


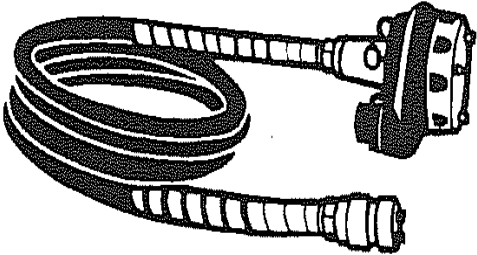
Safe Work Instruction	Issue date: 20/07/09
Submersible Trash Pump P212T-P212E-P212C-P212S	Review date: 19/07/12

Document no. SMS-06-SW-1380	Work description: Submersible Trash Pumps P212T-P212E-P212C-P212S		
	Scope: Applies to Submersible Trash Pumps.		
Review date 19/07/12	References: Submersible Trash Pumps Operating Manual. P212T-P212E-P212C-P212S		
Responsible supervisor <i>Insert name in BLOCK letters</i>	PPE and precautions	Competencies or qualifications	Licences or permits required
	<ul style="list-style-type: none"> Hearing protection Eye Protection Safety Helmet Protective foot wear Industrial clothing 	Competent Operator Skilled Labourer	N/A
Tools and equipment required: Petrol Drive Unit.			
IF CONTROL MEASURES ARE NOT SUITABLE AND MAJOR CHANGES ARE NEEDED, CONDUCT A RISK ASSESSMENT AND DEVELOP NEW CONTROLS ACCORDING TO SMS-06-PR-0104 WORKPLACE RISK MANAGEMENT .			

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 Flextool power equipment. All possible situations cannot be covered in these instructions. Care must be exercised by everyone using, maintaining or working near this equipment.

Introduction:	General Safety Instructions for the Operation of Power Equipment: The most important safety device for the tool is the operator. Care and good judgement are the best protection against injury. All possible hazards cannot be covered here, but we have tried to highlight some of the important items, individuals should look for and obey Caution, Warning and Danger signs placed on equipment, and displayed in the workplace. Operators should read and follow safety instruction in the operating manual supplied with the equipment. Learn how the machine works. Even if you have used similar machines before, carefully check out the machine before use. Get the feel of it and know its capabilities, limitations, potential hazards, how it operates, and how it stops.	
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FUNCTIONS AND CONTROLS

The Pump head operates under water, driven by a rotating flexible shaft that transmits the torque from the drive unit to the pump head. Submersible operation of the pump head ensures that it is self priming and does not require suction hose.

The Pump is designed with wide passages through the strainer, impeller and body to allow the unobstructed passage of solids. It is suitable for handling fluids with a high solid content such as sand, sludge, silt, effluent up to 60% in suspension, oil and water.

The pump is available with general purpose, abrasive resistant and chemical resistant pump head models. The pump should be selected with a model that best suits the most common application.

The flexible shaft should be selected with the shortest length that best suits the most common application.

The pump is fitted with a quick action 60mm (2.36in) diameter flexible shaft coupling for operation from a drive unit fitted with a 45mm (1.75 in) diameter 3-tooth dog drive. Extension flexshafts (3 & 6m) extend the length of an existing vibrator flexshaft and are available to enable vibrating within formwork to a depth of 12m.

Submersible Trash Pump P212T-P212E-P212C-P212S**HAZARDS AND RISKS**

- NEVER allow any person to operate a machine without adequate instruction.
- ENSURE all operators read, understand and follow the operating instructions
- SERIOUS INJURY may result from improper or careless use of this machine
- Some models of P212 pumps weigh in excess of 25kg. Handling and positioning may require two people to appropriate strength, along with correct lifting techniques.

