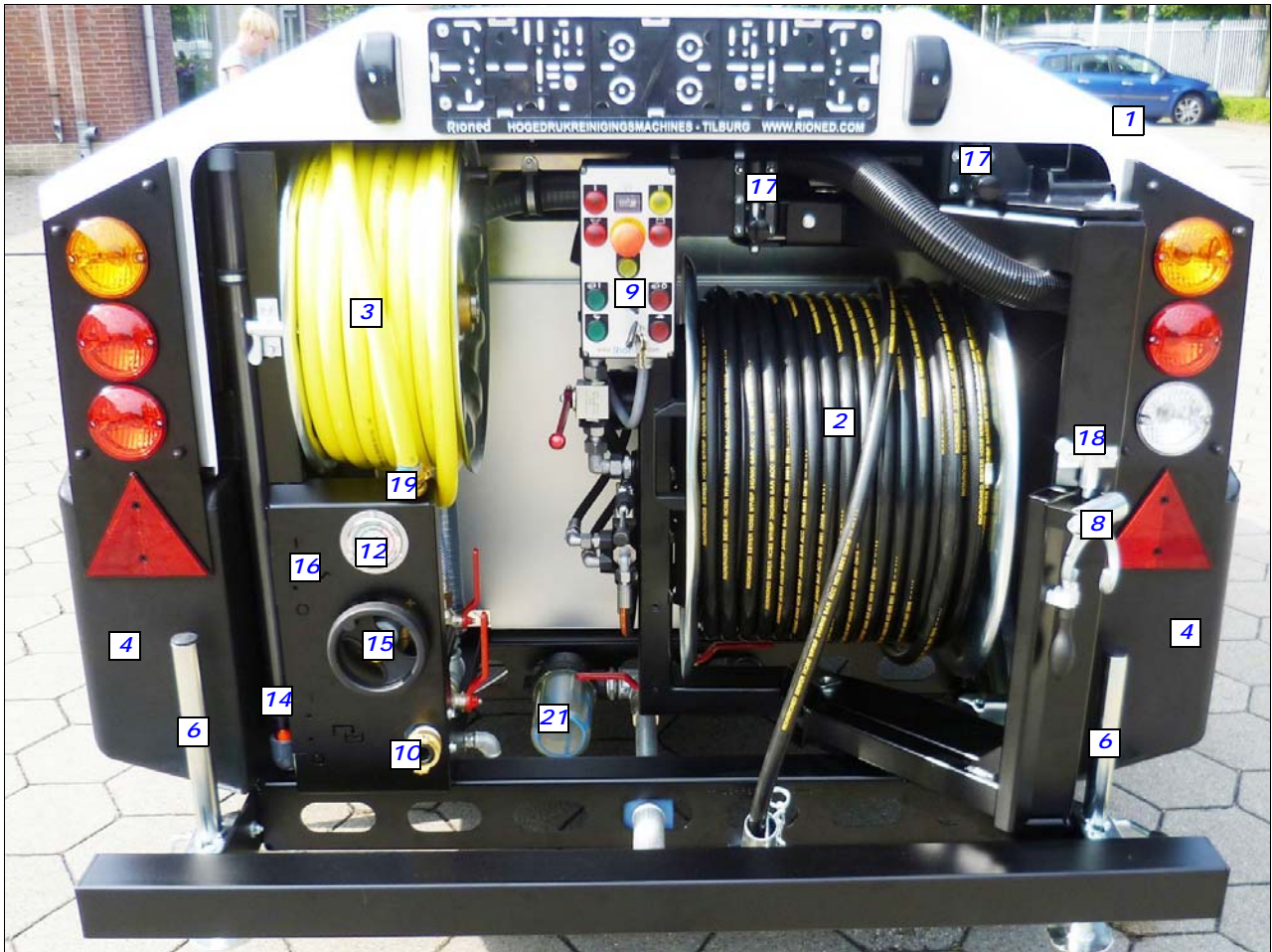
The high-pressure machine contains the following main parts:

1. Tool box
2. High-pressure hose on reel
3. Supply hose on reel
4. Water tank
5. Machine cover
6. Support (2x)
7. Hose holder
8. Hose guide
9. Control box

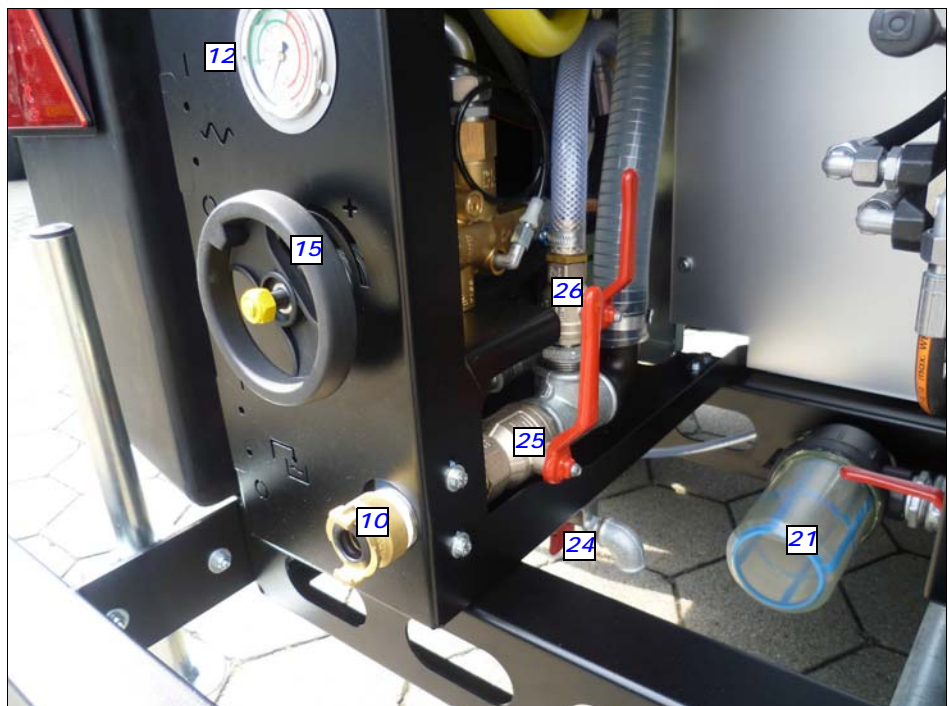


10. Supply pipe
11. Hydraulic reel control
12. Pressure gauge
13. High-pressure (HP)-valve
14. Level indicator water tanks
15. Pressure regulator
16. Pulsator system On/Off
17. Swivel locking device (2x)
18. Hose guide locking device
19. Connection supply hose

20. Reel locking device



- 21. Water filter
- 22. Supply valve water filter
- 23. Drain valve
- 24. Hand wash
- 25. Valve supply pipe
- 26. Valve supply hose



- 27. Motor-pump compartment

- 28. Fuel tank with level indicator
- 29. Hydraulic oil reservoir
- 30. Trailer coupling
- 31. Nose wheel

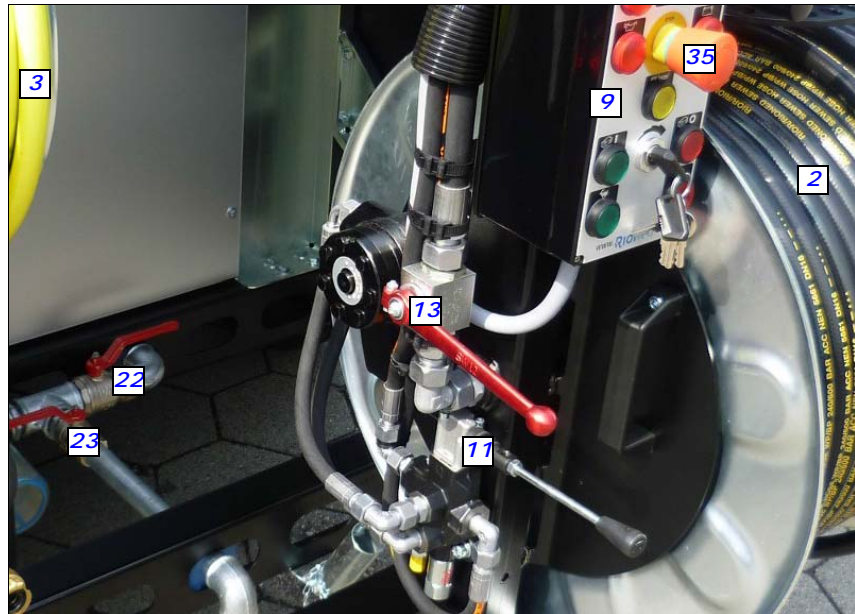


- 32. Battery charger remote control
- 33. Receiver
- 34. Electric box



- 35. Emergency stop

36. Connection remote control



5 Control



If you control, maintain or inspect the machine, you must have the right qualifications for this job. If you do not have the necessary knowledge, you may not use the machine. Further, you must convince yourself that you understand this manual thoroughly.

