

# Log splitter 8 tons

Artikel nr.: 12242

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## EN – Operating manual



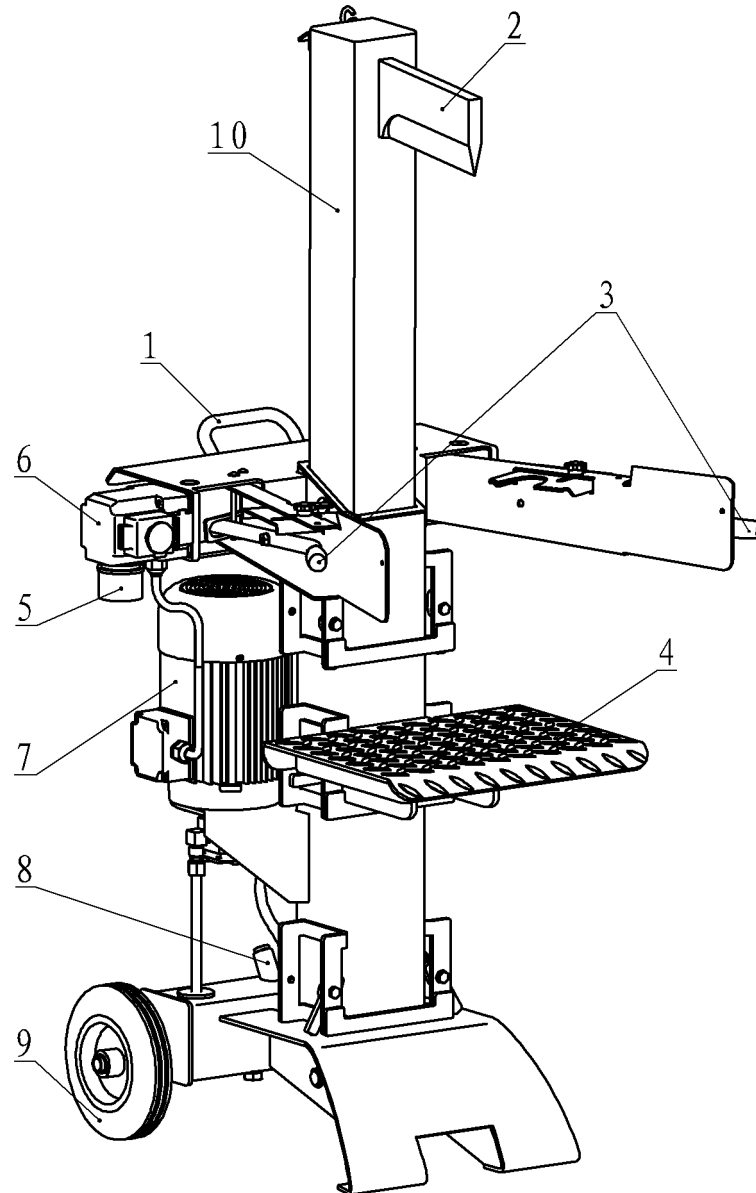
Dear Customer,

Congratulations on your new Trolla product. We hope you will enjoy it. Checkout with your new Trolla product may contain small parts, therefore save all packaging until the product is fully assembled. The product can be attached to the package be careful when unpacking the product is not damaged. Read the mounting instructions carefully before the product is assembled and put into service. We recommend that the bill be checked immediately on opening the package.

Carefully read the instruction manual before you use this machine, and save this instruction manual for future reference.



## 1. Machine overview



- 1. Transport handle
- 2. Splitting knife
- 3. Operating levers
- 4. Work table
- 5. Power connection

- 6. ON/OFF switch
- 7. Motor with hydraulic pump
- 8. Oil dipstick
- 9. Wheel set
- 10. Splitter center column

## 2. Please read first!

- Read these instructions before initial operation. Pay special attention to the safety instructions.
- If you notice transport damage while unpacking, notify your supplier immediately. Do not operate the machine!
- Dispose of the packing in an environmentally friendly manner. Take to a proper collecting point.
- Keep these instructions for reference on any issues you may be uncertain about.
- When you hire or sell the machine, have all documents supplied go with it.

## 3. Safety

### 3.1 Specified conditions of use

This machine is only intended for splitting firewood as detailed in these instructions. Any other use is not as specified. Unspecified use, modifications to the machine, or use of parts not tested and approved by the equipment manufacturer may cause unforeseeable damage! This machine is intended for operation by **ONE** person. Other persons shall keep a sufficient distance to the machine.

