



ENERGY SAVER

2 in 1 waterfall & utility pump

12500

23500



IMPORTANT: PLEASE ATTACH PROOF OF PURCHASE TO THIS MANUAL AND FILE IN A SAFE PLACE.

Please visit www.blagdonwatergardening.co.uk for helpful hints, tips, how-to videos and spares.  **BlagdonWaterGardening**



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2 in 1 waterfall & utility pump

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**Congratulations on buying a Blagdon
Energy Saver 2 in 1 Waterfall & Utility pump.**

These pumps have been manufactured using the highest quality materials to deliver a durable, powerful, energy-saving pump. The range of fittings and advanced functions included with your pump have been researched and designed to provide outstanding performance.

Please take time to carefully read this instruction booklet, so that you may gain an understanding of how to use your pump to its maximum potential, granting you the greatest benefit.

IMPORTANT

Please attach proof of purchase to this manual and file in a safe place.

CONTENTS

Getting to know your Energy Saver

2 in 1 Waterfall & Utility Pump 2

Exploded diagram 2

Spare parts list 3

Pump performance flow rate 3

Technical specification 4

Installation 4

Electrical installation 4

Waterfalls, Pond & Aquaponics 5

Utility, Drainage, Irrigation & Hydroponics 6

Universal fittings set 7

Pump Functions 8

Digital functions 8

Run dry protection timings 9

Pump Maintenance 9

Winter storage 9

Routine maintenance 10

Cleaning the impeller 11

Annual maintenance 11

Troubleshooting 12

Troubleshooting and maximising performance 12

Faults problem procedure 12

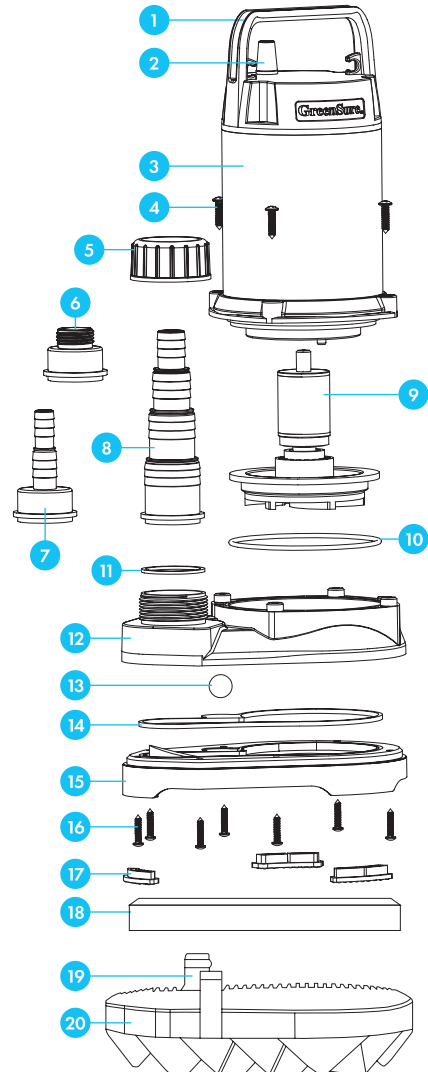
Consumer advice contact details 13

Guarantee 13

Environment friendly disposal 13

GETTING TO KNOW YOUR PUMP

	Part Description	12500 Spare Code	23500 Spare Code
1	Pump handle	N/A	
2	Cable inlet gland	N/A	
3	Pump motor housing	N/A	
4	Impeller cover screws	8968	8969
5	Outlet adaptor/hose tail locking nut	8970	
6	GHT outlet adaptor	8970	
7	1/2" & 3/8" stepped hose tail	8970	
8	3/4", 1", 1 1/4" & 1 1/2" stepped hose tail	8970	
9	Impeller	8968	8969
10	Impeller chamber O-ring	8968	8969
11	Outlet O-ring set	8970	
12	Impeller cover	N/A	
13	Air release ball	N/A	
14	Inlet cover O-ring	N/A	
15	Inlet cover	N/A	
16	Inlet cover screws	N/A	
17	Rubber feet set	8970	
18	Optional foam pre-filter x6	8973	
19	Intake cage clips	8971	8972
20	Intake cage	8971	8972



