



**EN**  
Version 3  
March 2023

230V SUBMERSIBLE

# **DIRTY WATER PUMP**

WITH FLOAT  
SWITCH

**98919**



# 1. Preface

These are the original product instructions. This document is part of the product; retain it for the life of the product, passing it on to subsequent holders. Read this manual in full before attempting to assemble, operate or maintain this product.

This Draper Tools manual describes the purpose of the product and contains all the necessary information to ensure its correct and safe use. Following all the instructions and guidance in this manual will ensure the safety of both the product and the operator and increase the lifespan of the product.

All photographs and drawings within this manual are supplied by Draper Tools to help illustrate correct operation of the product.

Every effort has been made to ensure the information contained in this manual is accurate. However, Draper Tools reserves the right to amend this document without prior warning. Always use the latest version of the product manual.

## 1.1 Product Reference

**User Manual for:** 230V Submersible Dirty Water Pump with Float Switch, 416L/min, 1,300W

**Stock No:** 98919

**Part No:** SWP420

## 1.2 Revisions

**Version 1:** March 2019  
First release

**Version 2:** March 2023  
General content and formatting updates.

As our manuals are continually updated, always ensure that the latest version is used.

Please visit [drapertools.com/manuals](http://drapertools.com/manuals) for the latest version of this manual and the associated parts list, if applicable.

## 1.3 Understanding the Safety Content of This Manual



**WARNING!** – Situations or actions that may result in personal injury or death.



**CAUTION!** – Situations or actions that may result in damage to the product or surroundings.

**Important:** – Information or instructions of particular importance.

## 1.4 Copyright © Notice

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# 3. Product Introduction

## 3.1 Scope

This product is a water pump designed for submersion within the reservoir and is suitable for transferring water containing malleable debris of up to the maximum rated particle size. This pump is suitable for permanent and semi-permanent installations that do not require the pump to be in constant use, for example in locations where it is necessary to maintain a given level of water or for temporary or emergency installations to drain reservoirs of unwanted water.

Dirty water pumps are intended for use in general irrigation and lowering water levels in inspection pits, trenches and footings where solids may be present. "Dirty water" can be defined as water contaminated by soil, crop seepage, dairy products or cleaning materials and containing no more than three percent dry matter. These pumps are **NOT** suitable for use with sewage or cesspools.

Part of our core range, this product is suitable for regular use by enthusiasts and tradespersons alike.

**Important:** This product is **NOT** suitable for continuous use, such as water circulation (water features, etc.). Using it in this way will invalidate your product warranty.

**Important:** Draper Tools strongly recommends this product is used to lower water levels **ONLY** and **NOT** for completely draining reservoirs. We recommend that the pump remains **COMPLETELY** submerged throughout the entire operation to ensure that the motor remains cool and does not overheat. If the motor overheats, it may become damaged and may compromise the structure of the pump.

**Important:** This product is **NOT** suitable for permanent installation in fish ponds or any other reservoir containing water mixed with chemicals or other acidic contaminants, including salt water.

Where the pump is used temporarily in a fish pond, Draper Tools **STRONGLY** recommends that the fish are removed for the duration of operation or a guard is placed around the pump inlet to prevent fish from being drawn into the mechanism. Guards must not prevent water from being drawn into the pump or obstruct the impeller in any way. **DO NOT** use this product in fish ponds where the fish are small enough to access the impeller.

 **WARNING! This product is not a toy and must be respected.**

Read this manual in full before attempting to assemble, operate or maintain the product, and retain it for later use.

## 3.2 Specification

Stock No.	98919
Part No.	SWP420
Usage	Dirty water
Rated voltage	220-240V AC
Rated frequency	50Hz
Rated input	1,300W
Max. particle size	40mm
Max. duty cycle	4h on, 4h off
Output adaptor apertures (exterior)	50mm
Max. flow rate	25,000L/h
Max. head height	11m
Max. operating depth	7m
Max. water temperature	35°C
Min. water level	165mm*
Power cable length	10m
IP rating	IPX8
Appliance class	Class I
Weight	8.38kg

\*This is the minimum level of water above the base of the pump at which the pump can safely operate. However, Draper Tools **strongly** recommends that the pump remains completely submerged throughout the entire operation. Operating the pump when it is not submerged may compromise the motor and housing.

**Important:** Read all the Health and Safety instructions before attempting to operate, maintain or repair this product. Non-compliance with these instructions may result in injury or damage to the user or the product.

