



MASALTA®



INSTRUCTION MANUAL SUBMERSIBLE PUMP (FLEXIBLE SHAFT PUMP) MSP SERIES



WARNING



To reduce the risk of injury, all operators and maintenance personnel must read and understand these instructions before operating, changing accessories, or performing maintenance on Masalta power equipment. All possible situations cannot be covered in these instructions. Care must be exercised by everyone using, Maintaining or working near this equipment.

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SAFETY INSTRUCTIONS

For your own personal protection and for the safety of those around you, please read and ensure you fully understand the following safety information. It is the responsibility of the operator to ensure that he/she fully understands how to operate this equipment safely. If you are unsure about the safe and correct use of our MSP, consult your supervisor.



CAUTION: Improper maintenance can be hazardous. Read and Understand this section before you perform any maintenance, service or repairs.

- Ensure, that all symbols on the machine, can always be clearly read.
- Do not leave any tools or parts lying around on the work floor, as this can cause accidents.
- Stationary power units and drives must have a distance of at least one metre from equipment, buildings or other units.
- Protect the unit against rain, snow or any other forms of moisture. This could cause damage or malfunctions.
- Only operate the unit on a dry surface. If water accumulates under the unit, you must switch off the unit and let it dry properly.
- When cleaning the machine, ensure that no water or cleaning detergents get into the engine.
- When the machine is not being used for longer periods of time, then it must be stored in a dry and clean area.
- Make sure that the flexible shaft is not bent too severely and does not run over sharp edges. Otherwise move the hose protection to the kink for protection.
- Open flames and smoking are strictly prohibited in the immediate vicinity of the unit.
- Make sure that waste, such as paper, dry leaves or grass do not accumulate around the exhaust muffler. They can easily ignite.
- Pay attention to your own safety and the safety of your colleagues.
- Regular maintenance of the machine promotes safe operation.

The following safety-aspects specifically apply to those machines equipped with a petrol engine:

- Do not use an MSP, fitted with a petrol engine, indoors or in poorly ventilated places, such as pits etc. Make sure that there is sufficient ventilation in spaces which are surrounded by walls. Do not inhale exhaust fumes. They contain toxic carbon monoxide that can lead to unconsciousness or death.
- Prior to starting the engine, the flexible shaft must be disconnected from the drive unit.

- Do not change the preset engine speed. This could cause engine damage.
- Check for fuel leaks before running the machine.
- Do wear working-gloves, safety glasses and protecting clothing during refueling.
- Make sure that there is sufficient ventilation during refueling.
- Refueling is only allowed after the engine has been cooled off sufficiently.
- Refueling, while the engine is hot, might lead to a very dangerous situation. It is strictly forbidden to refuel:
 - In the direct vicinity of open fire or other flammable materials,
 - While smoking cigarettes etc.
 - In explosion endangered spaces.

HEALTH & SAFETY

Working Area

KEEP your working area clean and well lit. Cluttered benches and dark areas invite accidents.

DO NOT OPERATE the equipment in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.

KEEP AWAY from standers, children, and visitors while operating a power tool. Distractions can cause to loose control.

Specific Safety Rules

For your own safety, as well as for the others one, and in order not to cause any damage to this equipment, please read carefully the instructions that are explained as follows:

- 1.- For the proper use of this device, please assure that the operator has been correctly informed of the content of this manual before using it.
- 2.- This equipment must be used only under the applications for which it has been designed and only according to these safety instructions.
- 3.- Do not touch any hot parts such as the engine block or exhaust muffler during operation or directly afterwards. These parts can become very hot and cause severe burns.
- 4.- Do not work in an area exposed to flammable liquids or gases.
- 5.- Do not allow inexperienced or not trained personnel to use the equipment alone.
- 6.- Always keep the operating controls dry, clean and free of oil or grease.
- 7.- When working with a petrol engine:
 - Read the engine manufacturer's manual before working.
 - Do not work in closed rooms, the exhaust fumes may be toxic.
 - Wait 2 minutes for the petrol refill until the motor gets cold.

PPE (Personal Protective Equipment).

Suitable PPE must be worn when using this equipment i.e. Hardhat, Safety Goggles, Ear Defenders, Work gloves and Non-skid, hard-toed shoes. Clothing should be appropriate, i.e. should be close-fitting but not restrict your movement. Wear personal protective gear can avoid injuries or health hazards:

TRANSPORTATION

Switching off the unit

Before you transport the unit, it must be switched off, and the engine must be given sufficient time to cool down.