GETTING TO KNOW YOUR PUMP

PUMP PERFORMANCE FLOW RATE

Lift (metres)	LPH	LPH per Watt	LPH	LPH per Watt
8.5m			1,380	7
8m			2,070	11
7.5m			2,610	14
7m			3,670	19
6.5m	450	3	4,470	24
6m	1,670	12	4,780	25
5.5m	1,980	15	5,210	27
5m	2,178	16	5,720	30
4.5m	3,049	23	6,630	35
4m	3,485	26	7,520	40
RFR 3.5m	3,684	27	8,650	46
3m	3,702	27	9,510	50
2.5m	4,367	32	10,600	56
2m	5,045	37	11,300	59
1.5m	5,607	42	12,260	65
1.0m	6,372	47	12,280	67
0.5m	6,711	50	13,200	69
0m	7,190	53	13,636	72
Model & Power	12500 (135W)		23500 (190W)	

RFR Realistic flow rate when installed and running through pipe work and a waterfall.



TECHNICAL SPECIFICATIONS:

Model	12500	23500
Cable length	10m	10m
Voltage/ frequency	230v/50Hz	230v/50Hz
Watts	135w	190w
Max submerged depth	1.5m	1.5m
Maximum Flow	7,190 litres/hour	13,636 litres/hour
Maximum Lift	6.7m	9.0m
Pump dimensions (with cage)	31cm x 29cm x 16cm	34cm x 29cm x 16cm

INSTALLATION

Electrical installation

The power supply must meet the specifications on the product.

The pump is designed to be used with either a weather-proof cable connector or connected to the mains by means of a plug and socket.

The cores in the supply cable are coloured in accordance with the following code:

Brown = Live, Blue = Neutral, Green/Yellow = Earth

The electrical cable is permanently connected and sealed inside the motor body and controller.

If the supply cable is damaged the pump must not be used.

Do not use the supply cable to lift the pump, as this may cause damage.



WARNING:

A Residual Current Device (RCD), also known as the Residual Current Circuit Breaker (RCCB), with a tripping current not exceeding 30mA must be installed in the supply circuit. A means of disconnection from the supply having a contact separation of at least 3mm in all poles must be incorporated in the fixed wiring.

For permanent installations to the mains supply, it is necessary to conform to the regulations of the local electricity authority and this would include the use of a metal or plastic conduit to protect the cable.

Attention has been drawn to the fact that the special rules may exist concerning the installation of your pond pump (i.e. local building regulations). These pumps must not be used in swimming pools, or areas where people are in contact with the water.

Always disconnect and isolate the product from the mains electricity supply whilst the equipment is being installed, repaired, maintained or handled. Consult a qualified electrician if you are in any doubt about wiring this product to the mains supply.

IMPORTANT: This appliance can be used by children aged 8 and above and 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 shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



WARNING: The pump is provided with a thermal cut out that temporarily switches off the pump in case of overheating and the pump may automatically restart.

WARNING: Never run the pump out of water as this may cause irreparable damage.

WARNING: Risk of electric shock - This has not been investigated for use in swimming pools or marine areas.

INSTALLATION

IMPORTANT: If using the one of the stepped hose tails, it is advised to use an adjustable hose clamp suitable for your chosen hose diameter to ensure the hose does not release from the outlet during operation of the pump.

The outlet hose should be smooth bore (not corrugated) pipe installed over as short a distance as possible, with no kinks or bends. We recommend using a smooth bore clear hose or smooth bore heavy duty black hose.

WATERFALLS, POND & AQUAPONICS

Low-maintenance intake cage fitted for use in 'dirty water'.

Remove the rubber isolation feet if fitted. Attach the intake cage to the base of the pump, and engage the two 'cage clips' to secure.



IMPORTANT: The optional foam intake pre-filter should NOT be fitted in dirty water applications. Fitting the foam in dirty water applications will dramatically increase maintenance and reduce the pumps performance. **Note:** The pump intake & cage is designed to safely accept solids up to 6mm.

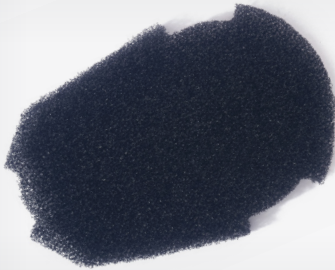
UTILITY, DRAINAGE, IRRIGATION & HYDROPONICS



Low water intake, for use in 'clean water'.

