



OPERATING INSTRUCTIONS

FLEXTOOL ELECTRIC SUBMERSIBLE PUMP FP-P1M, FP-T2F, FP-T2M



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INTRODUCTION

Thank you for your selection of Flextool equipment.

Flextool has specialised in the design and manufacture of quality products since 1951 and have taken care in the assembly and testing of this product. Should service or spare parts be required, prompt and efficient service is available from our extensive dealer network.

The goal of Flextool is to provide power equipment that helps the operator works safely and efficiently. The operator is the most crucial safety component for this equipment and using caution and sound judgement is the best way to prevent injury. While we cannot cover all potential hazards, we have highlighted some key points. Operators should pay attention to and follow Caution, Warning, and Danger signs on equipment and in the workplace, as well as reading and following the safety instructions for each product in the operating instructions manual.

It is important to understand how each machine operates. Even if you have had experience with similar equipment previously, inspect each machine carefully before use. Get the “feel” of it and familiarise yourself with its capabilities, limitations, potential hazards, how it operates, and how it stops.

APPLICATIONS

The Flextool Electric Submersible Pump range delivers outstanding performance and proven reliability across a wide variety of dewatering applications. Engineered for demanding site conditions, these pumps provide highly efficient water removal in a compact and robust configuration. Fully submersible and built for continuous duty, they are designed to handle clean and lightly contaminated water with ease.

Designed to suit a broad range of industries and applications, the Flextool Electric Submersible Pump range is ideal for professional users requiring a reliable, portable, and efficient dewatering solution. Their heavy-duty construction and professional-grade components make them well suited to demanding tasks where water removal efficiency, mobility, and operational reliability are essential.

The Flextool Electric Submersible Pump range is commonly used across construction sites, civil projects, industrial facilities and emergency response operations, and is especially effective in tasks that require rapid water extraction, site drainage, or flood response.

Key Application Area:

- **Construction sites:** Removal of water from excavations, pits and dams.
- **Commercial and residential dewatering:** Rapid removal of water from flooded basements and carparks, cellars and swimming pools across a wide range of commercial and residential properties.

The Flextool Electric Submersible Pump range offers a lightweight and portable dewatering solution for professionals seeking efficient water removal across construction sites, industrial facilities, and emergency response operations where performance and reliability are paramount.

FUNCTIONS AND KEY FEATURES

FP-P1M

Flextool Electric Submersible Pumps are engineered for high-performance dewatering in demanding construction, hire, and industrial environments. Featuring a heavy-duty stainless steel pump body and a robust silicon graphite mechanical seal for enhanced durability, the FP-P1M 1-Inch Puddle Sucker is built to handle harsh site conditions while delivering long service life. The high-performance semi-vortex impeller enables efficient handling of water with reliable output of up to 170 litres per minute.

Designed for ease of use with quick-action camlock hose fittings that allow for fast, tool-free connection. A heavy-duty rubber strainer protects the pump from large particle ingress and absorbs shock during operation, ensuring dependable performance and extreme low-level pumping down to depths of 1 mm.



FP-T2M AND FP-T2F

Flextool Electric Submersible Pumps are engineered for high-performance dewatering in demanding construction, hire, and industrial environments. Featuring a heavy-duty cast iron pump body for enhanced abrasion resistance and a robust silicon graphite mechanical seal, the range is built to handle harsh site conditions while delivering long service life.

The high-performance semi-vortex impeller and integrated agitator enable efficient handling of water containing sand, solids, and debris, with a large solid passage capacity of up to 7 mm. Producing flow rates of up to 210 litres per minute, the pumps provide reliable and consistent output for fast water removal.