### 4.1 General Health and Safety Precautions

- Observe all standard safety precautions and good practices when working with electrical equipment and water.
- **DO NOT** modify this product in any way and **ONLY** use spare parts supplied by Draper Tools.
- Keep your work environment clear and well-lit, with bystanders at a safe distance.
- Before every use, inspect the product for broken, cracked, loose or corroded parts and leakages.  
**Important: DO NOT** use this product if it is leaking or damaged in any way. **DO NOT** attempt to disassemble a damaged product; contact Draper Tools to discuss repair and replacement options.
- Keep the power cable away from the reservoir and other sources of moisture at all times.
- Keep the power cable away from oil, sharp edges and sources of heat.
- If the supply cord is damaged, it must be replaced by Draper Tools or its authorised service agent in order to avoid a hazard.
- **NEVER** pull on the power cable to disconnect the plug from the socket.
- Use the product only in the manner described in this manual.

### 4.2 Additional Safety Information for This Submersible Water Pump

- This appliance can be used by children aged eight years and above and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the appliance in a safe way and understand the hazards involved.
  - Children must not play with the appliance.
  - Cleaning and user maintenance must not be performed by children without supervision.
- **NEVER** use this product to pump corrosive, flammable or explosive liquids or solvents.

- This is a Class I appliance.
  - This product requires an earth connection to protect against electric shock from accessible conductive parts in the event of a failure of the basic insulation.
  - To reduce the risk of electric shock, avoid contact with earthed objects during use.
  - **DO NOT** allow any person to be in the water during use of this product.
  - This product must be supplied through a residual current device (RCD) with a rated residual operating current of no greater than 30mA.
- **ONLY** connect the pump to a power supply matching the rated voltage of the product.
- This product is **NOT** controlled by a built-in manual power switch and will start up when connected to an active mains power supply if the float switch is in a raised position.
  - **ALWAYS** ensure that the product is positioned correctly and safely before switching on the mains power supply.
- Keep hands and loose clothing well away from the impeller while the pump is connected to a mains power supply.
- **NEVER** position the pump beneath the reservoir water inlet.
- **NEVER** pump water in the direction of people or electrical wiring or equipment.
- Where possible, suspend the pump from a rope or chain or stand it on a brick to prevent any debris from the reservoir bed being drawn into the impeller.



**CAUTION! NEVER use the power cable or the float switch cable for this purpose.**

- The float switch **MUST** be held in position by the cable clamp recess during use.
- The float switch attached to this product is **NOT** suitable for continuous use as an ON/OFF switch.
  - Power to the device should be controlled by the mains power connection; the float switch is intended to stop the pump when the operation is complete.
- Ensure that there are no obstructions in the reservoir before switching on the pump.

## 4. Health and Safety Information

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- **DO NOT** leave this product unattended while it is in use.
  - **DO NOT** use this product with a programmer, timer, separate remote-control system or any other device that switches the product on automatically, or on any circuit that is regularly switched on and off by the utility, as it may pose a hazard if it is switched on unattended.
- **NEVER** run the pump if there is no water passing through it.
- **NEVER** obstruct the outlet as this may severely damage the product.
  - Stop the product **IMMEDIATELY** if you suspect that the outlet or inlet may be blocked or jammed.
- Transport the product using the built-in carry handle **ONLY**.
  - **NEVER** carry the product by the plug, cable or float switch.
- **ALWAYS** use, transport and store this product in its upright position.
- **ALWAYS** ensure that the product is switched off, disconnected from mains power and has completely stopped before entering the water and moving or making any adjustments to the product.

### 4.3 Connection to the Power Supply

This appliance is supplied with an approved plug and cable for your safety. The value of the fuse fitted is marked on the pin face of the plug. Should the fuse need replacing, ensure the substitute is of the correct rating, approved to BS 1363/A and ASTA or BS Kite marked.

ASTA 

BSI 

Replacement of the fuse should only be performed by suitably qualified personnel.

If the power supply cord is damaged, it must be replaced by Draper Tools, an authorised service agent or similarly qualified personnel in order to avoid a hazard.

The damaged or incomplete plug, when cut from the cable, shall be disabled to prevent connection to a live electrical outlet.

This product is Class I† and is designed for connection to a power supply matching that detailed on the rating label and compatible with the plug fitted.

If an extension lead is required, use an approved and compatible lead rated for this appliance. Follow all the instructions supplied with the extension lead.

If the plug must be connected in an outside environment, ensure that the outlet or extension lead is suitably designed for outside use.