Observe the permissible dimensions of logs to be cut (see “Technical specifications”).

Do not overload machine – use it only within the performance range it was designed for (see “Technical specifications”)

### 3.2 General safety instructions

When using this machine, observe the following safety instructions to exclude the risk of personal injury or material damage.

Please also observe the special safety instructions in the respective chapters. Where applicable, follow the legal directives or regulations for the prevention of accidents pertaining to the use of log splitters.



#### **General hazards!**

- (1) Be alert. Know what you are doing. Be sure you are capable of doing this type of work. Do not operate machine while under this influence of drugs, alcohol or medication.
- (2) Keep your work area tidy.
  - A messy work area invites accidents. Regularly clear the work area of split wood.
  - Prevent adverse body positions. Ensure firm footing and keep your balance at all times.
  - Take all surrounding conditions into due account.
  - Ensure that there is sufficiently good lighting.

- Do not operate machine near inflammable liquids or gases.
- (3) This machine shall only be started and operated by a person familiar with log splitters and who is at all time aware of the dangers associated with the use of such a machine
- (4) Keep bystanders, particularly children, out of the danger zone. Persons under 18 years of age shall use this machine only in the course of their vocational training, under the supervision of an instructor.
- (5) Do not permit other persons to touch the machine or power cable while it is running.



**Danger! Risk of electric shock!**

To ensure that the machine remains weatherproof, before any use check to see that switch, power cable and plug are not damaged (no splits, cracks, etc.). Do not use the power cable for any purpose it is not intended for (power cable is not included with this machine).



**Risk of personal injury and crushing by moving parts!**

Do not operate the machine without installed guard.

Keep sufficient distance to driven components when operating the machine.

Ensure the machine is disconnected from power supply before servicing.

Ensure that when switching on (e.g. after servicing) no tools or loose parts are left on or in the machine.

Turn power off if the machine is not used.



**Hazard generated by modification of the machine or use of parts not tested and approved by the equipment manufacturer!**

Use only parts approved by the equipment manufacturer. This applies particularly to:

- Hydraulic lines (see "Spare parts list");
- Safety devices (see "Spare parts list").

Do not change any parts.



**Hazard generated by machine defects!**

Keep machine and accessories in good repair. Observe the maintenance instructions.

Each time before starting up the machine, check if for signs of possible damage. Before proceeding to use the machine, carefully inspect all safety equipment, safety systems, and any slightly damaged parts to ensure that these function trouble-free and as intended. Check to see that all moving parts work properly and do not jam. All parts must be correctly installed and meet all conditions necessary for the proper operations of the machine.

Damaged protection devices or parts must be repaired or replaced by a qualified specialist. Have damaged switches replaced by a service centre. Do not use this machine if the switch cannot be turned ON or OFF.

Keep handles free of oil, grease and resin.

### 3.3 Safety devices

#### Safety valve

The safety valve prevents motor damage caused by overload when the splitting knife is blocked or jammed. The safety valve is sealed and must never be tempered with. Do not attempt to adjust it.

#### No-voltage release

The no-voltage release feature prevents the machine from starting up when the power is restored after a power failure.

#### Two-hand operation

Two-hand operation ensures that the splitting knife travels downward only when both operating levers are simultaneously pressed down.

#### Protective hose sleeve

The hose sleeve prevents oil from spraying out from damaged hydraulic lines and causing injury.

### 3.4 Safety devices

#### Danger!

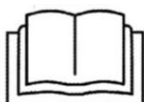


Disregard of the following warnings could lead to severe personal injury or material damage.



#### Caution!

Moving parts.



Read these instructions before initial operation.



Danger of personal injury. Body parts and clothing can be caught by moving parts.



When operating this splitter, do not place your hands under the splitting knife.



Protect your feet from falling pieces of wood.



Do not remove or disable safety devices.



Do not clean, service or adjust this machine during operation.



Risk of electric shock!



Wear protective gloves.



Wear non-slip safety shoes.



Wear hearing protection.



This machine is intended for operation by **ONE** person only.

### 3.5 Symbols used throughout these instructions



Danger!

Indicates risk of personal injury or severe material damage.



Risk of electric shock! Risk of personal injury by electric shock.