Lifting

When lifting the unit, observe the following instructions:

- Designate a skilled person to guide you for the lifting procedure.
- You must be able to see or hear this person.
- Use only suitable and certified hoisting gear, lifting tackle and load-bearing equipment with sufficient lifting capacities.
- Only use the attachment points described in the operation manual.
- Attach the unit securely to the hoisting gear.
- Ensure that no one is nearby prior to lifting the unit.
- Do not climb onto the unit.
- Make sure that no one walks under or stands beneath the suspended unit.
- Remove (loose) components before lifting.

Loading

Loading ramps must be able to bear the load and be in a stable position.

Make sure that no one can be endangered if the unit slips away or tips over or if parts suddenly move upward or downward.

Put the operating controls and moving parts in their transport position.

Secure the unit with load-securing straps so that it cannot roll or slide away or tip over. Only use the attachment points described in the operation manual.

Transport vehicle

Use only suitable transport vehicles with sufficient load-carrying capacities.

Restarting

Parts, accessories or tools that have been detached for transport purposes must be carefully re-mounted and fastened before you restart the unit.

When you restart the unit, only proceed as described in the operation manual.

LABELS

Your unit has adhesive labels containing the most important instructions and safety information.

- Make sure that all the labels are kept legible.
- Replace any missing or illegible labels.

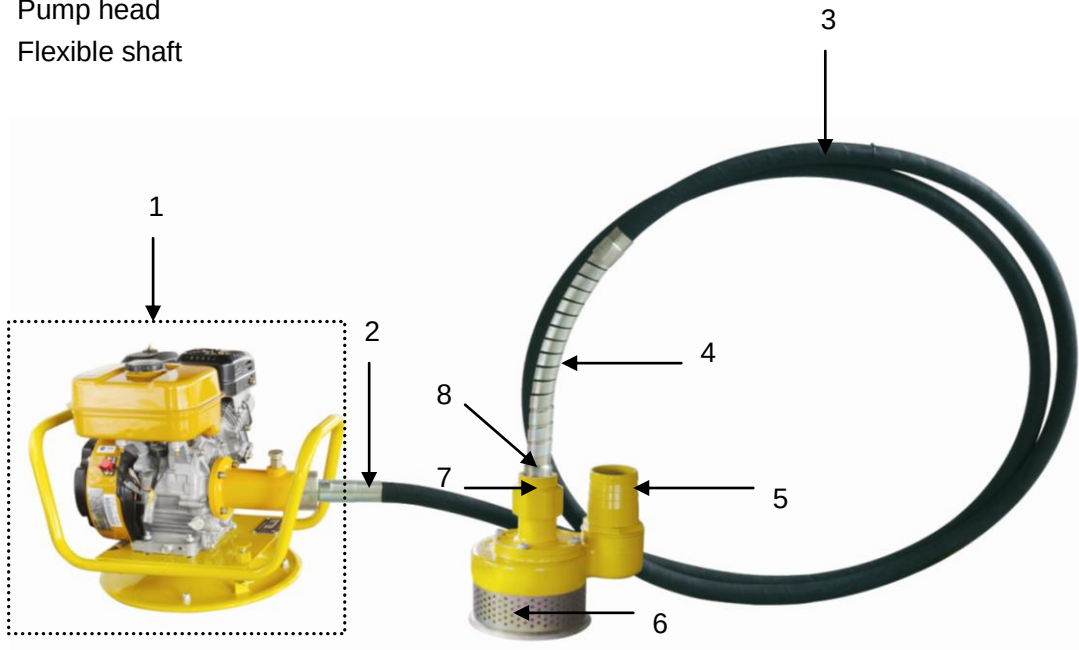


Label	Meaning
	DANGER! Engines emit carbon monoxide; operate only in well-ventilated area. Read the Operation Manual for machine information. No sparks, flames, or burning objects near the machine. Shut off the engine before refueling. Use only clean, filtered unleaded gasoline.
	WARNING! Hot surface!
	CAUTION! Read and understand the supplied Operation Manual before operating the machine. Failure to do so increase the risk of injury to yourself or others.

