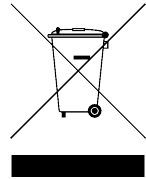


Watermate

Garden Pump Instructions



Model: MAST-601W



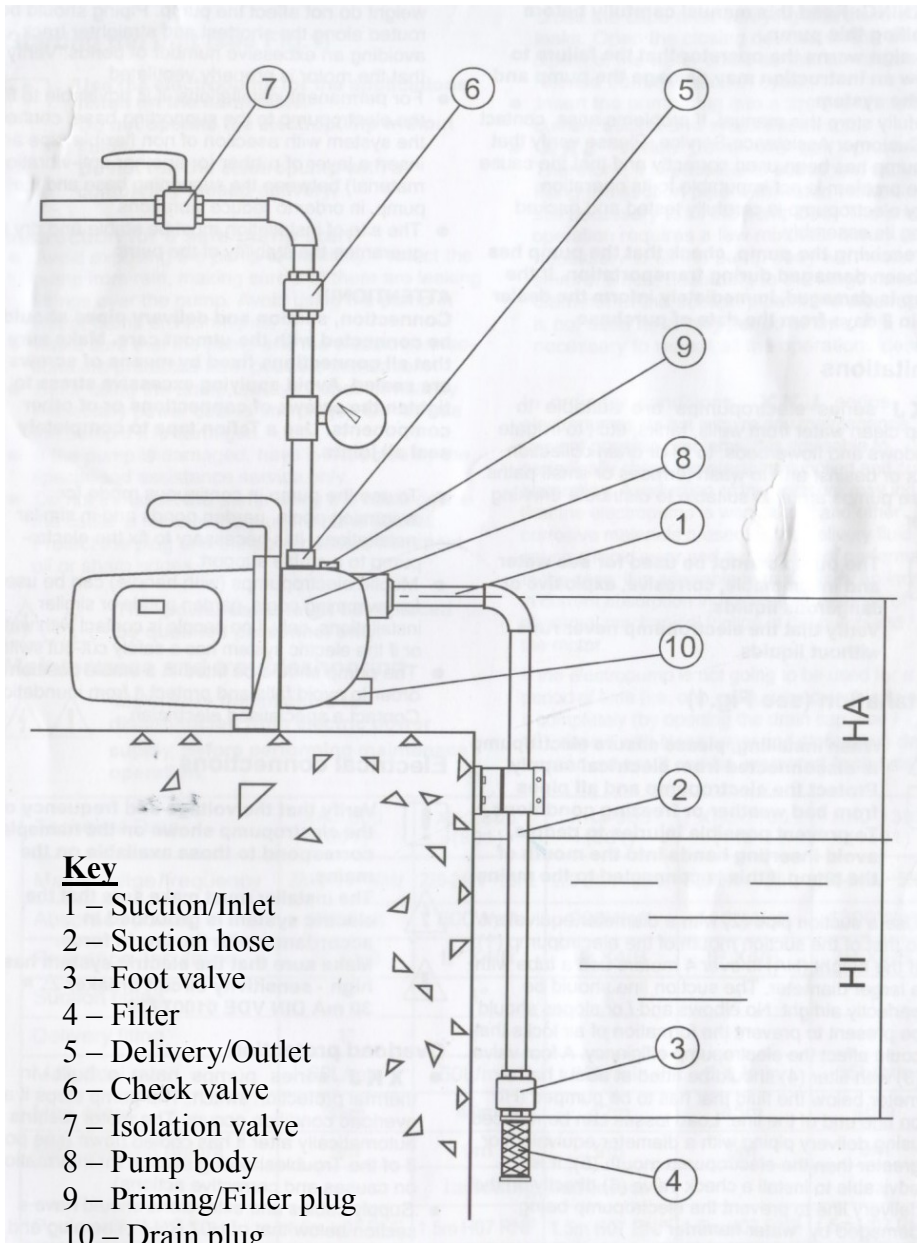
**Mastermind
Products Ltd.**

34 Mere Avenue, Raby Mere, Wirral, Merseyside, CH63 0NE

Tel: 0151 513 5400, Fax: 0151 334 1018

e-mail: info@watermate.co.uk

Pump and underground tank diagram



Instructions

Thank you for purchasing this Watermate garden pump. This manual contains information to ensure safe installation. Please read it thoroughly and ensure you are familiar with all aspects relating to the pump before its connection and use. Following the instructions will ensure a long and trouble-free performance.

Important: Carefully store these instructions for future reference.

Guarantee

This Watermate is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. This guarantee is invalid if the product is found to have been abused or tampered with in any way or not used for the purpose for which it was intended. This guarantee does not affect your statutory rights.