Caution!

Risk of material damage.



Advisory note:

Supplementary information.

## 4. Special product features

- Robust welded steel construction for maximum torsional stability.
- Two-hand control for safety operation.
- 6 tons of ram force.
- Wheel set for easy moving.

## 5. Transportation and installation

### 5.1 Machine installation



**Danger!**

**This machine shall only be operated at a location meeting the following conditions:**

- **level, non-slip ground**
  - **All four of the machine's legs must stand on firm, level ground**
1. Transport the machine of the pallet to a suitable location.
  2. Remove packing and enclosed parts.
  3. Lift machine off the pallet.

### 5.2 Power connection



**Danger! High voltage**

**Operate the machine only on a power source matching the following requirements (see also "Technical specifications"):**

- **Outlets with neutral wire, being properly installed, grounded and tested.**
- **Mains voltage and frequency must conform with the date stated on the**

machine's nameplate.

- Fuse protection by a residual current device (RCD) of 30 mA fault current sensitivity.
- System impedance  $Z_{max}$ . at the interconnection point (house service connection) 0.35 Ohm maximum.



#### Note

Check with your local Electricity Board or electrician if in doubt whether your house service connection meets these requirements.

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**Position power supply cable so it does not interfere with the work and is not damaged.**

**Protect power supply cable from heat, corrosive liquids and sharp edges.**

**Use only rubber-jacketed extension cords with sufficient wire gauge (see “Technical specifications”).**

**Do not pull on power supply cable to unplug.**

### 5.3 Initial operation



Keep clear of the moving splitting knife!

To ensure safe transport, the splitting knife is retained in the lowest position during shipping. There is a plastic tie retainer to tight the chain to make sure the splitting knife in the lowest position. When the transport retainer is removed and the machine is turned on, the splitting knife will automatically travel upward. During initial operation, be sure that there is about one meter of clearance available above the splitting knife.



**Changing the direction of rotation!**

**(ONLY FOR THREE PHASE MOTOR)**

Depending on the phase sequence, it is possible that the electric motor will turn in the wrong direction. If the electric motor turns in the wrong direction, the splitting wedge cannot be operated. If such case, the phase changer setting must be changed:

1. Install machine ready for work and connect it to the power supply.
2. To check for this condition, start the splitter (press the GREEN switch). If the splitting knife does not move, turn off the machine (press the RED switch).
3. Unplug the power cable at the splitter.
4. There is a direction button which can control the rotating direction of motor on the magnetic switch.



5. Turn the machine on again – The splitting knife will automatically travel upwards.

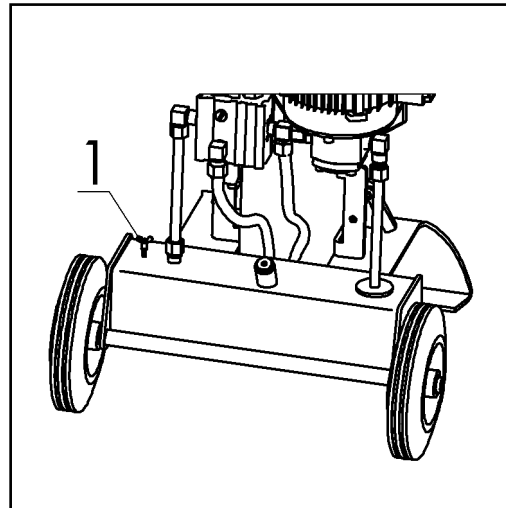
## 6. Operation



### Danger!

**Before any operation, please loosen the bleed screw (1) as the following step:**

1. There is a bleed screw (1) on the oil tank, during transportation, it is tightened in order to avoid the oil leakage.
2. Before operating the log splitter, the Bleed Screw (1), should be loosened by some rotations until air can go in and out of the oil tank smoothly.
3. Air flow thru the Bleed Screw hole should be detectable while the log splitter is under operations.
4. Before moving the log splitter, make sure the Bleed Screw is tightened to avoid oil leaking from this point.



**Please take note of the following safety information before operating the machine!**

**Also follow the safety instructions given at the beginning of this manual!**



### Hazard generated by machine defects!

Before starting any work, check to see that the following are in proper working order:

- Check the hydraulic lines for damage. Check for any leaking hydraulic oil. Check that the hydraulic line sleeves are in place.
- Check the operating levers for damage. Check that the operating levers move freely and fully back into their initial upper operating position.
- Power cable, power cable plug and switch (if damaged, have replaced by a qualified electrician).