FUNCTIONAL DESCRIPTION

The submersible pump consists of the components

- Drive unit
- Pump head
- Flexible shaft



Item	Description	Item	Description
1	Drive Unit MVDR	5	Pressure Connection
2	Connection to Drive Unit	6	Suction Strainer
3	Flexible Shaft	7	Flexible Shaft Connection
4	Spring protection	8	Connection to Pump Head

Optional Drive Unit --- MVDS & MVE

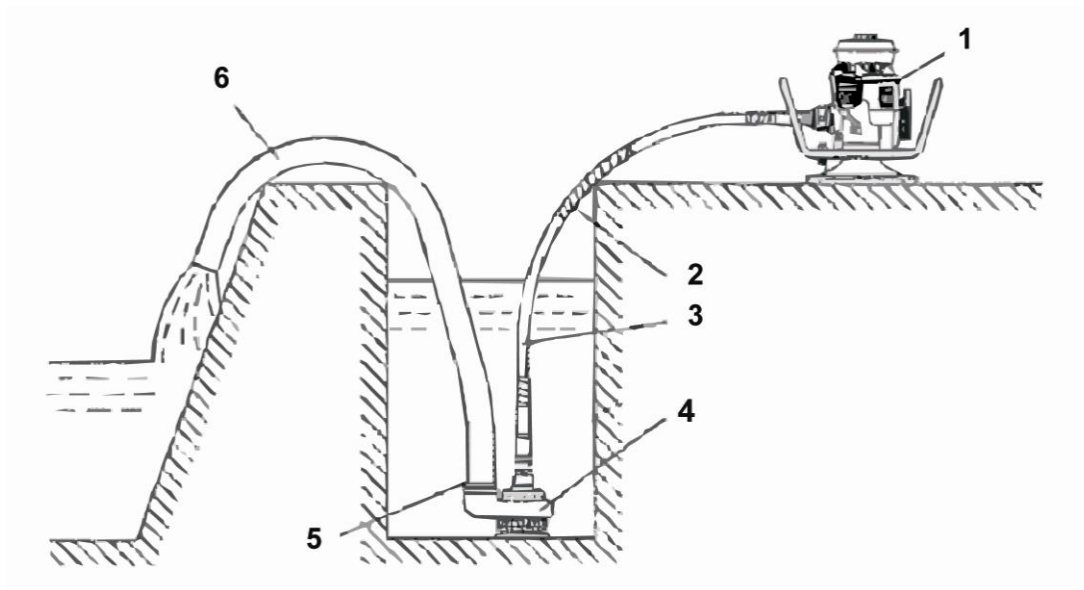


MVDS



MVE

Functionality (schematic diagram)



Item	Description	Item	Description
1	Drive	4	Pump Head
2	Hose protection	5	Hose Clamp (optional)
3	Protective hose with flexibleshaft	6	Pressure hose (optional)

The drive drives the pump head by means of a flexible shaft.
The pump head sucks water through the suction strainer and pumps it through the pressure hose.

OPERATION



WARNING

Read and follow all the safety instructions at the beginning of this operation manual. Improper use can result in injury or serious material damage.

Submersible pump connections

Make sure that all components are connected firmly:

- Flexible shaft to drive unit.
- Flexible shaft to pump.
- Pressure hose to pump.
- Otherwise this could result in damage to or malfunction of the submersible pump.

Checking before starting

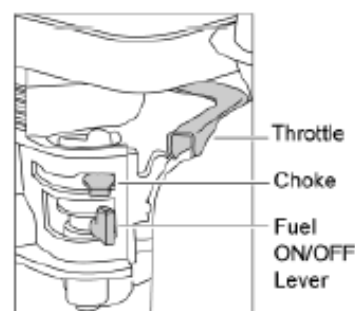
Before you start the engine, check the following:

- Fuel level – the tank should be at least half full.
- Oil level – the oil level must be between the lower and upper marks.
- Air filter – replace any damaged parts.

Starting up

Prior to operating the submersible pump, the drive engine should have the correct operating temperature (warm up for 2-3 minutes). Then switch the engine back off again.