Designed for ease of use, quick-action camlock hose fittings allow for fast, tool-free connections, while the integrated float switch (FP-T2F model only) enables automatic on/off operation based on water level. A heavy-duty rubber strainer protects the pump from large particle ingress and absorbs shock during operation, ensuring dependable performance across a wide range of site applications



GENERAL SAFETY AND HAZARD INSTRUCTIONS

Always follow the safety instructions outlined in this manual and review the associated product Risk Assessment prior to operating this equipment. Ensure that safety information and equipment decals are always well-maintained and legible. Compliance with safety instructions is mandatory.

For additional safety information relating to engines, motors and batteries, please refer to the manufacturer's Operating Instructions.

RISKS AND HAZARDS

- NEVER allow an untrained person to operate equipment without adequate instruction.
- ENSURE all users read, understand, and follow the operating instructions.
- SERIOUS INJURY may result from improper or careless use of this equipment.
- NEVER operate this equipment without personal protective equipment.
- NEVER operate this equipment when feeling unwell due to illness, fatigue, or medication.
- ALWAYS keep a first aid kit and appropriate fire extinguishers in accessible location.
- ALWAYS follow appropriate lifting and site handling procedures.

MECHANICAL HAZARDS

- DO NOT operate the equipment unless all protective guards are in place.
- ENSURE where applicable to remove spark plugs, disconnect battery from motor and isolate power cable from power outlet prior to undertaking any maintenance and repair.
- AVOID contact with hot surfaces such as engines, batteries and motors, as this can lead to severe burns.
- ONLY trained and competent personnel should perform equipment repairs and maintenance.
- ONLY licenced personnel should perform electrical repairs and maintenance.
- NEVER allow the pump to run dry, as prolonged dry operation can cause motor overheating, seal failure, and permanent damage to the pump.

FIRE AND EXPLOSION HAZARDS

- DO NOT operate this equipment in combustible environments.
- DO NOT operate this equipment in the vicinity of sparks, naked flames or other sources of ignition.
- DO NOT smoke near equipment.
- IMMEDIATELY discontinue operation if damage to wiring or other electrical components is identified.
- ALWAYS ensure power leads are fully uncoiled during operation.

ELECTRICAL HAZARDS

- INSPECT electrical leads, plugs and sockets regularly for damage, if any damage is found isolate equipment and seek immediate repair.
- ALWAYS ensure the pump is connected to an RCD-protected power supply to reduce the risk of electric shock or electrocution
- DO NOT operate the equipment using coiled or tangled extension leads.
- ENSURE that all electrical repairs are carried out by QUALIFIED and LICENCED personnel.
- DO NOT pull or carry by power cord or pull cord around sharp edges or corners.
- DO NOT clean or service machine when plugged in.
- ALWAYS ensure the plug is securely attached to a wall outlet or extension lead and that the connection is kept well away from moisture or water.

- NEVER pull, hold, or lift the pump by the power cable, as this can cause cable damage leading to electric shock or fire.
- DO NOT enter the water during pump operation, if entering the water is required, switch off and disconnect the power cable from the power outlet.

CHEMICAL HAZARDS

- NEVER use this pump to transfer flammable, corrosive, or chemically aggressive substances.

PERSONAL PROTECTIVE EQUIPMENT

- ALWAYS wear appropriate personal protective equipment as outlined in the safety decal section of this manual.

ENVIRONMENTAL SAFETY

- ENSURE correct and safe disposal of waste, fuel or oil in accordance with local authority guidelines.
- ONLY operate equipment within prescribed times as determined by local noise control laws.

ADDITIONAL HAZARDS

- ALWAYS maintain a clean and safe work environment, free from obstacles and tripping hazards as slips, trips and falls are major causes of serious injury or death.
- AVOID cleaning the machine with a high-pressure cleaner, this can damage electrical components
- DO NOT use pump if fluid temperature exceeds 40 degrees Celsius.
- DO NOT use pump at operating depths that exceed 5m below water level
- **For further information on hazards, please refer to the risk assessment document available on Flextool.com.au.**

SAFETY DECAL AND LABELS

Before operating this equipment, it is essential to read this entire manual and follow all safety precautions outlined in the manual and the product risk assessment, which can be found on the Flextool website (www.flextool.com.au).