### Hazard generated by insufficient personal protection gear!

- Wear suitable work clothing, providing protection against falling logs.
- Wear hearing protection.
- Wear safety glasses.
- Wear non-slip safety shoes.



**Risk of personal injury and crushing by moving parts!**

- Do not operate the machine without installed safety guards.

**When the splitter is turned on, the splitting knife immediately travels to the top of its travel automatically. Be sure that there is about 1 meter of clearance above the splitting knife.**

- Keep sufficient distance to driven components when operating the machine.
- Do not hold the log to be split directly with your hands. Use the claws on the operating levers only.
- Always operate the splitting wedge with both hands on the operating levers.
- Always assume a proper, safe work position:
  - at the front on the operator side
  - Directly in front of the splitter

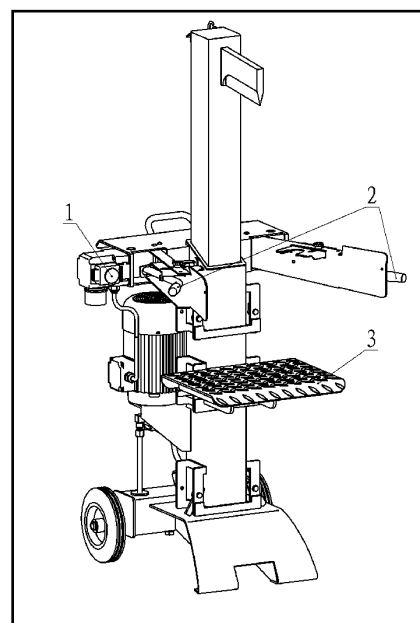


**Danger of injury due to unexpected, sudden movement of the log being split!**

- Only split one piece of wood at a time.
- Always position the log vertically on the support table.
- Always split a log lengthwise in the same direction as the wood fibers run.
- Logs with branch stubs can be very difficult to split (irregular cross-grain structure). If a log gets caught on the splitting wedge, turn the splitter OFF before attempting to free it. When removing a stuck log, do not reach into the area between it and the support table. After freeing the log, do not try to split it again at the same place. Try splitting it again in another place.

**6.1 Splitting**

1. Start the splitter (1) - by pressing the GREEN switch.
2. Place a log vertically on the support table (3).
3. Hold the log in place with the claws on the operating levers (2).
4. Move the operating levers (2) . Movement of the cleaver is controlled by means of the two operating levers (2). There are three possible actions:
  - Press both operating levers downward – The work cycle starts, and the splitting



knife moves downward to split the log.

- Press only one operating lever downward – The splitting knife stops.
- Release both operating levers – The splitting knife moves back upward to its start position.

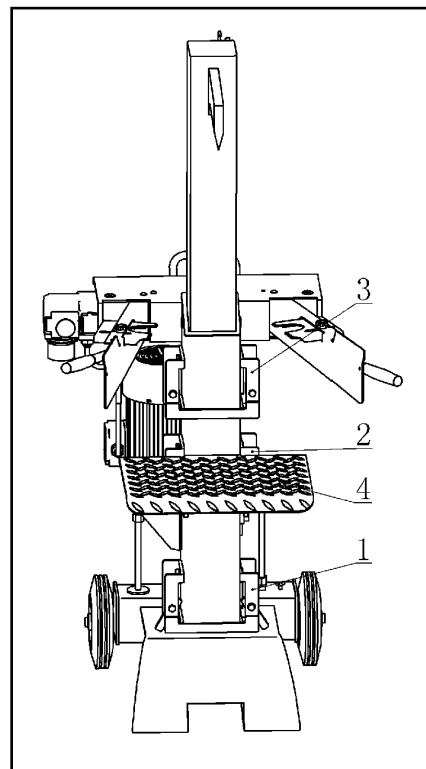
The splitting knife stops automatically in the upper or lower position (end of travel).

5. When the log is split, release both operating levers – The splitting knife then returns to its start position.
6. Remove the split pieces of wood, and place them off to the side and out of the immediate work area – Now you are ready to continue splitting.
7. If you do not intend to continue working immediately, turn off the splitter by pressing the RED switch.