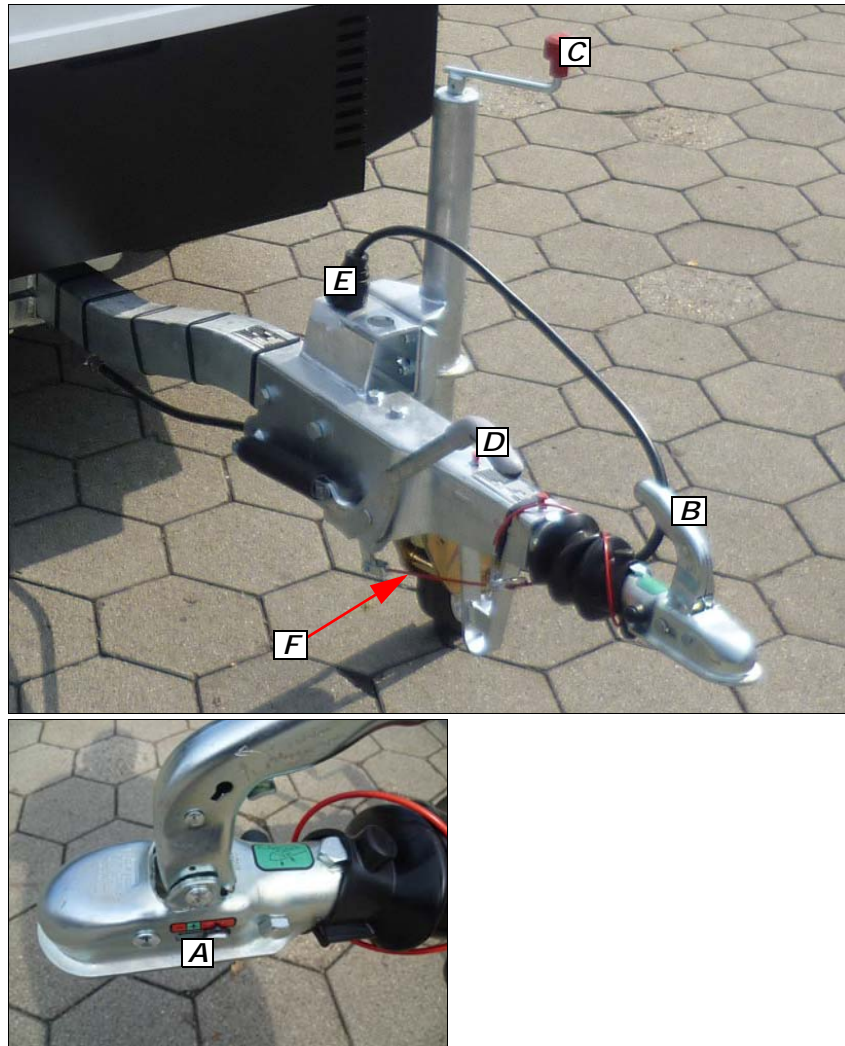
5.1 Hitching up the trailer

If you want to drive with the trailer, the trailer must be connected to your vehicle.

Proceed as follows:

1. Place the tow bar of the trailer onto the ball of the hitch on your vehicle.
2. Check whether the trailer is more or less horizontal. If it is not, the hitch will not be at the required height (heart cone between 38 and 42 cm from the ground) and your car will not be able to tow the trailer.
3. If the hitch on the car is at the required height, push the safety lock (*Illustration 5.1.1B*) downwards.
4. Pull the safety break handle (*Illustration 5.1.1D*) up.
5. Check whether the pin (*Illustration 5.1.1A*) for the safety lock is in between the marks.
6. Attach the safety cable to the eye (*Illustration 5.1.1F*) which has been specially installed for this purpose. This cable should not be pulled tightly or become caught in any part.
7. Put the plug (*Illustration 5.1.1E*) for the trailer into the socket on the car. Check whether the rear lights function properly.
8. Raise the support completely (*Illustration 5.1.1C*). Now the tow bar of the trailer rests on the ball and hitch on the car.

Illustration 5.1.1

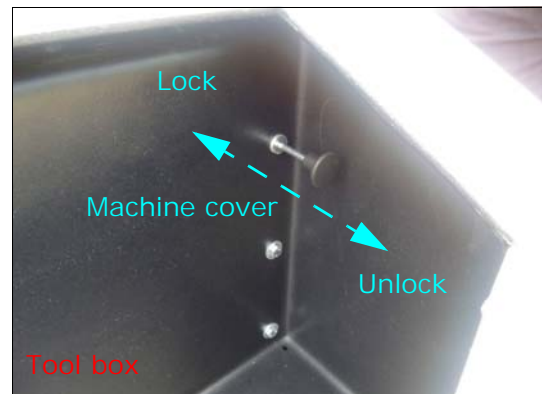


If a special DIN-eye is mounted on the tow bar (option) you use the eye instead of the coupling!

5.2 Check before departure

Before you drive away with the vehicle, check the following:

1. Are the supports (6) at its full height and locked?
2. Is the high-pressure hose (2) been inserted into the hose holder (7) and secured with the securing pin.
3. Is the reel control handle (11) in position "O". (see chapter 7.4 "Hydraulic reel control" page.: 39)
4. Is the supply hose (3) connected to the GK coupling (19).
5. Is the supply hose reel locked by means of the reel lock (20).
6. Is the tyre tension of the trailer enough (see chapter 3.1 "General" page.: 13).
7. Is the swivel arm locked (17) twice.
8. Is the hose guide locked (18).
9. Is the machine cover (5) closed and locked?



10. Do the brakes function adequately.
11. Empty the water tank.
12. In case of frost, flush pipes with antifreeze!
(see chapter 5.10 "Using the device during periods of frost" page.: 31)?



Warning!

Never exceed the maximum speed when driving with the trailer behind your vehicle!

The trailer is now ready for transport.

5.3 Unhitching and setting up

1. Place the trailer in position.
2. Block, by use on a slope, the wheels with a wedge.
3. Lower the support (*Illustration 5.1.1C*) completely.
4. Disconnect the plug (*Illustration 5.1.1E*) for the rear lights.
5. Release the safety cable (*Illustration 5.1.1F*) from the eye.
6. Unhitch the trailer from the car. Pull up the handle (*Illustration 5.1.1B*) on the tow bar and then slant towards the front.
7. Lower the two supports (6) and lock them by turning the clamping bolts (if present). See to it that the trailer is more or less level.
8. Pull the hand brake (*Illustration 5.1.1D*) of the trailer and lower the nose wheel (*Illustration 5.1.1C*) somewhat in order to increase the stability of the trailer.

9. Mark the working area according the local regulations.

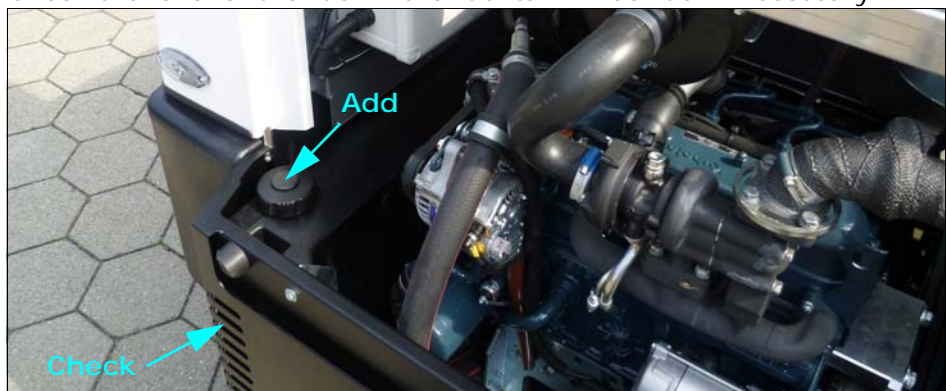


5.4 Before starting

1. Check the oil level in the engine, oil reservoir (29) and high-pressure pump using the dipsticks. Add oil, if necessary.
2. Check coolant level in reservoir.



3. Check the level of the fuel in the fuel tank. Add fuel if necessary.



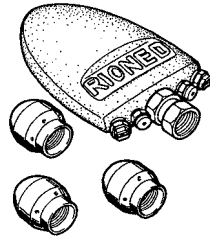
4. Check whether the water filter (21) is clean. Clean the filter, if necessary; see chapter 8 "Maintenance" page.: 45.
5. Check whether the high-pressure valve (13) on the reel is closed.
6. Check whether the supply valve (22) to the water filter (21) has been opened.
7. Fill the water tank (4).

This can be done in several ways:

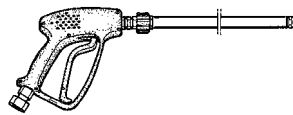
- a Via the supply hose (**3**).
Unlock the supply reel and couple the end of the supply hose onto a water tap. Open the water tap and the supply valve.
- b Via the supply pipe (**10**).
Couple the end of a supply hose onto the supply pipe. Open the water tap and the supply valve.