**Important:** Always follow the extension lead instructions regarding maximum load while the cable is wound. If in doubt, unwind the entire cable. A coiled extension lead generates heat which could melt the lead and cause a fire.

**Important:** This product **MUST** be used with a residual current device (RCD), e.g. Draper Stock Nos. 69307 or 89301. **ALWAYS** read the manufacturer instructions for any RCD use. For your safety, if an extension cable is used, the RCD **MUST** be installed at the power outlet and not into the extension lead.

†**Earthed:** This product requires an earth connection to protect against electric shock from accessible conductive parts in the event of a failure of the basic insulation.

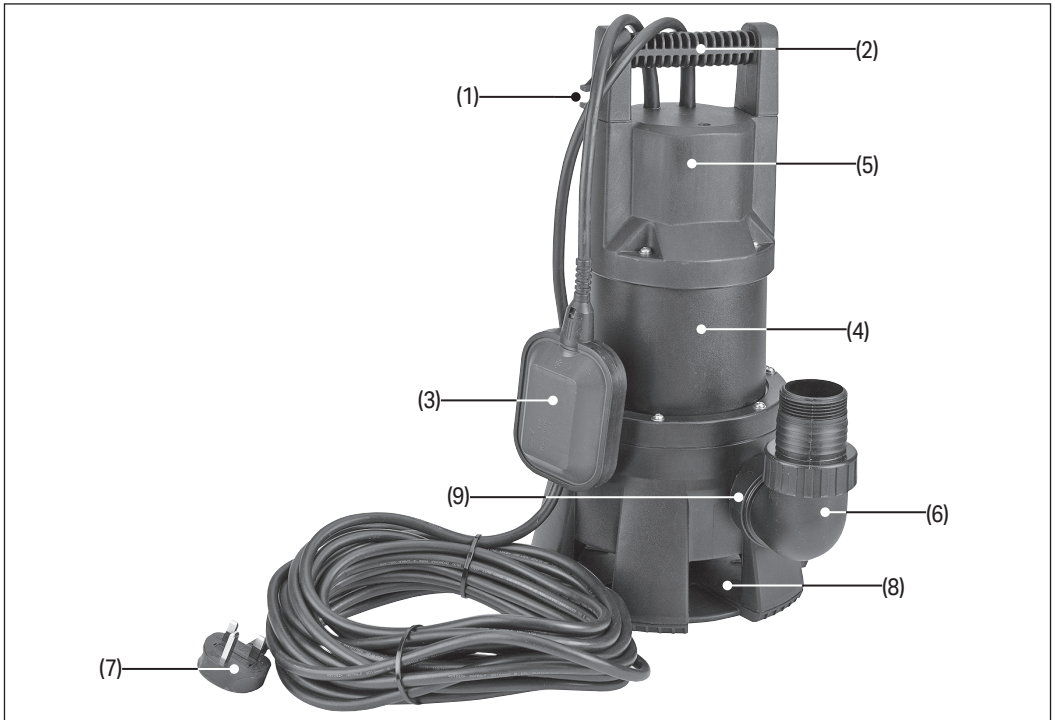
### 4.4 Residual Risk

The safety instructions in this manual cannot account for all possible conditions and situations that may occur. Exercise common sense and caution when using this product and protect against any additional conceivable risks.

# 5. Identification and Unpacking

## 5.1 Product Overview

Carefully remove the product from the packaging and examine it for any signs of damage that may have occurred during shipment. If any part is damaged or missing, do not attempt to use the product. Please contact the Draper Helpline; contact details can be found at the back of this manual.



- (1) Cable clamp
- (2) Carry handle
- (3) Float switch
- (4) Impellor housing
- (5) Motor housing
- (6) Outlet adaptor
- (7) Power cable and plug
- (8) Pump inlet
- (9) Pump outlet

Please visit [drapertools.com](http://drapertools.com) for our full range of accessories and consumables.

## 5.2 Packaging

Keep the product packaging for the duration of the warranty period for reference should the product need to be returned for repair.



**WARNING! Keep packaging materials out of reach of children. Dispose of packaging correctly and responsibly and in accordance with local regulations.**

## 6. Preparation Instructions

**Important:** Before using this product, read and understand all the safety information listed in this manual.

**WARNING!** ALWAYS ensure that the product is switched off, disconnected from the mains and has completely stopped before installing or making any adjustment to the pump.