Failure to understand and follow these safety warnings may result in injury. The safety decals on the machine play a crucial role in ensuring the operator's safety. If any decal is damaged or illegible, it must be replaced immediately.

The decals associated with the operation of this equipment are detailed in the manual.

SAFETY COLOUR CODING

Flextool uses a colour coding system with four colours to alert you to potential hazards that could cause harm to you or others.

The safety messages are tailored to the operator's level of exposure and are introduced by one of three signal words: DANGER, WARNING, or CAUTION or general feature identification.

DANGER (RED)

Indicates a hazardous situation which, if not avoided, WILL result in DEATH or SERIOUS INJURY.

WARNING (ORANGE)


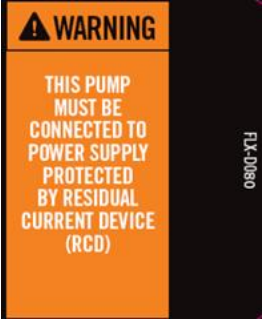
Indicates a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY.

CAUTION (YELLOW)

Indicates a hazardous situation which, if not avoided, COULD result in MINOR or MODERATE INJURY.

FEATURE IDENTIFICATION (GREEN)

Addresses product features and practices not related to personal injury.

	<p>Electrical Hazard – Do not pull, hold, or lift the pump by the power cable, as this can cause cable damage leading to electric shock or fire.</p> <p>Hazard – Do not use to pump hazardous liquids as this can lead to pump damage, electrical hazard, or fire.</p> <p>Overheating – Do not allow the pump to run dry, as prolonged dry operation can cause motor overheating, seal failure, and permanent damage to the pump.</p> <p>Operating Manual – Read and understand the operating manual in full prior to operating equipment.</p>
	<p>RCD Warning – Ensure the pump is always connected to an RCD-protected power supply to reduce the risk of electric shock or electrocution.</p>



Priming – Ensure the pump casing is filled with clean priming water before operation (**FP-P1M model only**)

OPERATION

It is essential to operate the equipment and its components strictly in accordance with the provided operating instructions. Take the time to learn how each machine works, even if you have previously used similar equipment. Carefully inspect each machine before use, and familiarize yourself with its capabilities, limitations, potential hazards, and how it operates and stops.

INSTALLING THE PUMP

- Ensure there is a clear and safe working environment that is free from hazards prior to installing or operating the pump.
- Always transport and lower the pump using the carry handle. Never lift, lower, or move the pump by the cable assembly, as this may damage the cable and result in electrical leakage, electric shock, or fire. To assist when lowering the pump into the water, a rope can be attached to the carry handle.
- Install the pump in an upright, vertical position at a location where water accumulates readily.
- To prevent the strainer from becoming buried in mud or sediment, mount the pump on a firm, stable base such as a block or plank where possible. This is extremely important for model FP-P1M as it has a very low-profile strainer that can become blocked easily.
- Ensure the discharge hose outlet is positioned higher than the water surface to prevent backflow when the pump is stopped.
- Ensure all hose connections are secure and the discharge hose is free from sharp bends or kinks that may restrict flow or cause air pockets.
- When using the automatic float switch model, set the float lead wire length as specified and confirm the float moves freely up and down without obstruction prior to operation.

STARTING THE PUMP

- Ensure all installation checks have been completed prior to starting the pump.
- Ensure the pump is fully submerged to the required operating water level before connecting to the power supply.
- Connect the pump to a suitable power supply and switch on at the wall outlet or circuit breaker. Ensure the plug is securely attached to a wall outlet or extension lead and that the connection is kept well away from moisture or water. Pumps must not be used at depths that exceed 5m below water level.
- For automatic float switch models, confirm automatic operation by observing the pump activate as the water level rises above the float start point.