The maximum water temperature is 50 °C.

- 8. Turn the control wheel (**15**) of the pressure regulator counter clockwise.
- 9. 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



5.5 Starting the machine



Emergency stop (35):

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.



Put on protection looking glasses. We advise to use ear protectors.

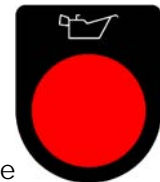


Important!

If the machine has run out of water, ensure that the hose is unwound before pressurizing!

By hand

1. Put the key into the keyhole.



2. Turn the key to the right. Control lights Oil pressure and



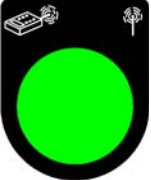





charging lightens.

If not, see chapter 8 "Maintenance" page.: 45.

3. Rotate the key further to the right "Glow". The control light of the glow spiral lights up. Wait for it to go out.
4. Turn the key further. Release the key once the engine starts. If not, then "see chapter 8 "Maintenance" page.: 45". Do not start the engine longer than 10 seconds!

By 5 channel radio remote control

1. Put the key into the keyhole 
2. Choose "Hand"  or "Radio¹"  remote control.
3. Control lights Oil pressure  and charging  light-
4. Wait 5 seconds!
5. Start the engine by pushing button  on the control box.

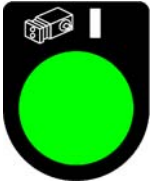
Let the engine warm up. After 3 minutes the machine is ready for use.

5.6 Unclogging a drain

1. Screw a suitable nozzle onto the high-pressure hose.
2. Unwind the hose (*see chapter 7.4 "Hydraulic reel control" page.: 39*).
3. Put the nozzle into the drain that is to be cleaned.
4. Open the high-pressure valve (**13**).
5. Screw the high-pressure regulator fully open (right).

Start spraying:

- Control on machine:

- a Press button  (HP pump On).

¹Switch on the transmitter before you switch to radio remote control!



- b Press button (Throttle open).
- Control by remote control (see chapter 7.5 "Radio remote control type Riomote" page.: 39):

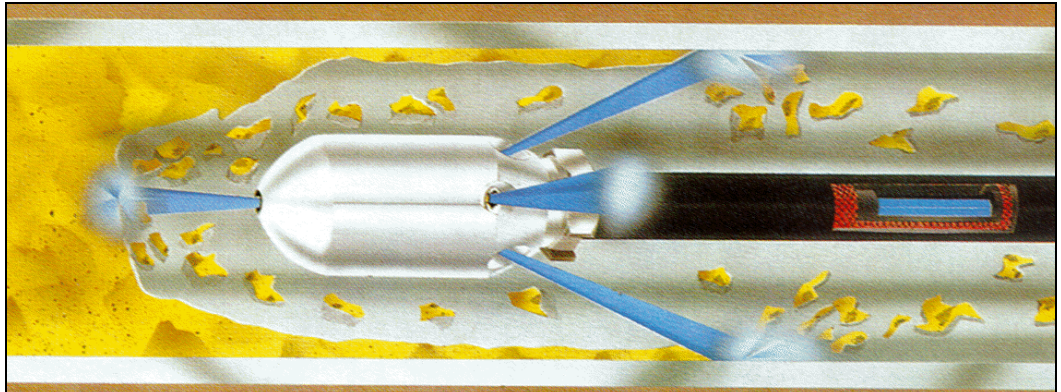


- a Press button 5 or (HP pump on).



- b Press button 3 or (Throttle Open).

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



- 6. 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.

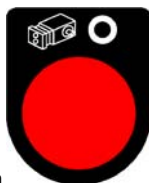
If machine has run out of water, ensure hose is unwound before pressurizing.

Stop spraying:

- Control on machine:



- a Press button (Throttle close).



- b Press button (HP pump off).
- Control by remote control:

- a Press button 4 or  (Throttle close).
- b Press button 6 or  (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.



Attention!

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



5.7 Cleaning a wall, terrace or floor.



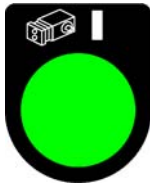
Caution!


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 7.4 "Hydraulic reel control" page.: 39*).
3. Attach the spay lance gun. Secure the quick coupling tightly.
4. Open the HP valve.


Start spraying:

1. Open the HP valve (**13**).



2. Push button (Start spraying) on the control box or button 5 or  on the radio remote control.



3. Push button (Throttle open) on the control box or button 4 or  on the radio remote control.



4. Screw the high-pressure regulator wheel (**15**) upward on the high-pressure regulator until the required working pressure is reached. The adjusted pressure can be read from the pressure gauge (**12**) on the machine when the spray gun is open.
5. Pull the trigger of the spray gun.

Stop spraying

Release the trigger of the spray gun.

5.8 Stop working

1. Press button  (Throttle close) or button 4 or  on the radio remote control.

2. Press button  (HP pump off) or button 6 or  on the radio remote control.
3. Close the HP valve (**13**).

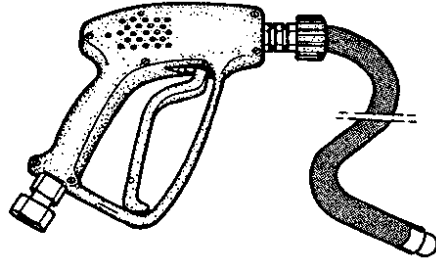
5.9 Spray gun with NW 5 hose

Instead of the spray lance gun, you can also mount a NW5 hose with small nozzle onto the spray gun. This set can be used for unclogging small pipes. The water supply can be used for unclogging via the gun. In this way you can pre-

vent the system from flooding the surroundings.

Turn the pressure regulator under the 150 bar (2175 psi).
The pressure may never become over the 150 bar (2175 psi).

Always treat the high-pressure hose well!

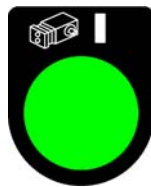


5.10 Using the device during periods of frost

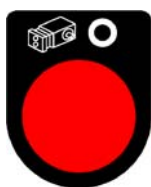
Your high-pressure device may freeze up during a period of frost. A number of safety precautions must be taken.

Additional preparations before departure:

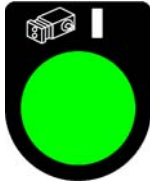
1. Drain the water tank and the water filter.
2. Close the drain valve and mount the filter again.
3. Put approx. 30 litre of antifreeze into the anti freeze tank.
4. Open the anti freeze valve.
5. Open the high-pressure valve (**13**).
6. Start the machine and let it idle.
Note: it is not necessary to attach either a nozzle or a gun to the high-pressure control.



7. Push button (Start spraying) on the control box.
8. Let the high-pressure pump remove all the water, which is still in the high-pressure hose.
9. Close the high-pressure valve when anti freeze comes out of the hose (wait for the blue colour of the antifreeze).
10. Leave the engine running for some time: to allow all pipes to fill up with antifreeze.

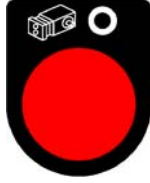


11. Push button (Stop spraying) on the control box and close the HP valve.
12. Connect the high-pressure hose to the water fill hose using a special GK hose coupling.



13. Push button (Start spraying) on the control box and open the HP valve.

14. Let the high-pressure pump fill the supply hose with antifreeze.



15. Push button (Stop spraying) on the control box and close the HP-valve.

16. Switch off the machine.

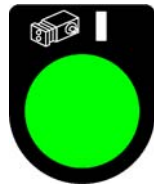
Now the machine is ready for departure!

5.11 Additional preparations when preparing for use:

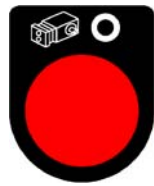
1. Connect the high-pressure hose at the antifreeze tank.
2. Turn on the machine and let the high-pressure pump drain all anti-freeze into the antifreeze tank.
The antifreeze can be reused. Ensure that no water is mixed with the antifreeze. If water gets into the antifreeze, it is not suitable for re-use.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

6 Symbols

6.1 Control box



Start spraying (HP pump ON)



Stop spraying (HP pump OFF)



Throttle open (more water and more pressure)



Throttle close (less water and less pressure)



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



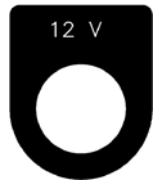
Signal lamp "Oil pressure" (*Burns if there is not enough oil in the engine).*



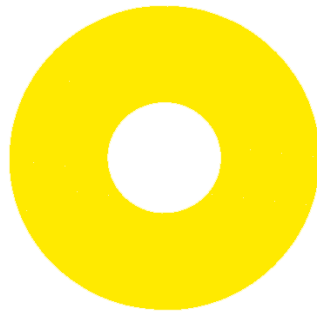
Signal lamp "Glowing" (*Burns when the glow spiral in the engine is warmed up).*



Run dry protection (option)

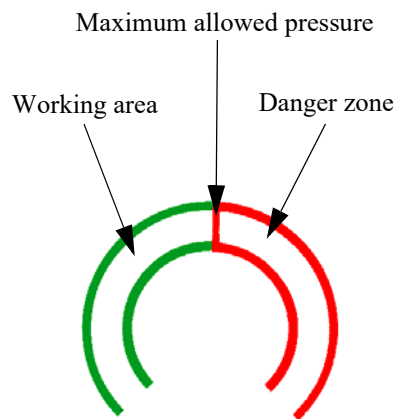


12 volt accessories

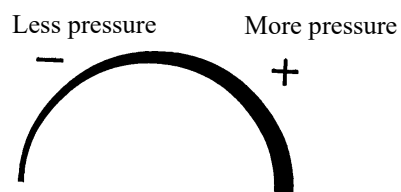


Back plate "Emergency stop"

6.2 Pressure gauge



6.3 Pressure regulator



6.4 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.