### 6.1 Installing the Outlet Adaptors

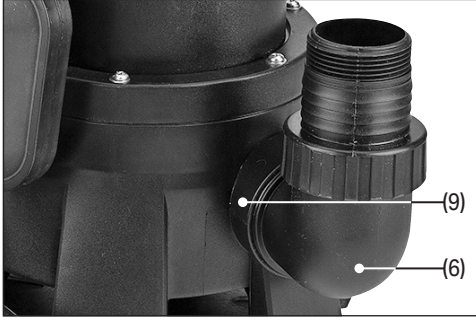


Fig. 1

To connect a delivery hose, screw the outlet adaptor (6) into the pump outlet (9) and slide the end of a layflat hose over the adaptor. The chosen layflat hose should be secured using a suitable retaining clip.

**Important:** Draper Tools recommends wrapping PTFE tape around the screw threads of the adaptor to ensure an airtight seal with the pump.

### 6.2 Installation and Placement

The pump may only be used to move water containing debris of up to the rated maximum particle size. Ensure that all debris exceeding this size is removed from the reservoir before operation as it may cause significant damage to the impeller and pump.

Lower the pump into the reservoir by holding the carry handle (2) or by attaching the handle to a rope or chain.

**CAUTION!** DO NOT use the float switch or power cable to lower the pump into the reservoir.

Where possible, tip the pump slightly as it is submerged to force any residual air out from inside the housing and prime the device.

Ensure that the pump is positioned with enough space for the float switch (3) to move freely. If the float switch becomes trapped or lodged, it may not lower with the water level, which will cause the pump to continue operating when the water level is too low. The location must also be free from mobile or floating objects, such as plants, that may become trapped in the impeller.

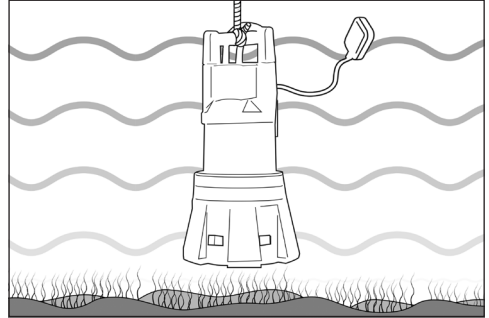


Fig. 2

**Important:** Where possible, the pump should be placed on a raised, stable and level surface or suspended by the carry handle from a rope or chain to prevent debris being drawn into the impeller. Bricks or other firm platforms may be used to raise the pump from the reservoir bed.

**CAUTION!** Draper Tool recommends that the pump is fully submerged before it is connected to the mains power and remains submerged throughout the entire operation. This ensures that the motor remains cool during use. DO NOT run the pump when it is dry. Using the pump above the water level may cause the motor to overheat and damage the pump casing.

Ensure that the delivery hose is as straight as possible and free from kinks, splits or obstructions. Where the pump is used in a permanent or semi-permanent installation, Draper Tools recommends installing a non-return valve onto the delivery hose.



## 6.3 Positioning the Float Switch

The float switch (3) can be used to determine the water levels at which the pump switches on and off when connected to an active mains power supply. The switch contains a bearing that activates the pump when it moves to the cable entry point. As the water level drops, the float switch tips downwards, causing the bearing to roll away from the cable and break the circuit.

The float switch cable **MUST** be anchored in the cable clamp (1). The distance between the clamp and the float switch determines the volume of change in the water level required to switch the pump on and off:

- A shorter distance between the float switch and the cable clamp will reduce the change in depth required to switch the pump on and off.
  - The pump will switch on at a lower water level than when the distance is longer.
  - The pump will switch off at a higher water level than when the distance is longer.
- A longer distance between the float switch and the cable clamp will increase the change in depth required to switch the pump on and off.
  - The pump will switch on at a higher water level than when the distance is shorter.
  - The pump will switch off at a lower level than when the distance is shorter.