DURING OPERATION

- Monitor the water level during operation to ensure the pump remains submerged above the minimum continuous running water level (C.W.L.) at all times.
- Do not allow the pump to run dry. If the water level drops below the minimum operating level, switch off the pump immediately.
- Keep all foreign objects clear of the pump strainer inlet during operation.
- Do not touch the pump casing during or immediately after operation as the motor housing may become hot.
- In the event of unusual noise, excessive vibration, or burning odour, switch off the power immediately. Do not resume operation until the cause has been identified and resolved.
- In the event of a power outage, switch off the pump at the power supply to prevent unexpected restart when power is restored.

STOPPING THE PUMP

- Switch off the power supply at the wall outlet or circuit breaker to stop the pump.
- Allow the pump to come to a complete stop before handling or repositioning.
- For extended periods of non-use, remove the pump from the water, rinse with fresh water, dry thoroughly, and store in a clean, dry location indoors.

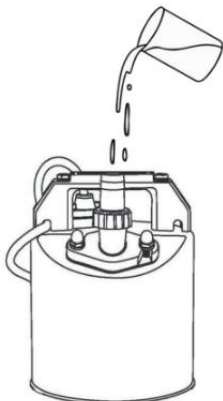
PRIMING AND TEST OPERATION (FP-P1M model only)

Priming the Pump

- Before starting, ensure the pump casing is filled with clean water to allow correct operation.
- Fill the pump casing with clean water until water flows freely through the outlet.

Test Run

- Once primed, connect to the power supply and run the pump for 3–10 minutes to confirm correct operation and ensure smooth, consistent performance.
- Confirm water is discharging steadily through the outlet hose with no unusual noise or vibration during the test run.



SERVICE AND PREVENTIVE MAINTENANCE

Qualified personnel should be assigned the task of performing service and maintenance on this equipment. To ensure safe operation and optimal performance, thorough inspection and on time maintenance is imperative.

Consistently monitor the machine's condition and proactively maintain it in its optimal state.

- ENSURE mechanical and electrical repairs and maintenance of the equipment is performed only by trained, competent and licenced personnel.
- ONLY use genuine parts and accessories to ensure compatibility and safe operation of equipment.
- ENSURE where applicable to remove spark plugs, disconnect battery from motor and isolate power cable from power outlet prior to undertaking any maintenance and repair.
- ALWAYS wear PPE when servicing and repairing equipment (gloves, glasses, dust mask and steel cap boots) to reduce risk of cuts, burns, crushing, eye injuries, skin exposure to fuel or oils, dust inhalation, etc.
- NEVER work underneath equipment suspended by lifting device or on ramps.
- For all engine, motor and battery service and maintenance information, please refer to the relevant operating instructions.

SERVICE MAINTENANCE SCHEDULE

All parts and components should be replaced if signs of deterioration, cracks, damage or wear have been identified to maintain equipment safety and performance.

Flextool Submersible Pump Maintenance Schedule						
		Daily	Weekly or every 20 hrs	Monthly or every 50 hrs	Quarterly or every 100 hrs	Yearly or every 200 hrs
Electric leads	Inspect for kink, twists or damage	Y				
Float switch	Inspect for free movement and correct operation	Y				
Seals & O-rings	Check and replace if leaking				Y	
Nut, Bolts, Pins, Clips etc	Inspect if any loose or missing parts	Y				
Impeller	Inspect for wear, corrosion, or damage				Y	
Safety Decals	Ensure they are fitted and legible	Y				

STORAGE, LIFTING AND TRANSPORT

It is essential to prioritise safety and proper handling when it comes to the storage, lifting, and transportation of equipment. Following safe storage practices ensures the longevity and operational reliability of the equipment. During transportation and lifting it is important to exercise caution to avoid any potential harm and to adhere to the following guidelines.