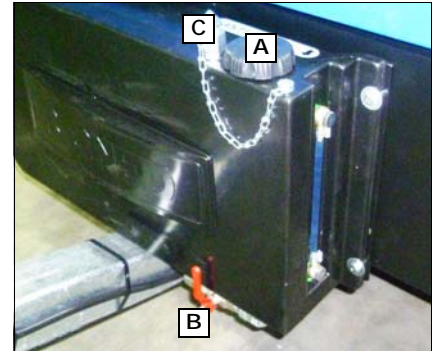


7 Options

7.1 Hour counter

This machine is equipped with an hour counter.
The hour counter indicates the number of working hours that the machine has worked.

7.2 Anti-freeze with anti freeze tank



Your high-pressure device 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 by opening the drain valve (23).
2. When all water has been removed/drained, you remove the water filter cap (21).
3. Clean the filter and mount the cap again.
4. Close the drain valve (23).
5. Close the supply valve (22) water filter.
6. Fill the anti-freeze tank (A) with antifreeze.
7. Remove the nozzle/gun from the HP hose.
8. Open the antifreeze valve (B).

9. Press the run dry button  and start the engine.

10. Check if the HP-valve (13) on the machine is open.

11. Push button  on the control box.

12. Let the high-pressure pump remove all the water, which is still in the high-pressure hose and pump.

13. Close the high-pressure valve or push button , when anti

- freeze flows out of the HP hose (watch the colour of the water).
14. Connect the HP-hose (with special connection) to the supply hose.
 15. Open the supply valve (26).
 16. Close the HP valve, when anti freeze flows out of the supply hose (watch the colour of the water).
 17. Next you connect the hose onto the anti-freeze tank (C).
 18. Open the HP-valve again an let the pump sends all anti freeze to the anti-freeze tank.
 19. Close the high-pressure valve.
 20. Switch off the machine.
 21. Disconnect the hose and the special coupling an clean up.

Make sure that the HP and the supply hose are locked and tightened. Now the machine is ready for departure!

Antifreeze can be recycled.

Ensure that not too much water is mixed with the antifreeze. If too much 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.

7.3 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 follow each other continuously. This gives a fluent volume stream. To stop one stroke, you get a pulsating water stream.

Control:

Manual: To close or open the valve (16), you start or stop the pulsator.

Control box: Use switch "RioPulse On/Off".



Riomote: Use the switch handle on the transmitter.

Use:

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

Reel out with the hydraulic control and not touch the HP hose while the Riopulse is on!



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

7.4 Hydraulic reel control

By means of pushing the control lever upwards or downwards 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 the upper position you can unroll the hose manually.



Attention!


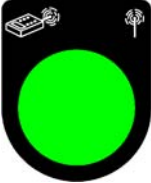
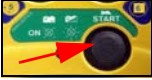


Never block the lever and always control it with one hand while guiding the high-pressure hose by means of the hose guide with the other hand to the required place.

7.5 Radio remote control type Riomote

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:

1. Start the engine
2. Stop the engine
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/off



Trouble shooting

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

7.6 Hose guide

Purpose:

To guide the HP hose into the sewer.

To wind the HP hose 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 (**18**).

Advantage

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

7.7 Run dry protection

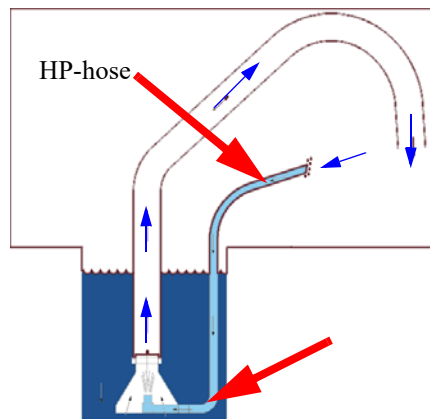
The run-dry protection has the purpose to protect the high-pressure pump.

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...)

7.8 Suction Ventury

Use:
The suction ventury takes care that you can pump dirt and/or liquid out of reservoirs.



Preparations:

You must always check if there is enough water in the water tank.

Use:

- Connect the HP hose onto the coupling of the suction ventury.
- Place the suction ventury in a reservoir.
- Place the transparent hose there where the dirt must come.
- Check if the HP valve to the HP hose is closed.
- Start the machine.
- Switch on the high-pressure pump, if necessary.
- Open the HP valve.

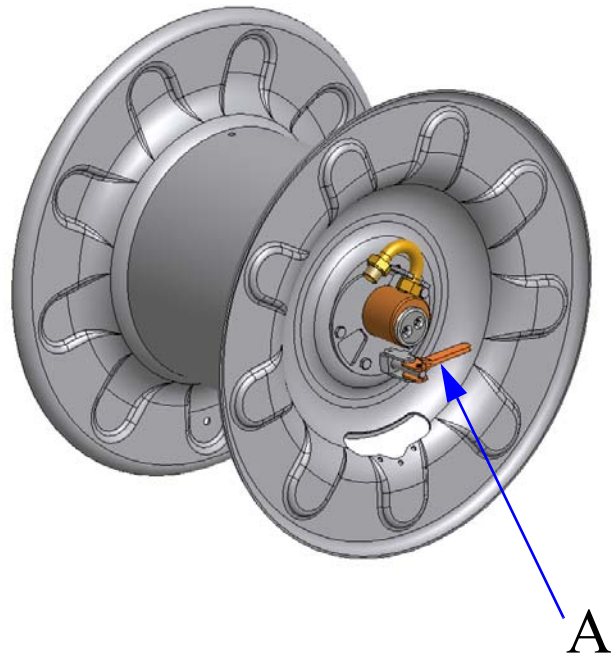
Stop suction:

- Close the handle of the high-pressure valve.
- Stop the machine.
- Uncouple the HP hose.

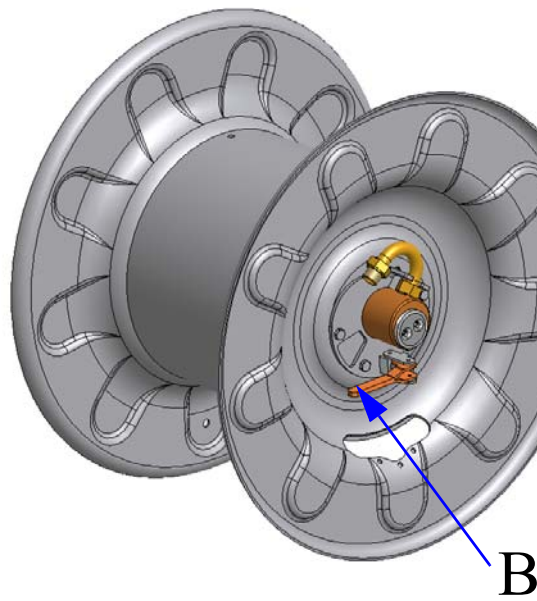
7.9 Unwinding by hand of the hydraulic driven hose reel

Your machine is fitted with a mechanical freewheel locking device. With this device you can put the HP hose reel in "complete freewheel position" or in "hydraulic". If you want to unwind by hand you put the device in position "A".

The locking pin is released and the HP reel can turn freely without resistance.



To get the HP reel in hydraulics you put the device in position "B". The pin gets back in locking position and you can use the hydraulics again.



7.10 Working lamp

By means of button  you switch the working lamp on and off.

7.11 Water circulation system with warm water


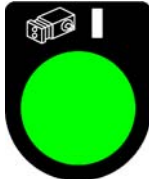
Purpose: To protect the machine against frost


Construction:

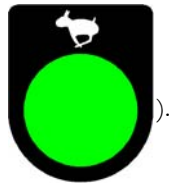
Because the engine runs, the water gets heated. The high-pressure circuit stays frost free.

Control:

- Start the engine (*see chapter 5.5 "Starting the machine" page.: 25*).
- Connect the high-pressure hose onto the by pass pipe.
- Open the HP-valve (**13**).