**MECHANICAL HAZARDS**

- DO NOT operate the pump with the body removed
- KEEP hands and feet clear of rotating and moving parts as they will cause injury if contacted
- DO NOT leave the equipment in operation while it is unattended.
- ENSURE that the equipment will remain stable and will not move or fall while in operation
- DO NOT operate the pump without a discharge hose fitted
- ENSURE that the pump hose is securely fastened to the pump outlet via an appropriately sized coupling and adaptor
- ENSURE that repairs to the motor and machine are carried out by COMPETENT personnel

**FIRE AND EXPLOSION HAZARDS**

- PETROL is extremely flammable and explosive under certain conditions

**CHEMICAL HAZARDS**

- CARBIN MONOXIDE exhaust gases from internal combustion motor driven units can cause death in confined spaces

**ADDITIONAL HAZARDS**

- HANDLE IMPELLERS WITH CARE when pump body is removed. Pumps that have been subject to extensive use with abrasive materials may have impellers that are severely worn leaving sharp, thin, or brittle sections.
- USE GLOVES when handling and inspecting the flexible shaft outer casing. Excessive wear of the rubber cover can expose the wire braided reinforcement, allowing it to project and cause injury
- DO NOT use the pump for handling flammable fluids
- Slip/Trips/Falls is a major cause of serious injury or death. Beware of excess hose. Flexible shaft and water left on the walking or work surface
- DO NOT allow waste water to accumulate under foot
- EXERCISE care when working in the vicinity of unprotected holes or excavations
- Sump pumping is the simplest method of dewatering. Pumping from "open" sumps is generally used in coarse sands and gravels. It is difficult to control the migration of "fines" and should not be used if soil displacement is critical factor of consideration when working near existing structures, roads, etc.

OPERATION

Do not engage the dive coupling in a motor that is already running.

Before engaging the flexshaft with the petrol drive unit start the motor. Increase the speed to full throttle and allow to warm up for a few minutes.

Stop the motor.

Turn the bell housing trigger 180 degrees. Insert the flexshaft coupling fully into the housing of the drive unit and release the trigger. Push the coupling into the housing and twist the flexshaft until the drive dogs are fully engaged and the trigger returns to the horizontal position.

The motor may now be started.

If the pump flexible shaft is fitted with an external movable spring, it should be positioned to provide support where the shaft passes over the edge of a trench or obstruction.


When pumping from deep pits or excavations avoid subjecting the flexible shaft to the total weight of the pump and the discharge hose. Support the weight of the pump by attaching a rope to one of the pump eye-nuts. Secure the other end of the rope to a support adjacent to the power unit so that it takes the weight of the pump off the flexshaft.


Drive units should be operated on a level surface. If the surface is not level the drive unit should be restrained to ensure that it does not move due to vibration or the weight of a pump and the hose.

Avoid extended running of the pump without water, or with the flexible shaft in a tight curve.

Never operate the pump flexible shaft in the reverse direction, as this will damage the flexible core. If the impeller is fouled, remove the bearing housing and manually clear the impeller.

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<p>CARE AND PREVENTIVE MAINTENANCE</p> <p>The most critical part of this pump is the seal. It is important that the seal and the sleeve are replaced before they have worn excessively.</p> <p>Regular inspection of the pump and the seal will avoid problems.</p> <p>Check strainer for missing sections that could allow the entry of large objects and result in damage or obstruction of the impeller or volute.</p> <p>Dismantle pump and flexible shaft every 500 hrs. Inspect for wear and lubricate before reassembling.</p> <p>Apply liberal quantity of grease to the core assembly when inserting it into the casing assembly from the drive coupling end.</p> <p>If the spindle is worn by the seal/s located in the adaptor and it is otherwise satisfactory for further use do not remove the existing worn seal/s from the screwed adaptor. The bore of the adaptor is deep enough to accommodate additional seal/s which will then be located on an unworn area of the spindle.</p> <p>Check the condition of the drive dog regularly and that the three tooth drive dogs are fully meshed.</p> <p>Check flexshaft for kinks and external damage by laying it out straight on a workbench or the floor. Although it still operates a badly kinked flexshaft may result in a broken inner core.</p>	<p> NOTE It is advisable to operate the pump in clean after use each day or before storing.</p>
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	<p><u>WARNING</u></p> <p>These instructions are only for the use of Submersible Trash Pump with Petrol Drive Unit.</p> <p>MUST NOT use these Instructions for Submersible Trash Pump with Electric powered Drive Units as there are no Electrical Hazard Information.</p>
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