Safety Precautions

1. Ensure the pump is installed on a level base in a horizontal position with the delivery/outlet facing vertically upwards. If the pump is used in a permanent position it is recommended that it is fixed to a stable support.
2. Ensure there is an adequate air flow around the pump. DO NOT mount in an enclosed atmosphere.
3. Ensure all water pipes—supply or delivery—adequately supported when necessary, so as not to put a strain on the pump connections.
4. DO NOT allow the pump to run dry as this will cause serious damage to the pump.
5. Ensure the inlet to the pump is completely unrestricted.
6. Ensure the pump is protected from the elements. Neither the motor nor the electrical terminals box is intended to be waterproof.
7. Ensure the pump is drained down or adequately lagged to avoid freezing during cold periods.
8. It is strongly recommended that a float switch is fitted to prevent the pump running without water.

Overload Protection

Your Watermate has a built in thermal protector switch. The pump stops if an overload condition occurs; the motor will restart after it has cooled down.

Electrical Connections

This appliance, which is supplied with a 3-pin BS 1363 plug and fitted with a 5 amp fuse should be connected to a standard domestic 230 volts (50Hz) electrical supply. This appliance must be earthed. A suitable waterproof socket should be used if the appliance is used outdoors.

When required, the fuse in the plug must be replaced with one of the same rating (5amp)

This appliance is fitted with a non-rewireable plug which is moulded onto the electrical cable. The plug must be thrown away if it is cut from the electrical cable. Rewiring of the appliance must be carried out by a qualified person or returned to the manufacturers.

Important: The pump must be protected through a Residual Current Device (RCD)

The pump must not be connected to the power supply until the installation is completed.

If you are in any doubt regarding the electrical installation of the pump, consult a qualified electrician.

Installation

To comply with water authority regulations this pump must not be connected directly to a mains water supply. This pump is suitable to distribute drinking water.

Siting the pump

The pump must always be installed in a horizontal position with the delivery facing vertically. If the pump is to be located in a permanent position it is recommended that it is securely fixed to a stable base. Avoid situations where there is the risk of water coming into contact with the outside of the pump. The motor and the terminal box are not designed to be waterproof. Position the pump where flooding cannot occur. Ensure adequate air circulation around the motor—do not mount it in an enclosed atmosphere.

Preparing the water source

The pump is designed to use clean water only. Ensure the water in your storage container is clean. If rainwater is being collected the water butt can be cleaned with Jeyes Fluid or a similar disinfectant and rinsed. An effective filtration option is to put two ladies' stockings, one inside the other, over the end of the down pipe where it enters the water butt. These can be secured with a cable tie and should be changed regularly. Additionally, an inline filter can be fitted to the inlet side of the pump—this is particularly recommended when using super fine mist jets.

Connecting the water source

The Watermate pump can be used when water is stored above or below ground.

- For above ground sources, attach a standard 1 inch diameter hose connector approximately 25mm above the bottom of the tank. Attach a short (1-2 inches) length of hose to the connector, followed by an in-line tap and another length of hose. Attach this length of hose to the suction inlet of the pump (**1 in diagram**). A check-valve must be fitted to the output side of the pump capable of holding the head of water in the tank.
- For below ground sources, the suction hose should be a minimum of
- 1 inch (25mm) diameter. A larger diameter hose is recommended if you are using the pump to obtain water from a depth of over 4m. The maximum suction depth is 9m. A foot valve filter should be fitted to the lower end of the suction hose (**3-4**) to help retain water in the suction hose and prevent foreign bodies entering the pump body. The suction pipe should be completely airtight with the minimum number of elbow-joints possible. A gate valve or check valve may be fitted to the delivery hose and will help prevent water hammer (**6**). Do not place any such restriction on the suction side of the pump.

To prevent strain or distortion to the pump ensure that adequate support is provided to the hoses and/or pipes. Remember they will be considerably heavier when filled with water.

Where the pump is to be a permanent fixture the fittings to the pump **MUST** be flexible; a short piece of hose should be inserted between ridged pipe work and the pump.

Important: Never operate the pump with the delivery valve completely closed.

Protection

Protect the pump and pipe work from freezing or drain the pump down if there is a risk of frost; the formation of ice may cause serious damage.

Priming

Before starting the pump, it is necessary to prime the water supply. This procedure **MUST** be carried out before starting the pump, after winter drain down, or if the pump has been starved of water for any reason.

The pump may incur serious damage if operating at any time without a continuous flow of water.

When priming the pump from a below ground water source or where suction is required, it is essential that all connections and hoses are completely airtight for the system to work.