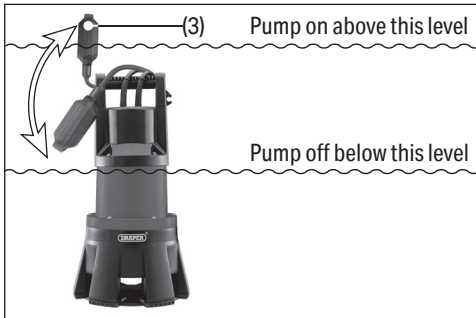


Fig. 3

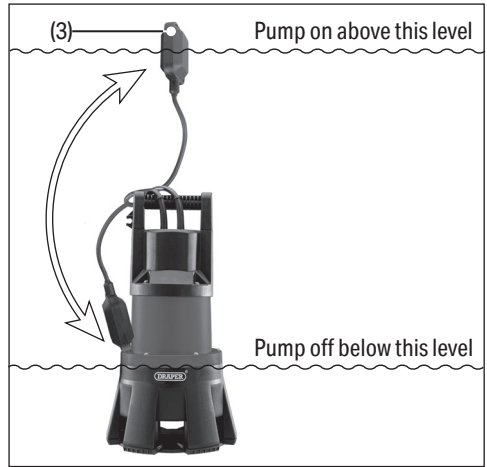


Fig. 4

To ensure that the pump switches off when the water level reaches the top of the pump, anchor the float switch with the shortest distance possible between the switch and the cable clamp. However, the pump will switch on at any time that the water level rises above the top of the pump.

If a higher water level is permissible and a greater distance between the float switch and cable clamp recess is used, be aware that the pump will not switch off automatically when the water level reaches the top of the pump. In this case, the pump should be switched off manually; see 7.1 **Switching the Pump On and Off**.

**CAUTION!** DO NOT allow the pump to operate if the water level is lower than the rated minimum water level.

**Important:** Draper Tools **STRONGLY** recommends that the pump remains completely submerged throughout the entire operation.

## 7. Operating Instructions

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**Important:** To prevent the pump from overheating, Draper Tools **strongly** recommends that the pump remains completely submerged for the entire operation. Exposure of the motor housing above the water level may cause the motor to overheat and damage the product from the inside.

**Damage caused in this way is NOT covered under your warranty.**

**Important:** Ensure that the pump is prepared and positioned correctly **BEFORE** connecting it to mains power.

### 7.1 Switching the Pump On and Off

Once the pump is correctly positioned, connect it to a mains power supply via an RCD and switch on the power supply. If the water level is high enough to maintain the float switch connection, the pump will begin to operate.

The pump will deactivate when the float switch drops to the appropriate level to break the float switch connection. When this occurs, switch off and disconnect the mains power supply.

To manually switch off the pump, hold the float switch in a downwards vertical position to separate the bearing from the cable and break the circuit, or switch off and disconnect the mains power.

The pump is also fitted with a thermal overload that will cause it to stop automatically if its internal temperature becomes too hot. When this occurs, disconnect the pump from mains power, allow it to cool and investigate possible causes of overheating. Once these are resolved, reconnect the pump to the power supply; the pump should start automatically after it has cooled for approximately 20 minutes. If the pump does not start automatically, disconnect it from the power supply and contact Draper Tools for support.

### 7.2 Pumping Distance and Volume

The maximum horizontal pumping distance and hourly volume of water transferred are directly affected by the working head height.

The term **head** refers to the difference in vertical height between the surface of the water and the highest point to which the water is pumped, regardless of the length of the hose.

As the head increases, the pumping distance and volume decrease more rapidly. The relationship between head and pumping distance varies between pumps.

## 8. Maintenance and Troubleshooting

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**Important: ALWAYS** ensure that the pump has completely stopped and is disconnected from mains power before attempting any product care. Technical maintenance and servicing may **ONLY** be performed by authorised Draper Tools service agents.

### 8.1 General Care and Storage

- Periodically flush the pump through with fresh clean water, particularly if it is left in water for extended periods or it has not been used for some time.
- Regularly assess and clean the impeller housing (4) to prevent the build-up of obstructive debris.
  - If the pump is used frequently in water containing debris that is likely to accumulate on the pump body, rinse it thoroughly after every use.
  - The impeller can be accessed by loosening the six screws in the base of the product and removing the impeller housing.
- Clean the outside of the pump with a dry or damp cloth **ONLY**.
  - **DO NOT** use solvents or aggressive chemicals to clean this product as they may damage plastic and insulated parts.
- Ensure that the product is dry before storage.
- Store this product out of direct sunlight and out of reach of children.
- If the product is installed permanently, run the pump at least once a week to prevent seizing and binding within the motor.
- Protect the product from frost.