- NEVER drag or pull the equipment by the hose or power cord.
- ALWAYS follow correct manual handling techniques.
- NEVER allow any person to stand underneath equipment while lifting.
- NEVER lift equipment while connected to power outlet or when engine / motor is running.
- ALWAYS secure equipment during transport by using suitable tie down points on both equipment and vehicle.
- ENSURE all equipment is restrained according to the NVHR load restraint guidelines.
- ALWAYS inspect straps, hooks, chains, ropes, and crane/lifting points for damage prior to use.
- ENSURE where applicable to lock castor wheels or lay equipment flat during transport and storage to prevent unwanted movement.
- ENSURE all electrical equipment, power supply leads and accessories are stored in a dry environment away from moisture.

PRODUCT DECOMMISSIONING

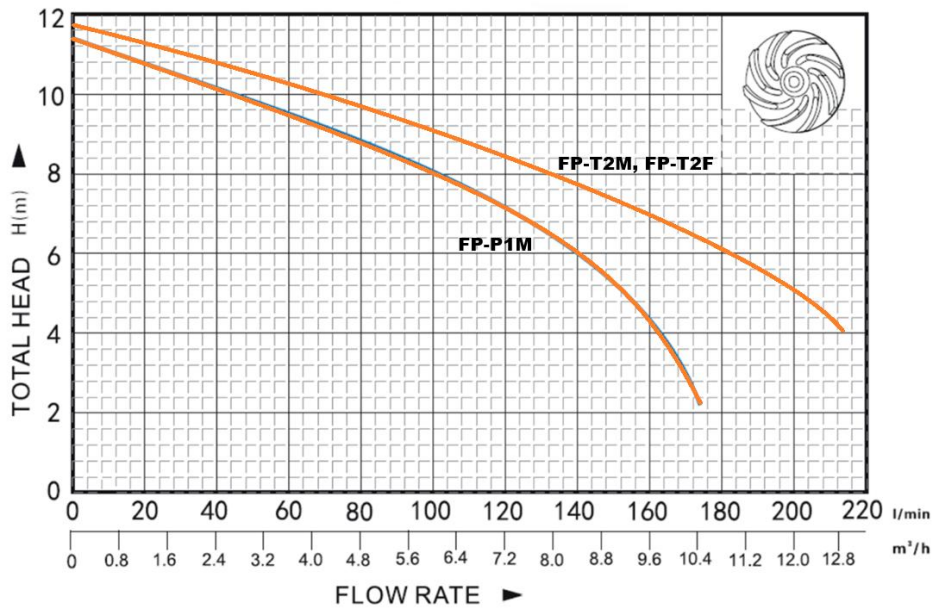
Decommissioning is a controlled process used to safely retire a piece of equipment that is no longer serviceable. If the equipment poses an unacceptable and unrepairable safety risk due to wear or damage or is no longer cost effective to maintain (beyond life-cycle reliability) and is to be decommissioned or dismantled, please adhere to the following guidelines.

- ALWAYS contact your local council or recycling agency in your area to arrange for proper disposal of:
 - Electrical components and batteries. Exercise caution when handling and transporting batteries.
 - Oil and other waste associated with this equipment. DO NOT pour waste or oil directly onto the ground, down a drain or into any water source.
- CONSIDER recycling all recyclable materials in line with local council or recycling agency capabilities in your area. This can include steel, aluminium, copper, plastics, etc.

TECHNICAL DATA

Model	Operating Weight kg (lb)	Voltage V/Hz	Motor W	Discharge Diameter mm (in)	Max Discharge Head m (ft)	Max Discharge L/h (gal/h)	Max Solids Capacity mm (in)	Shut Off Manual / Float	IP Rating	Product Code
FP-P1M	12.65 (27.9)	240/50	530	25 (1.0)	11 (36)	10,180 (2,689)	6 (0.2)	Manual	68	FT201871-UNIT
FP-T2M	11.75 (25.9)	240/50	500	50 (2.0)	12 (39)	12,600 (3,329)	7 (0.3)	Manual	68	FT201872-UNIT
FP-T2F	12.05 (26.6)	240/50	500	50 (2.0)	12 (39)	12,600 (3,329)	7 (0.3)	Float	68	FT201873-UNIT

PERFORMANCE CURVE



TROUBLE SHOOTING

Efficient troubleshooting is vital for the optimal functioning of this equipment. In addressing issues, a systematic approach is key. This section provides guidance on identifying, analysing, and resolving potential challenges to maintain the equipment's performance and longevity.