To prime the pump:

1. Locate and remove the small filler plug situated on the top of the pump chamber **(9)**. Slowly fill the pump with water until all air is expelled. Replace the filler plug.
2. If an inline filter is fitted, remove the brass plug on top of the filter and fill the bowl with water.
3. Open the tap from the water butt if a gravity flow supply is used.
4. Adjust any valve or device which may be fitted to the delivery side of the pump to ensure the maximum possible flow of water.
5. Switch on the pump. Water should start to flow through the system after a short while. If after 1-2 minutes water does not flow check to ensure:
 - a. the inlet pipe from the water source is completely secure and free from leaks or defects; even a pin-hole could prevent the pump drawing water. This is the most common problem encountered.
 - b. the pump body has been primed correctly. Refill the pump body as in step 1. When drawing water from below ground sources, this may need to be carried out several times depending on the depth of the suction pipe.

Installation of irrigation equipment

Note: These instructions apply only to Mastermind Products Ltd. irrigation systems and may not be applicable for other systems connected to the Watermate pump.

1. Choose a suitable position for your Watermate pump clear of spray for jets or where flooding could occur and such that the plug can reach a waterproof socket. Install a Residual Current Device (RCD).
2. Connect the pump to the water source and prime the pump as described above.
3. Fit reducing nipple to delivery side of the pump with PTFE tape do not screw fully home. Attach 3/4" hose connector and fit the 13mm hose this can be softened with hot water.
4. Plan the required hose layout and fit the hose to walls or wood using clips. In aluminium greenhouses secure a batten of wood with extra long crop head bolts to the frame and attach 1/2" white pipe clips to hold the hose.
5. Fit tees, elbows, etc. to the hose as required; this is easier if you place the pipe carefully in hot water before pushing onto the joints.
6. Fit jets directly into the hose by making a hole with the key/punch and screwing the jet into the hole in the hose. Do not over-tighten. Jets should be positioned approximately 2 foot apart. If you wish to change the position of the jets the holes can be plugged with goof plugs (available by mail order).
7. Basket/pot spikes are adjustable 360° spray jets. To install, make a hole with the key/punch in the 13mm supply hose, break off the connection piece from the spike and insert into the hole made by the key/punch. Measure and cut the required length of 4mm microbore hose to reach the pot or basket, leaving some flexibility. Attach the 4mm hose to the connector in the 13mm hose and onto the spike.
8. 30cm and taller border stakes should be fitted in the same way as basket/pot spikes and the appropriate jet screwed into the top of the stakes.
9. Switch on the pump to test the system. Adjust the jets if necessary. Further details on the website under "download instructions".

If using an electric timer, plug the timer into the socket before plugging the pump into the timer. See separate instructions with timer to set desired times of watering. It is strongly recommended that the timer is checked by plugging it into the mains and testing, for example, with a radio. Plug the timer into a suitable socket. This should be protected from water and full sunlight as temperatures over 40°C may cause memory loss in the timer.

Symptom	Cause	Solution
The pump/motor does not operate.	1. No mains electric supply.	Check the plug is inserted correctly, and replace the fuse (5 amp) if necessary.
	2. The impeller may be seized or blocked.	Disconnect the pump from the mains and clear the blockage.
The thermal overload has been activated.	1. Incorrect mains voltage.	Check the voltage and rectify.
	2. Impeller seized or blocked.	Disconnect pump from mains and clear blockage.
	3. The pump has been run with hot water.	Do not pump water of a temperature greater than 35°C.
	4. Pump has operated without a continuous flow of water.	Never allow the pump to run dry—investigate the cause and rectify. The pump may have been damaged.
The pump operates, but no water flows.	1. Air trapped in pump housing.	Disconnect pump from mains electric and prime pump.
	2. Suction from a below ground source inadequate.	Ensure that suction pipe is completely airtight.
	3. The suction height is too great.	Check suction pipe is shorter than 9 metres and adjust layout if necessary.
Low or no flow	1. The inlet pipe is blocked.	Check and clean inlet pipe.
	2. The impeller may be blocked.	Disconnect pump from mains and clear any blockage.
	3. The head of water may be too great.	Check that the head of water is less than 35 metres.

Specification	
Model	MAST – 601W
Motor	230V 50HZ
Power	600 Watts
Insulation	IPX4
Suction fitting	1"
Delivery fitting	1"
Max. flow	50 litres/min
Max. head	35 metres
Max. Suction height	8 metres
Max. Ambient temperature	40°C
Max. Liquid temperature	35°C

Should you still experience problems, please contact your supplier or Mastermind Products Ltd.

Accessories and replacements for your pump are available. A complete range of irrigation accessories is also available.

Please visit our website at www.watermate.co.uk, email info@watermate.co.uk Mastermind Products Ltd. for advice on 0151 513 5400.