- Open the fuel tap by moving the fuel ON/OFF lever fully to the right.
- If starting the engine from cold, set the choke ON by moving the choke lever fully to the left. If restarting a warm engine, the choke is usually not required. However, if the engine has cooled to a degree, partial choke may be required.
- Turn the engine ON/OFF switch clockwise to the “1” position.
- Set the throttle to the idle position by moving the throttle lever fully to the right.
- Do not start the engine on full throttle, as the compactor will vibrate as soon as the engine starts.
- Taking a firm hold of the control handle with one hand, grasp the recoil starter handle with the other. Pull the recoil starter until engine resistance is felt, then let starter return.
- Taking care not to pull the starter’s rope fully out, pull the starter handle briskly.
- Repeat until the engine fires.
- Once the engine fires gradually, set the choke lever to the OFF position by moving it to the right.



To stop

Set the throttle to idle and turn the engine ON /OFF switch anticlockwise to the “0” position to stop the engine. Then turn the fuel off.

SERVICE & MAINTENANCE

Maintenance and repair work must be carried out only to the extent described in this manual. Before carrying out maintenance or repair work, switch off the engine and allow it to cool down. For petrol-powered engines, you must pull off the spark plug connector.

Cleaning

Always keep the unit clean and be sure to clean it each time you have finished using it. Clean the engine cooling fins when the engine has cooled down. Do not use gasoline or solvents. Danger of explosion!

- The air filter element should be cleaned because a clogged air cleaner can cause poor engine starting, lack of power and shorten engine life substantially.
- To clean or replace air filter loosen the wing nut on the air filter housing (Figure 1), remove the cover and take out air filter cartridge. If only cleaning of the air filter is desired blow through the air filter cartridge from the inside, moving a jet of dry compressed air up and down until all dust is removed.

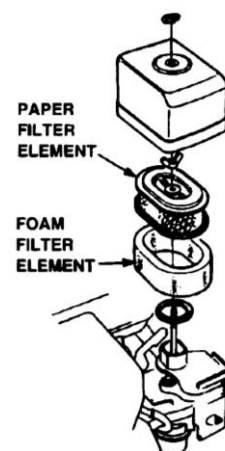


Figure 1 Air Filter

Maintenance schedule

	Daily before operation	After the first 20 hours	Weekly or every 25 hours	Monthly or every 100 hours	Annually or every 300 hours
Check the fuel: - fuel level of tank - tank for leaks - lines for leaks	●				
Check the oil level of the drive	●				
Check the pump head: - for loose parts - housing, impeller, main shaft and oil seal for wear and cracks	●				
Check the flexible shaft: - the coupling for wear - the protective hose for wear and cracks - grease must be free of dirt and metal chips	●				
It must be possible to easily turn the main shafts of pump head, flexible shaft and connections to the drive	●				
Check the pressure hose for wear and cracks	●				
Check the unit for abnormal operating noise	●				
Clean air filter			●		
Change the engine oil		●		●	
Clean fuel filter				●	
Check and clean the spark plug				●	
Replace the spark plug					●
Grease the flexible shaft					●

Have worn or damaged components replaced immediately!



Malfunction of the oil seal in the pump!
Water could penetrate the engine via the flexible shaft.
Stop the engine immediately and eliminate the problem.

TECHNICAL DATA

Drive Unit

Model	MVDR-1 MVDS-1	MVDR-3 MVDS-3	MVDR-4 MVDS-4	MVE
Engine Type	Diesel, 170	Petrol, Robin EX17	Petrol, Honda GX160	Electric Motor
Power kw	3.1	4.2	4.0	1.1/1.5
Weight kg (lb)	31 (68)	21 (46)	21 (46)	

Pump Head with Flexible Shaft

Model	MSP2	MSP3
Discharge Dia mm (in)	50 (2)	75 (3)
Max. Lift m	15	18
Max. Capacity L/min	1000	1300
Revolution rpm	3000-3600	
Length of Hose m	*5	
Weight kg (lb)	21 (46)	22 (49)

* Our standard length of flexible hose for the pump is 5m, 4m-9m length is available.