## 6.2 Changing the position of the support table

In addition to the height options provided by the three pivoting support tables (4), you can put the support table (4) in the three different positions for different length of logs, and the different maximum length of log as the following:

1. Support table on position 1: 1040mm
2. Support table on position 2: 770mm
3. Support table on position 3: 520mm



## 7. Care and maintenance



**Danger!**

**Prior to all servicing:**

- **Switch machine OFF.**
- **Unplug power cable.**

**DANGER! Directly after stopping the splitter, the hydraulic oil and hydraulic system parts may be hot! Let the splitter cool down before any servicing.**

**Avoid direct skin contact with hydraulic oil. Wear protection gloves.**

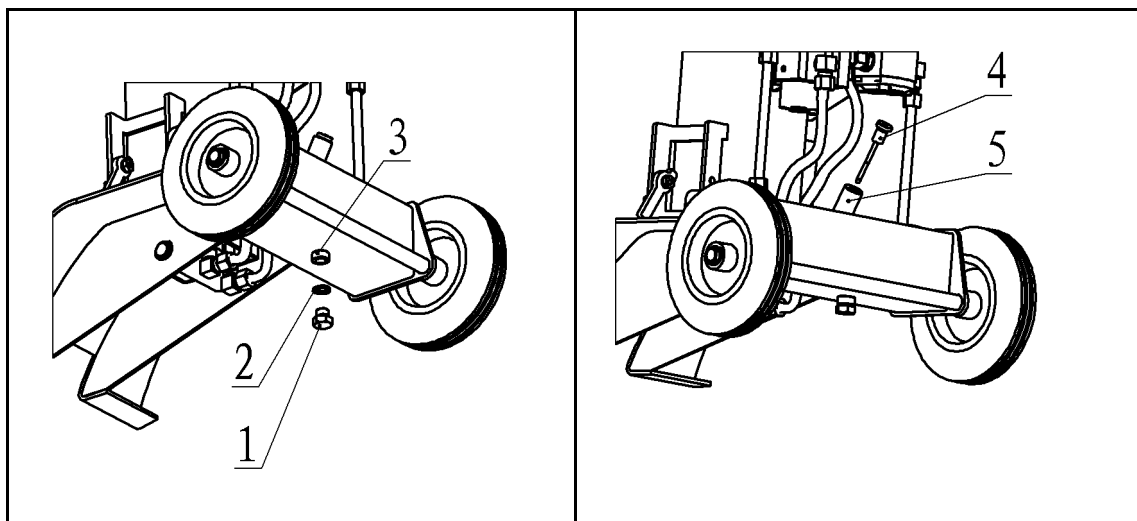
**Dispose of hydraulic oil in an environmentally friendly manner at a proper waste oil collection point.**

**When topping up or changing the hydraulic oil, be sure to use only approved types of oil (see “Technical Specifications”).**

- Replace damaged parts, especially safety devices, only with genuine replacement parts since parts not tested and approved by the equipment manufacturer can cause unforeseeable damage.
- Repair and maintenance work other than described in this section should only be carried out by qualified specialists.
- Check that all safety devices are operational again after each service.

### **7.1 Changing the hydraulics fluid**

1. Move the splitting knife all the way down, and turn off the splitter.
2. Before starting, place a suitable collecting container in position underneath the draining bolt. This container must have a capacity of at least 7 liters.
3. Undo and remove the draining bolt (1) and all the oil to drain completely.
4. Refit the draining bolt (1) together with the seal (2) and tighten.
5. Unscrew the dipstick (4) and fill the reservoir with hydraulic oil.
6. Checking the oil level. With the splitter column retracted the oil level must be between the upper and lower marks.
7. Screw the dipstick back (4) in and tighten it.

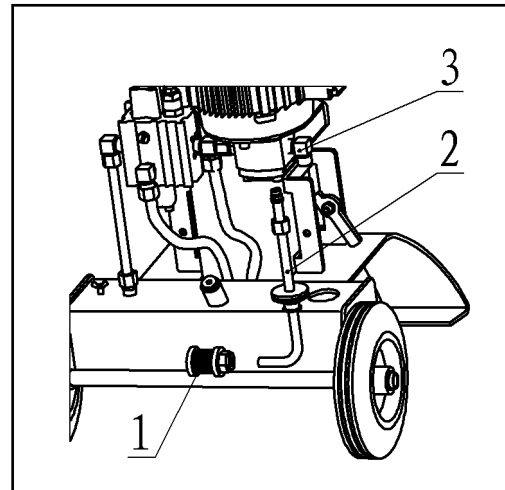


### **7.2 Clean the oil filter**

1. Undo the nut on the oil hose (2) and take the oil hose (2) from the pump (3), and take the oil hose from the oil tank, at the end of oil hose, there is a oil filter (1).
2. Then take the oil filter out, and clean it in a suitable petroleum-based solvent such as kerosene (Be sure to thoroughly remove traces of the solvent from the filter

before reinstalling it).