Push button  or  by use of a remote control.

- Use the throttle control to regulate the water temperature (Push button  or



Engine speed up, water warmer.
Engine speed down, water colder.

Attention!

At 55 °C water temperature the engine stops.

Use:

You use the system to protect your machine against frost.

A warning light is mounted to inform you if the engine is running.

Warning light on: Engine runs

Warning light out: Engine not running. (Water temperature 55 °C / out of fuel / Engine not started)

7.12 Operating warm water system

Purpose:
To obtain warm water for better cleaning.

Preparation:
Screw the correct jet nozzle at the end of the high pressure hose.

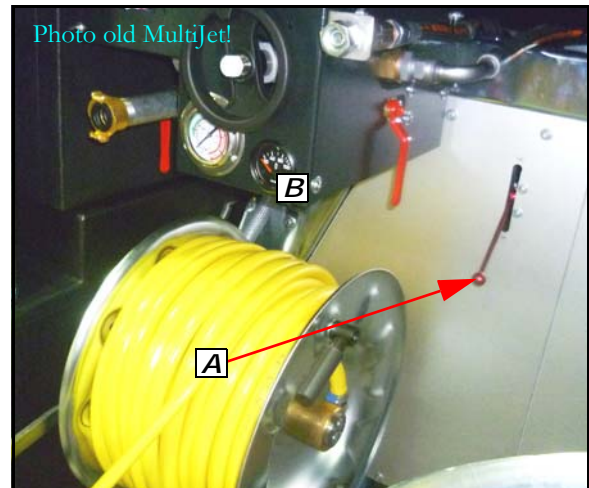
Start the engine as previously described in this manual.

Use:
Put the handle A upwards to activate the hot water system.

Remark:
When using the warm water system the pressure will go back and less water will come out of the HP hose.

Attention:
The water is coming with 55 degrees (B) out of the hose.

Turning off:
Pull the handle A down for normal use of the machine.



Put the original jet nozzle back on the HP hose. You will get the normal capacity back.

Turn ignition off after job, prolonged stop or storage machine!

8 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.

8.1 Daily maintenance

1. Oil level

Check all oil levels before use. 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 (*see chapter 3 "Technical Specifications." page.: 13*).

Mark!

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

2. Cleaning water filter (**21**):

- a Close the supply valve (**22**) 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.

8.2 Weekly maintenance

1. Cleaning:

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

8.3 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. Drive

• Servicing the engine

- a Change the oil in the engine (Super 15W40 SF CC or equivalent).
- b Renew the oil filter, if fitted.
- c Clean the air filter.
- d Renew the fuel filter.
- e Check the tension of the V-belt; increase tension, if necessary.
- f Check the condition of the battery.

- g Check the torque of the attachment bolts for the engine; tighten them, if necessary.

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

2. Carriage:
Lubricate all mechanical moving parts in the system. Check that all nuts and bolts have been correctly tightened.
3. Pump system
 - Cleaning the high-pressure control (15):
When the high-pressure valve (13) has been closed, the pressure gauge (12) should not indicate any pressure. Similarly, if the spray gun is connected and closed, the pressure gauge (12) 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 1000 working hours (or at least once a year) (see chapter 3.3 "Pump" page.: 15).

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

8.4 Hydraulic system

Renew oil (29)



Important!

You have to renew the hydraulic oil at least ones a year, depending on oil quality!

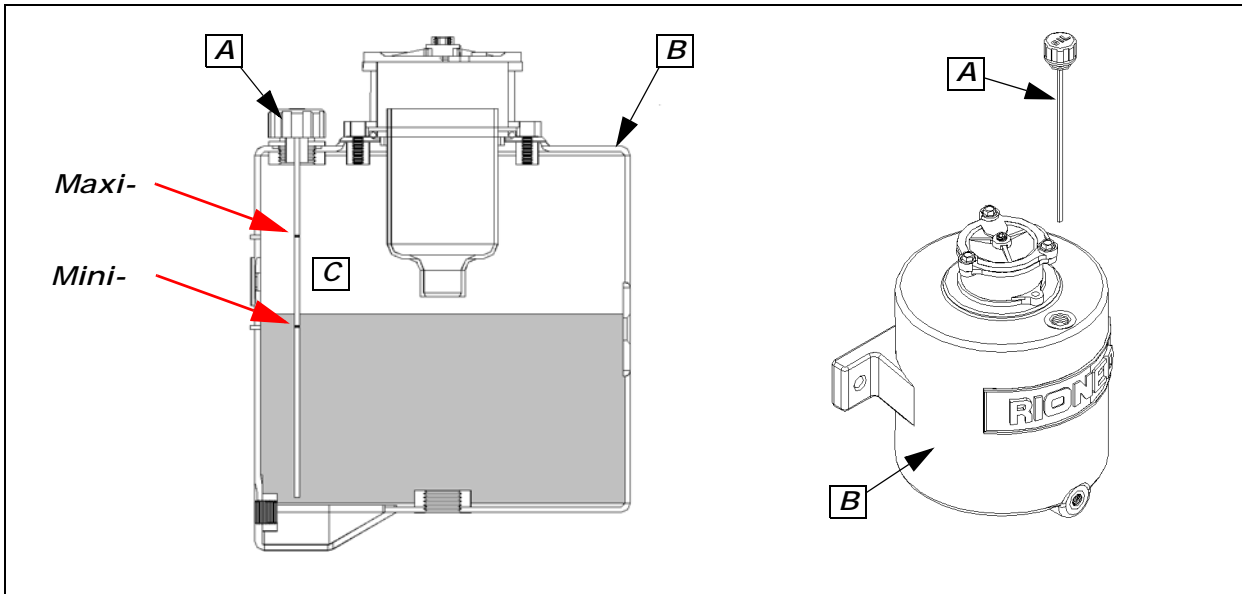
Only use oil: see chapter 3.1 "General" page.: 13.

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 (A) out of the oil tank (B).
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 (C).
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.



8.5 Maintenance wheel bearings and wheel nuts.

After the first 50-100 km (30-60 miles) the wheel nuts must be checked on a good seat. If the seat is not good, pull the wheel nuts with a torque setting of 110 Nm.

After every 5000 km (3100 miles) this must be repeated. Also, check the play on the bearings.

If there is any play on the bearings, we recommend advising our service department.

Supply the wheel nave after every 10000-km (6200 miles) with new grease. Advise our service department. You can combine this with a thoroughly service maintenance of your machine.

8.6 Check the brake drums and the brakes.

Proceed as follows:

1. Disconnect the brake cables and hose and check that the brakes operate smoothly.
2. Rotate the brake drum in the normal direction and fasten the adjusting nut until the brake drum starts rubbing. Then rewind the nut approx. one third of a turn.
3. Connect the brake cables and fasten them on the brake horizon with a safety nut (when the hand brake has been operated, the brake horizon has to be below the main frame).
4. Attach the brake hose to the brake horizon and lock it by means of two safety nuts.
5. Tension the brake rod. Turn it clockwise until the hinged lever touches the brake cylinder without clearance.
6. Lock the brake rod by turning the lock nut against the fork of the brake rod.
7. Check the functioning of the brakes by means of a brake test.
8. Check the brakes on overheating (= brakes over tightened).
9. If the brakes become overheated, readjust the brake system once more.

8.7 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.

8.8 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.
Service engine	:	Every 250 working hours or at least once every six month
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
Wheel nuts	:	Pull every 5000 km (3100 miles)
Wheel nave	:	After every 10.000 km (6200 miles) supply with new grease
Renew 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 wear or defect.