Trouble shooting guide (Electric Submersible Pumps)		
Symptom	Possible problem	Solution
Pump does not start	No power at wall outlet	Test the outlet with another appliance. Check and reset the circuit breaker if tripped.
	Electrical plug or lead damaged	Isolate and discontinue use. Have the cord inspected and repaired by a qualified electrician.
	Supply voltage too low	Check supply voltage is within $\pm 15\%$ of rated voltage. Have supply checked by a qualified electrician.
	Impeller blocked	Switch off power supply. Clear obstruction from impeller before restarting.
	Capacitor damaged	Have the capacitor inspected and replaced by a qualified technician.
	Stator winding burnt out	Have the pump inspected and repaired by a qualified technician. Do not attempt internal repair without appropriate qualifications.
Reduced water flow or Fluctuating pressure	Delivery head too high	Reduce the height or length of the discharge hose to within the rated maximum head.
	Strainer or filter mesh clogged	Switch off power supply. Remove and clean the strainer before restarting.
	Impeller worn or damaged	Inspect and replace impeller.
Pump runs but does not discharge water	Pump not fully submerged	Ensure pump is submerged above the minimum continuous running water level (C.W.L.).
	Discharge hose kinked or blocked	Check hose for sharp bends, kinks, or blockages. Straighten and clear as required.
	Hose connection not airtight	Check and secure all hose connections. Ensure fittings are free from air leaks.
Pump suddenly stops during operation	Fuse blown or circuit breaker tripped	Check power supply. Replace fuse or reset circuit breaker.
	Thermal overload protection activated	Switch off power supply. Allow pump to cool before attempting to restart.
	Impeller blocked	Switch off power supply. Clear obstruction before restarting.
	Stator winding burnt out	Have the pump inspected and repaired by a qualified technician. Do not attempt internal repair without appropriate qualifications.
Pump vibrates excessively during operation	Impeller worn, damaged, or unbalanced	Discontinue use. Inspect and replace impeller.
	Pump not installed upright on firm base	Reposition pump on a firm, stable base in an upright vertical orientation.
	Strainer in contact with sump base	Raise pump off the base using a block or plank to ensure strainer is clear.
Unusual noise during operation	Foreign object in strainer or impeller	Switch off power supply immediately. Clear obstruction before restarting.
	Pump running dry	Switch off power supply immediately. Ensure water level is above the minimum C.W.L. before restarting.
	Internal mechanical fault	Discontinue use. Have the pump inspected by a qualified technician before further operation.



Flextool

1956 Dandenong Road, Clayton VIC 3168, Australia

Phone (AUS): 1300 353 986

flextool.com.au

ABN 80 069 961 968

This manual summarises our best knowledge of the product based on the information available at the time of publication. You should read this manual carefully and consider the information in the context of how the product will be used. Our responsibility for products sold is subject to our standard terms and conditions of sale.

DISCLAIMER:

Any advice, recommendation, information, assistance or service provided by us in this manual is given in good faith and is believed by us to be appropriate and reliable. However, any advice, recommendation, information, assistance or service provided by us is provided without liability or responsibility PROVIDED THAT the foregoing shall not exclude, limit, restrict or modify the right entitlements and remedies conferred upon any person or the liabilities imposed upon us by any condition or warranty implied by Commonwealth, State or Territory Act or ordinance void or prohibiting such exclusion limitation or modification. The product can be expected to perform as indicated in this manual so long as operation and operational procedures of the individual products are followed as recommended in this manual.

Design and technical specifications may be subject to changes.

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