3. Screw the oil filter back into the oil suction line fitting.
4. Repeat the action as the first step, and tighten the nut into the pump.



### 7.3 Machine storage

1. Lower the splitter column fully, and with it in this position, turn off the splitter.
2. When not in use, store the splitter so that it cannot be started by unauthorized persons.



#### Caution!

**Do not store the splitter unprotected outdoors or in a damp environment.**

### 7.4 Maintenance

#### Before each use

Check the ON/OFF switch and the two-hand controls for proper function.

Check the hydraulic hoses for damage (cuts, chafing and kinks).

Check the lubrication system for leaks.

#### After the first hour of operation

Clean the oil filter.

#### Every 50 hours of operation

Clean off all moving/articulated parts (joints, hinges and splitter column guides) with suitable cloths and then lightly re-oil them.

Checking the oil level. With the splitter column retracted the oil level must be between the upper and lower marks.

#### Every 200 hours of operation

Clean the oil filter.

#### Every 1000 hours of operation

Replace the hydraulic oil.

## 8. Repairs



**Danger!**

**Repairs to electric tools must be carried out by qualified electricians only!**

Electric tools in need of repair can be sent to the service center of your local dealer.

## 9. Trouble shooting



**Danger!**

**Before carrying out any repair service of maintenance work, always:**

- **Switch machine OFF**
- **Unplug power cable**

**Check that all safety devices are operational again after each fault service.**

### **Motor does not run**

No Supply voltage:

- Check cable, plug, outlet and mains fuse.

Mains voltage too low:

- Use power cable of sufficient wire gauge (see "Technical specifications").

No-voltage release solenoid tripped by temporary power failure:

- Switch on again.

### **Motor runs, but the splitting knife does not move**

- Check the direction of rotation.

### **Low splitting force (ram force)**

Splitter column guides are dirty:

- Clean the guides.

## 10. Technical specifications

|   |   |                   |                 |
|---|---|-------------------|-----------------|
| Electrical data   | Voltage   | V~                | 230V~           |
|   | Frequency   | Hz                | 50 Hz           |
|   | Protection class  |                   | IP54            |
| <b>Attention!</b>   | Through poor conditions of the electrical MAINS, shortly voltage drops can appear when starting the EQUIPMENT. This can influence other equipment (eg. Blinking of a lamp). If the MAINS-IMPEDANCE $Z_{max} < 0.426 \text{ OHM}$ , such disturbances are not expected. (In case of need, you may contact your local supply authority for further information) |                   |                 |
| Motor   | Power input   | kW                | 2.2 kW          |
|   | No-load speed   | Min <sup>-1</sup> | 2950            |
| Splitting wedge   | Maximum length of travel  | mm                | 480             |
|   | Splitting force   | t                 | 10              |
| Dimensions of logs to be cut  |   |                   |                 |
|   | Maximum diameter  | mm                | 320             |
|   | Minimum diameter  | mm                | 100             |
|   | Length  | mm                | 550             |
| Filling capacity/Hydraulic oil  |   | L                 | 4               |
| Recommended hydraulic oil   |   |                   | ARAL Vitam GF22 |
| Machine weight  |   | kg                | 99              |
| L <sub>pa</sub> (sound pressure level)  |   | dB(A)             |                 |
| L <sub>wa</sub> (sound power level)   |   | dB(A)             |                 |
| <p>* The values stated here only indicate the loudness emitted by this machine. Whether the operator is required to wear hearing protection can not be determined here. This depends on how much noise reaches the ear of the operator. And this, among other things, depends on the existing ambient conditions (such as other sources of noise near by). Even though it may not be explicitly required, it is in your own interest to always wear hearing protection when operating this machine.</p> |   |                   |                 |