**CAUTION! NEVER allow residual water inside the pump to freeze as this may cause irreparable damage.**

## 8.2 Troubleshooting

Problem	Possible Cause	Remedy
The pump does not switch on.	The power cable is not connected to the power supply or the power supply is not active.	Check the connection to the power supply.
	The power cable or plug is faulty.	<b>DO NOT</b> continue to use the product. Contact Draper Tools for repair and replacement options.
	The fuse in the plug has blown.	Replace the fuse.
	The residual circuit breaker has tripped.	Investigate the cause, then check and reset the RCD if required.
	The float switch has not been raised to a high enough position to complete the circuit.	Increase the volume of water in the reservoir, lower the position of the pump or shorten the length of cable between the float switch and the cable clamp recess.
The pump is operating but is not outputting water.	The water level is below the minimum operating level for the pump.	Increase the water level or lower the pump where possible.
	The inlet is clogged.	Inspect and clean the impellor housing.
	The outlet or hose adaptor is clogged.	Remove the hose adaptor and check it and the pump outlet for obstructions.
	The head height exceeds the capabilities of the pump.	Reduce the vertical distance that the water must be pumped.
	An air bubble has formed inside the pump.	Remove the pump from the reservoir and resubmerge it at an angle, shaking it as it is lowered to disperse any air trapped within the mechanism.
Water is leaking from the pump or hose.	The hose adaptor o-ring is damaged or missing.	Check and replace the hose adaptor o-ring as necessary. Wrap PTFE tape around the adaptor thread before reassembly.
	The output hose has been punctured.	Check the output hose for signs of splits, kinks and obstructions.
The thermal overload activates and the pump stops	The voltage of the power supply does not match the product rating plate.	Disconnect the product from the power supply and connect it to a suitable outlet.
	The pump is operating in hot water.	Allow the pump and the reservoir to cool before restarting.
	The pump has run dry.	Allow the pump to cool and adjust the water level or pump position as appropriate before restarting.

## 9. Spares, Returns and Disposal

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For spare parts, servicing, and repair and replacement options, please contact the Draper Tools Product Helpline for details of your nearest authorised agent.

Draper Tools will endeavour to hold any spare parts, if applicable, for seven years from the date that it sells the final matching stock item.

Any servicing or repairs carried out by unauthorised personnel or installation of spare parts not supplied by Draper Tools will invalidate your warranty.

**Important: ALWAYS** drain and clean the product of any water and debris before returning it to Draper Tools or its authorised agent. A charge may be applicable if Draper Tools must clean the product before investigating a fault.

Draper Tools will not service any product that has been used to pump sewage, slurry or other such materials. All returns must be thoroughly cleaned and drained before delivery to Draper Tools or their authorised agent.

At the end of its working life, dispose of the product responsibly and in line with local regulations. Recycle where possible.

**DO NOT** dispose of this product with domestic waste; most local authorities provide appropriate recycling facilities.



# 10. Warranty

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Draper Tools products are carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship.

Should the tool develop a fault, return the complete tool to your nearest distributor or contact Draper Tools directly. Contact information can be found at the back of this manual.

Proof of purchase must be provided.

If, upon inspection, it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This warranty period covers parts and labour for 12 months from the date of purchase. Where tools have been hired out, the warranty period covers 90 days from the date of purchase.

This warranty does not apply to any consumable parts, batteries or normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accidents, or repairs attempted or made by any personnel other than the authorised Draper Tools repair agent.

In all cases, to make a claim for faulty workmanship or materials within the standard warranty period, please contact or return the product to the place of purchase. Proof of purchase may be required.

If the place of purchase is no longer trading or if you experience any difficulties with your warranty, please contact Customer Services with the product details and your proof of purchase. Contact details can be found at the back of this manual.

If the tool is not covered by the terms of this warranty, repairs and carriage charges will be quoted and charged accordingly.

This warranty supersedes any other guarantees expressed or implied and variations of its terms are not authorised.

Your Draper Tools guarantee is not effective until you can produce, upon request, a dated receipt or invoice to verify your purchase within the guarantee period.

Please note that this warranty is an additional benefit and does not affect your statutory rights.

## **Draper Tools Limited**

# 11. Explanation of Symbols

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Read the instruction manual



**Warning!**



Rated input



Max. flow rate



Max. head height



Output diameter with and without reducing adaptor



Max. particle size



**Warning!** Not for use in fish ponds

**IPX8**

IP rated for continuous submersion of over 1m



Class I appliance



WEEE-

Waste Electrical & Electronic Equipment

Do not dispose of Waste Electrical & Electronic Equipment in with domestic rubbish



European conformity



UK Conformity Assessed

## Contact Details

### **Draper Tools**

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Please contact the Draper Tools Product Helpline for repair and servicing enquiries.