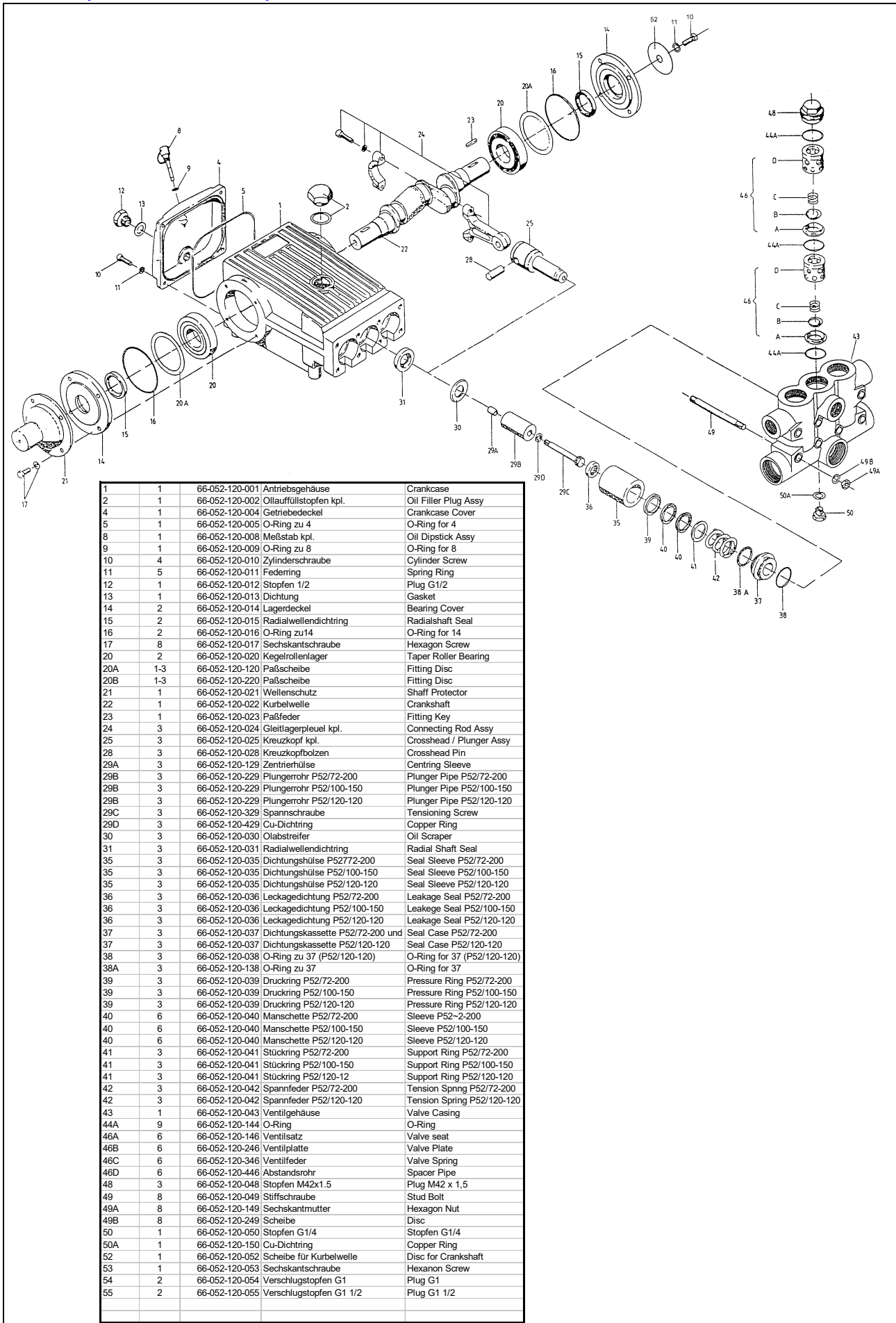
9 Troubleshooting

Failure	Reason	Solution
Engine does not start or stops abruptly.	Machine has run out of fuel	Add fuel
	Main or secondary fuse blown	Replace the defect fuse and restart engine. If problem repeats, contact your dealer
	Battery voltage too low.	Load or replace.
	Emergency stop activated	Turn the emergency stop in order to be able to start up again
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
	V-belt not sufficiently tightened	Tighten the V-belt; replace 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
	V-belts for the pump slip	Stop the machine and tighten the belts
	Ceramic plungers in the pump damaged	Contact your dealer
	Pressure control clogged or internally damaged.	Contact your dealer.

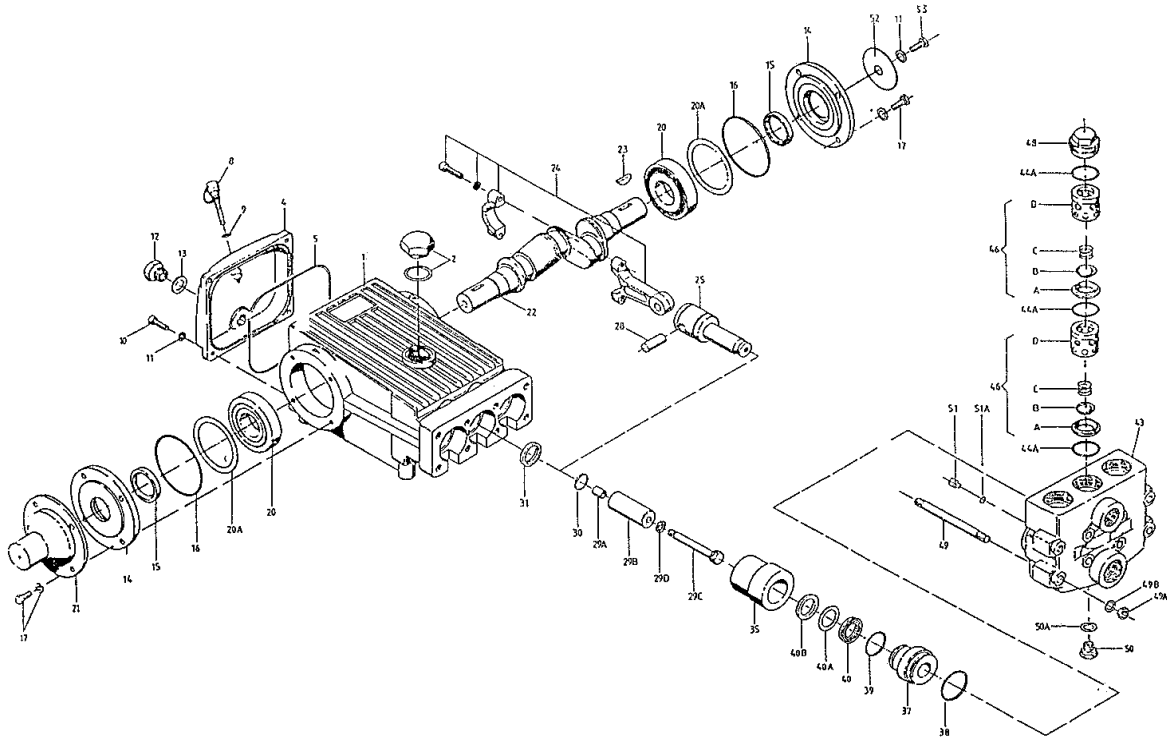
Failure	Reason	Solution
Hydraulic reel does not wind the hose	Handle not on right position	Put the handle into the right position
	Hydraulic tank almost empty	Refill the tank. Check the system on leakage
	Attachment bolt for control lever of hydraulic system loosened	fasten the bolt and put the lever 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 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	
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
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