# Parts List

| No. | Part code      | Description          | Q'ty | Material | Remark |
|-----|----------------|----------------------|------|----------|--------|
| 1   | GB/T70.1-2000  | Bolt                 | 2    |          |        |
| 2   |                | Controlling pivot    | 1    | Q235A    |        |
| 3   | GB/T845-1985   | Screw                | 1    |          |        |
| 4   |                | Aluminum end (A)     | 1    | YL102    |        |
| 5   | GB/T889.1-2000 | Locking nut          | 5    |          |        |
| 6   |                | Sliding valve        | 1    | 45       |        |
| 7   | GB/T3452.1-92  | O shape sealing ring | 3    |          |        |
| 8   |                | Valve body           | 1    | 45       |        |
| 9   | GB/T3452.1-92  | O shape sealing ring | 6    |          |        |
| 10  |                | Adaptor              | 4    | 35       |        |
| 11  |                | Nylon pipe           | 1    |          |        |
| 12  | GB/T894.1-86   | Retaining ring       | 4    |          |        |
| 13  |                | Rolling wheel        | 2    |          |        |
| 14  |                | Shaft for wheel      | 1    | Q235A    |        |
| 15  |                | Steel pipe           | 1    |          |        |
| 16  | GB/T70.1-2000  | Screw                | 2    |          |        |
| 17  |                | Aluminum end (B)     | 1    | YL102    |        |
| 18  |                | Position spring      | 1    | 65Mn     |        |
| 19  | GB/T70.1-2000  | Screw                | 2    |          |        |
| 20  |                | Spring holder        | 1    | Q235A    |        |
| 21  |                | Screw                | 1    |          |        |
| 22  | JB982-1977     | Combined washer      | 1    |          |        |
| 23  | GB/T77-2000    | Locking screw        | 9    |          |        |
| 24  |                | Oil pump             | 1    | LF2      |        |
| 25  | GB/T3452.1-92  | O shape sealing ring | 1    |          |        |
| 26  | GB/T3452.1-92  | O shape sealing ring | 1    |          |        |
| 27  |                | Sealing ring         | 1    |          |        |
| 28  |                | Valve holder         | 1    | Q235A    |        |
| 29  |                | Valve center         | 1    | 45       |        |
| 30  |                | Adjusting spring     | 1    | 65Mn     |        |
| 31  | GB/T3452.1-92  | O shape sealing ring | 1    |          |        |
| 32  |                | Sliding block        | 1    | Q235A    |        |
| 33  |                | Valve cover          | 1    | Q235A    |        |
| 34  | GB/T6170-2000  | Nut                  | 3    |          |        |
| 35  |                | Screw                | 1    | Q235A    |        |



| No | Part code      | Description          | Q'ty | Material | Remark |
|----|----------------|----------------------|------|----------|--------|
| 36 | GB/T70.1-2000  | Screw                | 1    |          |        |
| 37 | GB/T93-1987    | Elastic washer       | 5    |          |        |
| 38 |                | Adjusting block      | 1    | Q235A    |        |
| 39 |                | Connecting rod       | 1    |          |        |
| 40 | GB/T889.1-2000 | Locking nut          | 2    |          |        |
| 41 | GB/T70.1-2000  | Screw                | 1    |          |        |
| 42 |                | Chain                | 1    |          |        |
| 43 | GB/T97.1-2002  | Flat washer          | 2    |          |        |
| 44 |                | Hook for chain       | 1    | Q235A    |        |
| 45 | GB/T6170-2000  | Nut                  | 1    |          |        |
| 46 |                | Upper cover          | 1    | ABS      |        |
| 47 | GB/T889.1-2000 | Locking nut          | 9    |          |        |
| 48 |                | Plate for chain      | 1    | Q235A    |        |
| 49 | GB/T70.1-2000  | Screw                | 7    |          |        |
| 50 |                | Wedge body           | 1    |          |        |
| 51 |                | Pad                  | 4    | PA6      |        |
| 52 | GB/T6170-2000  | Nut                  | 1    |          |        |
| 53 |                | Connecting plate     | 1    | Q235A    |        |
| 54 | GB/T5781-2000  | Bolt                 | 1    |          |        |
| 55 |                | Rubber ring          | 1    |          |        |
| 56 |                | Carrying handle      | 1    |          |        |
| 57 | GB/T97.1-2002  | Flat washer          | 2    |          |        |
| 58 | GB/T70.1-2000  | Screw                | 2    |          |        |
| 59 | GB/T97.1-2002  | Flat washer          | 2    |          |        |
| 60 | GB/T70.1-2000  | Screw                | 1    |          |        |
| 61 |                | Oil stick            | 1    | Q235A    |        |
| 62 |                | Air screw            | 1    | Q235A    |        |
| 63 | GB/T3452.1-92  | O shape sealing ring | 1    |          |        |
| 64 | GB/T3452.1-92  | O shape sealing ring | 1    |          |        |
| 65 |                | Screw                | 1    | Q235A    |        |
| 66 | JB982-1977     | Combined washer      | 1    |          |        |
| 67 | JB982-1977     | Combined washer      | 1    |          |        |
| 68 |                | Connecting adaptor   | 1    | 35       |        |
| 69 |                | Nut                  | 2    | Q235A    |        |
| 70 |                | Tri-way pipe         | 1    | 35       |        |