TROUBLESHOOTING

Drive

Malfunction	Cause	Remedy
No delivery	Connection damaged	Have the part replaced
Engine does not start	Fuel tank empty	Top up with fuel
	Fuel tap closed	Open the fuel tap
	Oil level "too low" because the drive is leaning (automatic oil shut off)	Position the drive horizontally
	Oil level too low (automatic oil shut off)	Top up with engine oil
	Spark plug	Clean, set electrode gap, or replace
Engine does not turn	Engine damage	Repair engine or have it replaced
Engine not running smoothly	Air filter dirty	Clean air filter
	Spark plug	Clean, set electrode gap, or replace

Pump head

Malfunction	Cause	Remedy
Abnormal noises	Grease used up	Replace grease
	Ball bearing defective	Have the ball bearing replaced
	Flexible shaft damaged	Replace the flexible shaft
	Protective hose damaged	Replace the protective hose
Low delivery volume	Pump housing, impeller, main shaft or oil seal damaged or worn	Have the part replaced
	Pump housing or pressure hose blocked	Clean the component thoroughly
	Pressure hose damaged or disconnected	Have pressure hose replaced or repaired
	Flexible shaft coupling damaged	Replace the flexible shaft
No delivery, but rotation sound can be heard	Pressure hose disconnected	Have pressure hose replaced or repaired
	Impeller, housing, drive shaft or oil seal damaged	Have the part replaced
	Housing or pressure hose blocked	Clean the component thoroughly
	Ball bearing defective	Have the ball bearing replaced
No delivery, no rotation sound to be heard	Flexible shaft broken	Replace the flexible shaft

WARRANTY

These products are covered by warranty for a period of six (6) months from the date of purchase against defects in material or workmanship provided that:

- The product concerned has been operated and maintained in accordance with the operating instructions.
- Has not been damaged by accident, misuse or abuse.
- Has not been tampered with or repaired by any unauthorized person.

The owner is responsible for the cost of transportation to and from the authorized repairer and the unit is at the owners risk while in transit to and from the repairer.

**Impact damage is not covered under warranty. Clutches are not covered under any warranty.
Engines are warranted by their manufacturer.**

MAINTENANCE RECORD

Preventative Maintenance and Routine Service Plan

This Vibrating Screed has been assembled with care and will provide years of service. Preventative maintenance and routine service are essential to the long life of your Vibrating Screed. After reading through this manual thoroughly, you will find that you can do some of the regular maintenance yourself. However, when in need of parts or major service, be sure to see your dealer. For your convenience we have provided this space to record relevant data about your Vibrating Screed.

Invoice Number:		Type of Machine:	
Date Purchased:		Dealer Name:	
Serial Number:		Dealer Phone:	

[illegible]

**EC DECLARATION OF CONFORMITY
CE-KONFORMITÄTSSERKLÄRUNG
DECLARACIÓN DE CONFORMIDAD DE LA CE
DÉCLARATION DE CONFORMITÉ C.E.**

MASALTA ENGINEERING CO., LTD
Weisi Road, Baohe Industrial Estate, HeFei 230051, China

hereby certifies that the construction equipment specified hereunder / bescheinigt, da. das Baugerät / certifica que la máquina de construcción / atteste que le matériel :

MSP2 / MSP3

has been produced in accordance with the following standards:/in übereinstimmung mit folgenden Richtlinien hergestellt worden ist:/ha sido fabricado en conformidad con las siguientes normas: / a été produit conforme aux dispositions des directives européennes ci-après :

2000/14/EC
98/37/EC
89/336/EC
EN500-1
EN500-4



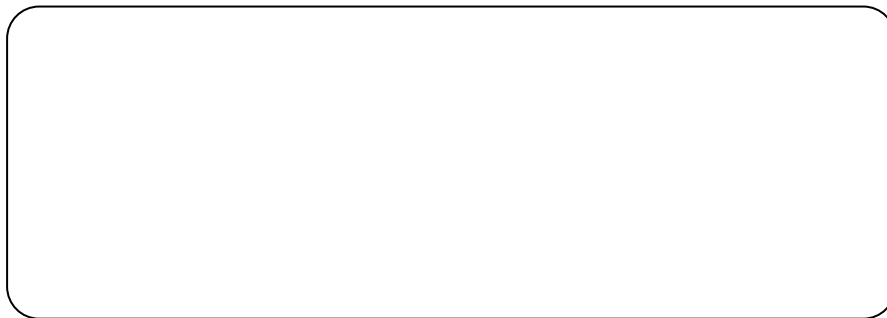
20.06.09

Hermann Josef Lensing
Research and Development Manager

Date / Datum / Fecha / Date



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