



DIAPHRAGM PUMP - (Diesel)

SAFETY PRECAUTIONS & WARNINGS

It is in the interests of those operating this equipment, and for the safety of others, that these **SAFETY PRECAUTIONS & WARNINGS** are carefully read and understood before operating this equipment.

PURPOSE

1. This pump is designed to pump clean and dirty water (with solids in suspension) from ditches, water logged holes, etc.

PERSONAL SAFETY

2. This equipment is designed for operation by an able bodied adult. Anyone with either temporary or permanent disability must seek expert advice before using it. It must not be operated by minors, or by anyone under the influence of drugs or alcohol.
3. If the equipment is not used in a safe, careful and controlled way, personal injury or injury to others may result.
4. This equipment employs the use of diesel, which can cause fire and explosion if not handled in a safe manner.
5. Before attempting to operate this equipment you must familiarise yourself with the equipment, its controls and operating characteristics.
6. Before starting your work, think and plan ahead to ensure you, and others around you, will be working in a safe environment.
7. When using this equipment, it is recommended that the following items of Personal Protective Equipment (PPE) be worn:
 - Ear defenders providing protection up to 95dB(A).
 - Waterproof gloves.

Note: Other types of work, or environment, may require a higher level of PPE.

OPERATING AREA SAFETY

WARNING: If used indoors or in confined spaces this equipment could cause fatal carbon monoxide poisoning. Never use it in domestic premises and if used in other indoor situations you must ensure you first assess its suitability and the ventilation required for safe use. Mechanical extraction ventilation will be required in almost every case.

8. Before commencing work, ensure that the area you are to operate the equipment is in a safe environment. Erect safety barriers and warning signs as necessary.
9. Make sure that the work area is clear of obstructions and hazards (projections, cables, pipes etc.).
10. Before commencing work, warn others who may be working in the vicinity of the equipment, to keep clear. If possible place safety barriers around your work area.
11. Anybody who is working near to you will also need to wear the appropriate PPE.
12. Take care not to fall in ditches, holes, etc. containing deep water.
13. Contaminated water can be harmful to people and the environment and therefore it must be discharged in a safe manner, if in doubt seek expert advice.

14. Do not use this equipment where there is a danger of igniting fumes from petrol, or gas cylinders.

BEFORE OPERATING THE EQUIPMENT

SAFETY CHECKS

15. Visually inspect the equipment and all its accessories (pump, engine, strainers, safety barriers, etc.) for serviceability (completeness, signs of damage, undue wear, etc.). Do not use the equipment if found damaged or worn - contact the hire company immediately.
16. Before attempting to operate the equipment, familiarise yourself with the equipments controls. Make sure you understand their purpose and function.
17. Contaminated water may contain harmful bacteria, ensure hands are protected.
18. Do not attempt to operate this equipment in confined or enclosed spaces without adequate ventilation due to the risk of inhaling toxic exhaust fumes, which can prove fatal.
19. If it is intended to pump toxic liquids, seek expert advice regarding extraction and disposal.
20. Before you start the equipment, you must know how to **STOP** it in an emergency.

OPERATING THE EQUIPMENT

Note: If the hire company has provided you special or additional instructions, you must follow them. Otherwise, follow the instructions given below.

PREPARING THE PUMP

21. Make sure the equipment is of the type capable of extracting water from the depth required, seek expert advice if unsure of its capabilities.
22. Ensure the equipment is sited on firm and level ground.
23. Carefully route both the suction and delivery hoses to ensure that they will not become damaged, or cause an obstruction, from either people or vehicle traffic.
24. Ensure all hoses are free from sharp bends or kinks and all connections are secure.
25. Do not operate the pump without the suction pipe strainer fitted and ensure it is fully immersed in water.
26. The temporary removal of any guardrails must be immediately replaced.
27. Be aware of people close to the pump when it is being operated.
28. Note, the pump is self-priming and will commence pumping water as soon as the engine is started.

STARTING THE EQUIPMENT

ELECTRIC START

29. Ensure the hand brake has been fully applied; the gear lever is in 'NEUTRAL' and that the 'STOP CONTROL' knob is pushed fully home.
30. Rotate the ignition key part way to engage the 'COLD START' device and hold it in that position for 20 seconds, then rotate the key further to start the equipment whilst keeping the throttle 'OPEN'.

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31. If the equipment fails to start after a few seconds, repeat the procedure at step 30 (above) again, maintaining the key at the 'COLD START' position a few seconds longer.

Note: If the equipment has previously been running, there is no requirement to operate the 'COLD START' device.

32. To stop the engine, pull out the 'STOP CONTROL' knob, never use the 'DECOMPRESSION' lever and remove the ignition key.

MANUAL START

33. Check both the engine fuel (diesel only) and oil levels.
34. Move the 'STOP' control to the 'RUN' position.
35. Move the throttle lever to the 'IDLE' position.
36. Fit the starting handle to the shaft, turn it anti-clockwise to engage the ratchet mechanism. Check also that the handle slides on and off the shaft easily.
37. Move the decompression valve lever into the 'DECOMPRESSION' position.
38. If the equipment has been fitted with a 'COLD START' button, press it in when starting from cold.
39. Grasp the starting handle firmly in one hand, **BUT DO NOT WRAP YOUR THUMB AROUND THE HANDLE**, keep it in line and on the same side as your remaining fingers. Failure to do this, should the engine 'kick-back', may result in serious injury to your thumb.
40. Crank the engine vigorously before lowering the 'DECOMPRESSION' lever smoothly. Should the engine fail to start. repeat the actions from 30 to 36.
41. Once the engine is running, slide the starting handle off the shaft.
42. Never stop the engine using the 'DECOMPRESSION' lever. This may damage the engine and will be regarded as misuse by the hire company. Only use the proper 'RUN/STOP' control to stop the engine.
43. If the engine fails to pump out water, check that the strainer is clear of debris and is fully immersed in the water. Extremely dirty water may require the strainer to be cleaned at regular intervals.

REFUELLING THE ENGINE

44. Refuel with diesel only.
45. The engine must not be running whilst refuelling. Warm engines must be allowed to cool down first.
46. Do not smoke whilst refuelling.
47. Clean the area around the fuel filler cap, then, remove it.
48. Using a clean funnel, pour diesel into the fuel tank. Care must be taken not to overfill or spill. Diesel spilt on the engine must be wiped dry, that spilt on the ground must be removed and the area covered with sand or earth. Diesel soaked clothes must be removed.
49. Replace the fuel filler cap securely.

SECURITY AND MAINTENANCE

50. Visually check the condition of the pump, hoses and strainer at the start of each day.
51. If the pump operates erratically, or incorrectly, do not use and do not attempt to repair it. Inform the hire company.
52. Periodically clean the pump, especially the strainer, to ensure it is free from debris.
53. In cold weather, protect the pump from frost and ice.
54. After using the pump, flush the pump through with clean water.
55. When the pump is left unattended for long periods (i.e. overnight), ensure it is made secure to prevent unauthorised use or loss.

COLLECTION & PICK-UP

56. For safety reasons this equipment requires you to use a **LORRY**.