| No  | Part code      | Description          | Q'ty | Material | Remark |
|-----|----------------|----------------------|------|----------|--------|
| 71  |                | Clip tube            | 2    | Q235A    |        |
| 72  | GB/T5781-2000  | Bolt                 | 6    |          |        |
| 73  |                | Position block       | 6    | Q235A    |        |
| 74  |                | Machine frame        | 1    |          |        |
| 75  |                | Insert               | 2    | PP       |        |
| 76  |                | Plastic protection\  | 1    | PA6      |        |
| 77  | GB/T12-1988    | Coach bolt           | 4    |          |        |
| 78  | GB/T5781-2000  | Bolt                 | 2    |          |        |
| 79  |                | Left (right) guard   | 1    | Q235A    |        |
| 80  |                | Knob                 | 2    |          |        |
| 81  |                | Left (right) guard   | 2    | Q235A    |        |
| 82  | GB/T12-1988    | Coach bolt           | 2    |          |        |
| 83  |                | Controlling handle   | 2    | Q235A    |        |
| 84  |                | Knob                 | 2    |          |        |
| 85  |                | Work table           | 1    |          |        |
| 86  | GB/T845-1985   | Screw                | 2    |          |        |
| 87  |                | Motor                | 1    |          |        |
| 88  | GB/T3452.1-92  | O shape sealing ring | 1    |          |        |
| 89  |                | Gear pump            | 1    |          |        |
| 90  | GB/T70.1-2000  | Screw                | 2    |          |        |
| 91  | GB/T70.1-2000  | Screw                | 2    |          |        |
| 92  |                | Sealing connection   | 1    |          |        |
| 93  |                | Steel pipe           | 1    |          |        |
| 94  |                | Oil pipe             | 1    | Q235A    |        |
| 95  |                | Oil filter           | 1    |          |        |
| 96  |                | Oil filter adaptor   | 1    | Q235A    |        |
| 97  |                | Cylinder assembly    | 1    |          |        |
| 98  |                | Pin                  | 1    | Q235A    |        |
| 99  | GB/T889.1-2000 | Locking nut          | 1    |          |        |
| 100 | GB/T12949-91   | Sliding ring         | 1    |          |        |
| 101 | GB/T3452.1-92  | O shape sealing ring | 1    |          |        |
| 102 |                | Piston               |      | HT300    |        |
| 103 |                | Tube                 | 1    | Q235A    |        |
| 104 |                | Guide tube           | 1    | HT200    |        |
| 105 | GB/T3452.1-92  | O shape sealing ring | 1    |          |        |

| No  | Part code      | Description            | Q'ty | Material | Remark |
|-----|----------------|------------------------|------|----------|--------|
| 106 |                | O shape retaining ring | 1    |          |        |
| 107 | GB/T8959.1-86  | Steel retaining ring   | 1    | Q235A    |        |
| 108 | GB/T3452.1-92  | O shape sealing ring   | 1    |          |        |
| 109 |                | Y shape sealing ring   | 1    |          |        |
| 110 | GB/T10708.3-89 | Dustproof ring         | 1    |          |        |
| 111 | GB/T894.1-86   | Retaining ring         | 1    |          |        |
| 112 |                | Cylinder assembly      | 1    |          |        |
| 113 | GB/T889.1-2000 | Locking nut            | 1    |          |        |
| 114 | GB/T70.1-2000  | Screw                  | 1    |          |        |