10 Exploded Views and part lists

10.1 Exploded view Pump P52



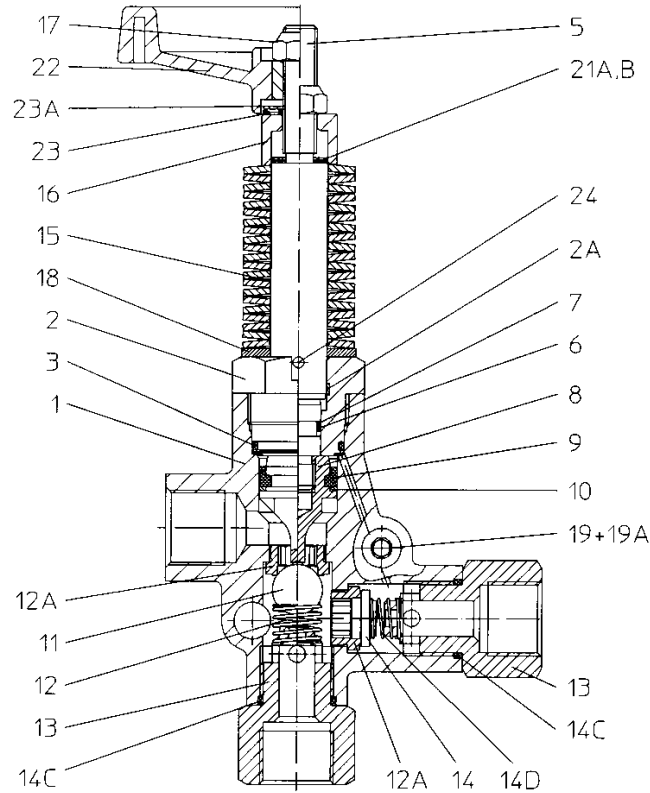
10.2 Exploded view Pump P45



66.045.142.000 / 01

Pos	Bestelnummer	Fabrieksnummer	Aantal	Omschrijving	Benaming	Description	Designation	
1		01-0608	1	Center	Antriebsgehäuse	Crankcase	Cartor Du Mecanisme De Commande	
2	66.050.411.002	00-2914	1	Olievlade	Olaufüllstopfen Kpl.	Oil Filler Plug Assy	Bouchon De Remplissage D'huile	
4	66.050.411.005	00-0126	1	Cartersdeksel	Cartersdeksel	Crankcase Cover	Chapeau D'engrenage	
5	66.050.411.008	06-0103	1	O-ring	O-ring	O-ring	Joint	
8	66.050.411.006	00-0520	1	Oliepeilstok	Oliepeilstok Kpl.	Oil Dipstick Assy	Jauge D'huile	
9	66.008.411.006	06-0053	1	O-ring Top/Oliepeilstok	O-ring	O-ring	Joint	
10	32.218.008.003	21-0025	4	Cilinder Kopschroef	Cylinder schroef	Cylinder Screw	Vis "A" Tete Applate	
11		07-0594	5	Veering	Federling	Spring Ring	Rondelle Elastique	
12	66.041.414.012	07-0705	1	Plug	Stopfen	Plug	Bouchon	
13		06-0116	1	Pakkingring Top Pos 12	Dichting	Gasket	Garniture	
14		03-0137	2	Lagerdeksel	Lagerdeksel	Bearing Cover	Chapeau De Palier	
15	66.050.411.015	06-0101	2	Olaeileering	Radiaalwielendichting	Radial Shaft Seal	Rondelle De Garniture Pour Arbre Radial	
16	66.050.411.016	06-0104	2	O-ring	O-ring	O-ring	Joint	
17	32.201.008.020	21-0034	8	Tapbout	Sechskantschroef	Hexagon Screw	Vis Hexagonale	
20	66.050.411.020	05-0796	2	Lager	Kegelrollemlager	Taper Roller Bearing	Rouleau Conique De Palier	
20A	66.050.411.120	07-0789	1-3	Oplating	Paßscheibe	Fitting Disc	Rondelle D'ajustage	
20B		07-2844	1-3	Oplating	Paßscheibe	Fitting Disc	Rondelle D'ajustage	
21		07-0790	1	Schermpak Astap	Wellenschutz	Shaft Protector	Dispositif De Protection Pour Arbre	
22		11-0632	1	Krukas	Kurbelwelle	Crankshaft	Arbre Coude	
23		07-0571	1	Holve Maan Spie	Schroefenleider	Woodruff Key	Ressort En Rondelle	
24		00-3290	3	Driftstang Kpl.	Gleislagerleusl Kpl.	Connection Rod Assy	Billets De Palier-glisserie	
25		00-3847	3	Kruiskop Met Plunjer Kpl.	Kruiskop M. Plunjer Kpl.	Crosshead / Plunger Assy	Crosse De Piston	
28	66.050.411.028	11-0111	3	Pistonen	Kruiskopbolzen	Crosshead Pin	Axe De La Crosse De Piston	
29A		07-2482	3	Centerschule	Centring Sleeve	Centring Sleeve	Manchon De Centrage	
29B		11-0265	3	Plunjerpijp	Plunjerrohr	Plunger Pipe	Tuyau De Plongeur	
29C		21-0331	3	Spanschroef	Spanschroef	Tension Screw	Vis Tensionneuse	
29D		06-0278	3	Koperring Top Pos 29	Ou-dichting	Copper Ring	Anneau En Amiante Cu	
30		07-0295	3	Olaeileering	Olaeileering	Oil Sealer	Rondelle D'huile Joint Torique	
31	66.050.411.031	06-0270	3	Olaeileering	Radiaalwielendichting	Radial Shaft Seal	Rondelle De Garniture Pour Arbre Radial	
35		07-3028	3	Afdichtingshuis	Dichtingshuis	Seal Sleeve	Manchon De Garniture	
37		07-3028	3	Afdichtingshuis	Dichtingshuis	Seal Case	Cassette De Garniture	
38	66.050.411.038	06-0106	3	O-ring	O-ring	O-ring	Joint	
39		06-0234	3	O-ring	O-ring	O-ring	Joint	
40		06-1200	3	Moening	Nutting	Grooved Ring	Eccrot Joint	
40A		06-1199	3	Stuurring	Stuurring	Support Ring	Anneau-support	
40B		07-0290	6	Gaileleering	Führungsring	Guide Ring	Cartier De Soupape	
43		01-0211	1	Klepshuls	Verillgehülse	Valve Casting	Anneau Guide	
44A	66.050.411.144	06-0107	9	O-ring	O-ring	O-ring	Joint	
48	66.050.411.048	00-1868	6	Klep Kpl.	Ventil Kpl.	Valve Assy	Silège De Soupape	
46A		07-2456	6	Kleptring	Ventilbolz	Valve Seat	Plaque De Soupape	
46B		07-2482	6	Klepkaat	Ventilplate	Valve Plate	Plaque De Soupape	
46C		07-2473	6	Klepvoer	Ventilfeder	Valve Spring	Ressort De Soupape	
46D		07-2511	6	Afstandsroer	Abstandsrohr	Spacer Pipe	Tuyau De Distance	
48	66.050.411.048	07-0270	3	Plug	Stopfen	Plug	Bouchon	
49		21-0329	8	Siltschroef	Siltschroef	Stud Bolt	Boulon Fileté	
49A		07-0988	8	Moer	Sechskantsmutter	Hexagon Nut	Eccrot Hexagonale	
49B		07-2707	8	Veering	Schroef	Screw	Rondelle	
50	66.050.411.050	07-1422	1	Atkappijg	Stopfen	Plug	Bouchon	
50A		06-0106	1	Koperring	Ou-dichting	Copper Ring	Anneau En Amiante Cu	
51	66.050.411.051	07-1927	3	Afdichting	Stopfen	Plug	Bouchon	
51A		06-0306	3	Koperring	Cu-dichting	Copper Ring	Anneau En Amiante Cu	
52		07-0796	1	Schijf	Schneibe Für Kurbelwelle	Disc For Crankshaft	Rondelle	
53		21-0041	1	Tapbout	Sechskantschroef	Hexagon Screw	Vis Hexagonale	
		14-0244	1	Reparatioset Afdichtingen	Rep. Satz Ventiel	Valve Repair Kit	Reparation Jeu Soupape	
		14-0450	1	Reparatioset Afdichtingen	Rep. Satz Dichtungen	Seal Repair Kit	Reparation Jeu Garniture	
		00.4014	3	Kruiskop Met Plunjer Kpl.	Kruiskop M. Plunjer Kpl.	Crosshead / Plunger Pipe Assy	Crosse De Piston	
Benaming:						d.d.: 21 sep 1994	01	21 sep 1994
Speck triplex pomp P45/60-250						Getek.: R. Kurvers	Gecont.:	Index: Datum: 66.045.142.000 / 01

10.3 Exploded view Pressure regulator



Item No.	Qty	Order number	Factory No.	Description
1	1	67-262-101-001	01-0630	Casing
2	1	67-262-101-002	07-2788	Guide Plug
*	1	67-262-101-102	06-1131	Guide ring
*	1	67-262-101-003	06-0255	O-Ring
5	1	67-262-101-005	11-0477	Piston Rod
*	1	67-262-101-006	06-1129	O-Ring for 5
*	1	67-262-101-007	00-6113	Support Ring for 6
8	1	67-262-101-008	07-1064	Piston Body
*	1	67-262-101-009	06-0071	Sleeve
*	1	67-262-101-010	07-0591	Sleeve Support Ring
*	1	67-262-101-011	07-1920	Ball
*	1	67-262-101-012	07-0637	Spring for Bypass Valve
*	12A	2 67-262-101-112	07-1061	Valve Body
	13	2 67-262-101-013	07-3006	Valve Plug
*	14	1 67-262-101-014	07-3005	Valve Plate
*	14C	2 67-262-101-314	06-0496	O-Ring
*	14D	1 67-262-101-414	07-1941	Spring for Kick-Back Valve
15	21	67-262-101-015	07-1662	Spring Plate 120 bar
15	19	67-262-101-015	07-1523	Spring Plate 280 bar
15	23	67-262-101-015	07-2899	Spring Plate 40 bar
16	1	67-262-101-016	07-2167	Spacer Sleeve
17	1	67-262-101-017	07-2165	Hexagon Nut Self Locking
18	1	67-262-101-018	07-1076	Disc
19	4	67-262-101-019	07-1058	Plug
*	19A	4 67-262-101-119	06-0245	O-Ring for 19
21A		67-262-101-121	07-1792	Spacer Disc 0,5 mm
21 B		67-262-101-221	07-1793	Spacer Disc 1,0 mm
22	1	67-262-101-022	07-2166	Spoked Hand wheel ULH
23	1	67-262-101-023	05-0136	Axial needle Bearing ULH
23A	1	67-262-101-123	07-3432	Disc ULH
24	1	67-262-101-024	07-2164	Serrated Pin
*	1	67-262-101-025	14-0554	Repair Kit

11 Appendix

11.1 EC declaration Of Conformity For Machinery

(Directive 2006/42/EC, Annex II, sub A)

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

Herewith declares that:

High pressure device RIONED MULTI JET,

Machine number:

- is in compliance with the Machinery Directive (2006/42/EC and 2007/46/EC);
- is in conformity with the provisions of the following other EEC directives:
2014/30/EC
- the following harmonized standards have been applied:
NEN-EN-ISO 12100:2010, NEN-EN-ISO 13850:2015,
NEN-EN-ISO 13857, NEN-EN-349, EN 60204-1

Tilburg, The Netherlands, Friday 19 February 2016

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

J. Pieters
Managing Director

11.2 Sales Managers

EXPORT

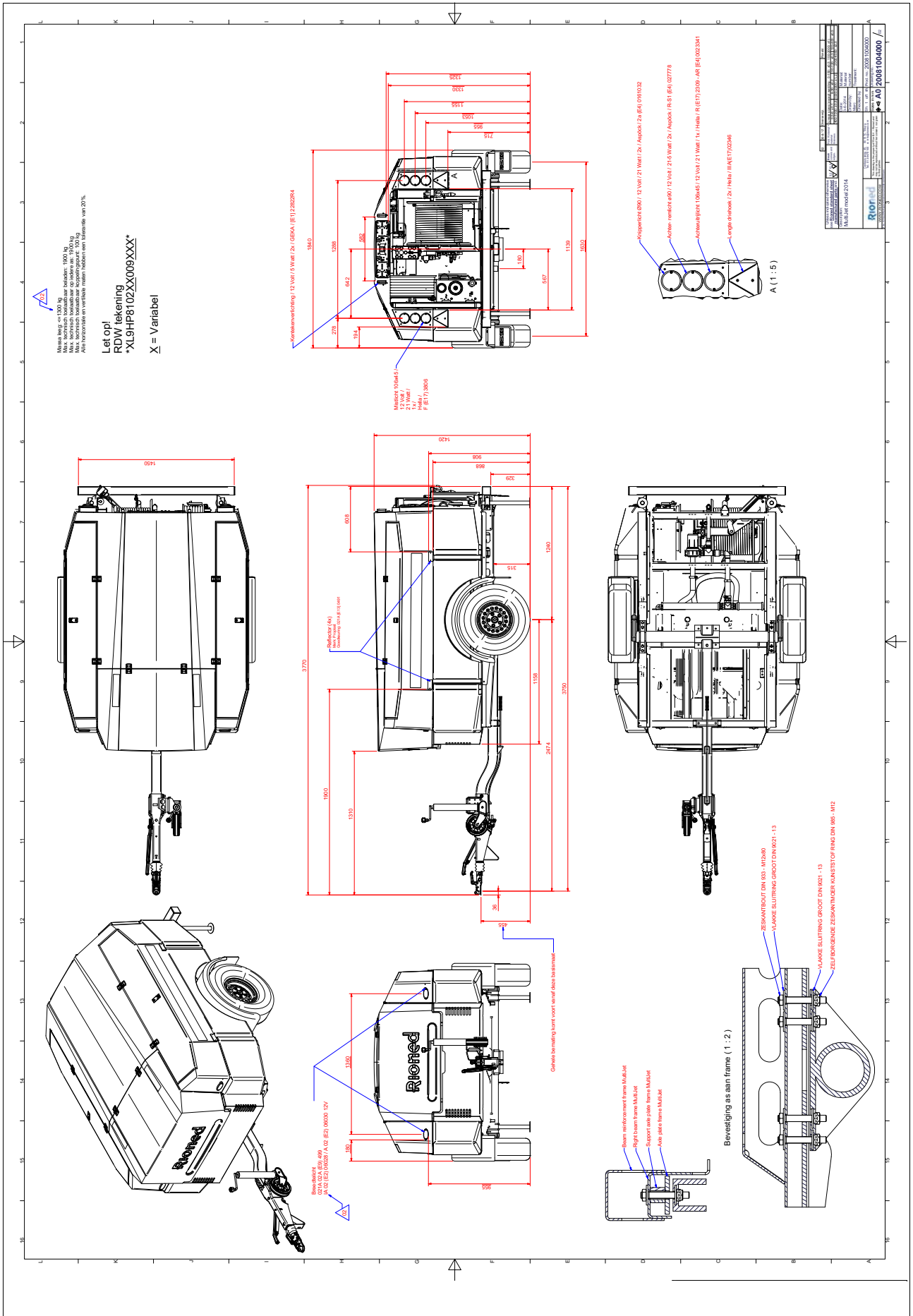
D.Maas
Area Sales Manager
Centaurusweg 45
5015 TC Tilburg
Tel.: +31 13-547 91 00
Fax: +31 13-547 91 04

REPAIR

THE NETHERLANDS

Rioned
Centaurusweg 45
5015 TC Tilburg
Tel.: +31 13-547 91 50
Fax: +31 13-547 91 04

11.3 Dimensions



11.4 Sound level report

Accoustic measurement high pressure jetting machine.



Date: 11-07-16
 Time: 09:15
 Measured by: Ronald Kurvers
 Test conditions: cloudy, 17.7°C
 Wind speed and direction: 6 m/s, South
 Air pressure: 1009 (hPa)
 Source: <http://www.kmi.nl/actueel/>, Station Gize Rijen

Measured according to EN ISO 3744:1995
 Measuring microphone: IM4280 Class 2 Serial number 4793 Calibration: 10 December 2014
 Measuring device: NTL XL2 Serial number A2A-08602-ED Calibration: 10 December 2014

NTL XL2 Sound Level Meter
 Standards
 IEC 61672, IEC 60651, IEC 60804
 China: GB/T 3785-2010, GB/T 3241, GB 3096-2008, GB 50526, GB-T_4959-1995
 Germany: DIN 15905-5, DIN 45645-2,
 Japan: JIS C1509-1:2005, JIS C 1513 class 1, JIS C 1514 class 0
 Switzerland: SLV
 UK: BS6698, BS5969
 US: ANSI S1.4, ANSI S1.43, ANSI S1.11-2004 class 1

Sound levels
 SPL actual, Lmin, Lmax, Lpeak, Leq, gliding Leq
 Frequency weighting: A, C, Z (=flat) simultaneously
 Time weighting: Fast, slow and optional impulse simultaneously
 Correction values K1, K2
 Limit monitoring showing exceeding sound levels
 Display: On/Off space for the control of external peripherals
 Spectrum Analyser
 1/3 octave, 1/1 octave
 Frequency weighting: A, C, Z (=flat)
 Time weighting: Fast, slow and optional impulse
 Logging to SD Card
 All levels simultaneously
 Short-time levels including spectrum for 1 second or longer
 Wave-file for listening (compressed)

Acoustic Analyser
 FFT Analysis
 RT60 Reverberation Time
 Polarity
 Delay

Audio Analyser
 Level RMS
 THD+N
 Frequency
 Scope
 Spectrum Analysis (1/3, 1/1 octave)
 FFT Analysis

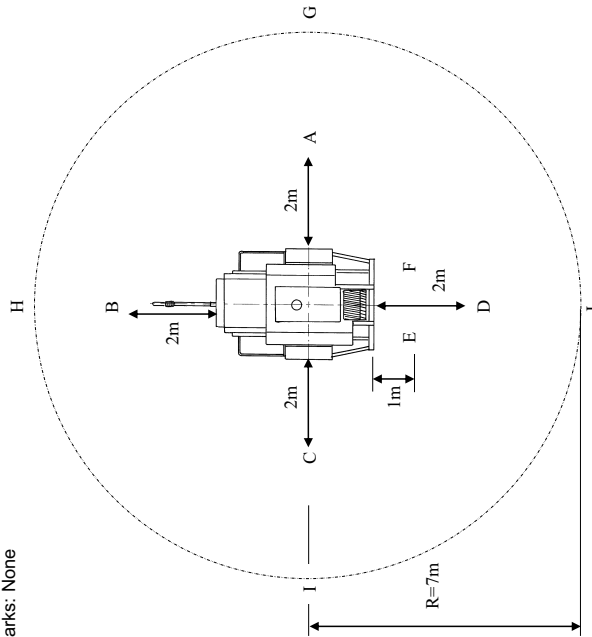
L _{if}	44.0 dB
L _{leq5"}	43.9 dB
L _{if max}	43.7 dB
L _{leq5"}	43.9 dB
L _{is}	44.6 dB

Measured machine: Multijet
 Engine: Kubota V1505T
 Pump: Speck P52
 Measurement position: All measurement positions are on average
 height, 1.6 m above the ground.
 Measurement is according to EN ISO 3744:1995
 Settings: Measure noise on screen LAeq5" (average sound in 5 seconds)

Measurement results:

Position	Description	Idle speed	Full speed
A	Right, at 2 m distance of the machine.	65.7	78.2
B	Front, at 2 m distance of the machine.	65.2	81.2
C	Links, at 2 m distance of the machine.	66.5	82.4
D	Back, at 2 m distance of the machine.	66.1	78.8
E	Control box, left.	70.0	84.5
F	Control box, right.	67.6	82.2
G	Right, at a radius of 7 m heart of the machine	60.3	76.6
H	Front, at a radius of 7 m heart of the machine	58.4	76.6
I	Left, at a radius of 7 m heart of the machine	59.4	76.2
J	Back, at a radius of 7 m heart of the machine	60.7	74.5

Remarks: None



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