6mm solids handling,
low water intake

Attach the three noise-reducing
rubber isolation feet



'Clean water' foam pre-filter

The optional 'clean water' foam pre-filter, can be fitted within the pump base to reduce blockages of aquaponic systems & irrigation heads. The pre-filter foam (when fitted) removes fine debris.

Note: The pump intake & cage is designed to safely accept solids up to 6mm.



Low water intake

Vertically installed, the pump extracts water efficiently to a 9mm depth.

Pumps water from a
minimum depth of 41mm

Drains water down to a
minimum depth of 9mm

UNIVERSAL FITTINGS SET

Universal all-in-one fittings set included for a wide range of pump uses.

Multiple hose fitting

Cut to
required
size

3/4"
1"
1 1/4"
1 1/2"



Garden hose fittings

Quick fit
threaded
outlet G 3/4"

OR

Cut to
required size

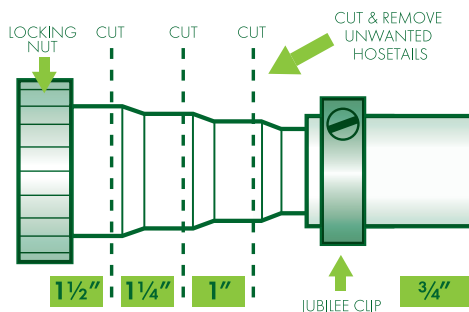
5/8"
1/2"



IMPORTANT: The largest 1 1/2" diameter hose will give optimum flow. The smaller hose tails must be cut off so that the flow of a larger hose option, if fitted do not restrict the flow therefore reducing performance.

Connecting the inlet/outlet hoses

- Always secure the hose with a jubilee clip.
- Warming the hose in a bucket of warm water can aid fitting.
- Always ensure the smaller diameter hose tails are cut off and removed to prevent poor performance and flow rate from the outlet.
- Use the shortest possible lengths of hose, in order to minimise flow restrictions.
- Avoid folds and kinks in the hose, which will reduce flow.



IMPORTANT:

The outlet hose should be smooth bore (not corrugated) pipe installed over as short a distance as possible, with no kinks or bends. We recommend that a smooth bore clear hose, or smooth bore heavy duty black hose are used.

FUNCTIONS

DIGITAL FUNCTIONS

The **Blagdon Waterfall and Utility Pump** comes equipped with an internal digital controller, which allows for a couple of pre-set programmes to help extend the life of the motor.



Soft Start Feature

When power is supplied to the **Blagdon Waterfall and Utility Pump** the flow rate and pressure will gradually increase – this is a function controlled by the digital controller within the motor. This function reduces pump wear on start up and reduces stress on any pipework or equipment attached to the system, decreasing the risk of leaks or damage.



Run Dry Protection

This protects the motor in a situation where it might be running without water. The digital control will detect the lower resistance on the impeller from the absence of water. After running without water for 60 seconds, the pump will enter “Run Dry Protection” programme.

In this mode it will cycle between testing for the presence of water and being paused. This cycle will last 2 minutes and 25 seconds. After this, the pump’s digital controller will activate the “Long Term Protection” programme where it will pause for 2 minutes and test for water for 15 seconds. This programme will then repeat until either the water level has returned to a level at which the motor can run, or the power has been reset for 60 seconds to reset the programme.

IMPORTANT: If a sufficient volume of water is returned to the reservoir during the pump pause phase of the Run Dry Protection programme, when it reaches the next pump on phase it will automatically return to its normal function.

Turning off the power supply for 60 seconds will reset the controller and restart the programme from the initial pump on when power is restored.

FUNCTIONS

RUN DRY PROTECTION TIMINGS

Pump action	Duration
No Water	60 seconds
Pump pause #1	12 seconds
Pump on – testing for water #1	15 seconds
Pump pause #2	12 seconds
Pump on – testing for water #2	15 seconds
Pump pause #3	12 seconds
Pump on – testing for water #3	15 seconds
Pump pause #4	12 seconds
Pump on – testing for water #4	15 seconds
Pump pause #5	12 seconds
Pump on – testing for water #5	15 seconds
Pump pause #6 and beyond	120 seconds
Pump on – testing for water #6 and beyond	15 seconds

IMPORTANT:

Although the Blagdon waterfall and Utility pump has a Run Dry Protection mode, do not use of the pump without water.

MAINTENANCE

WINTER STORAGE

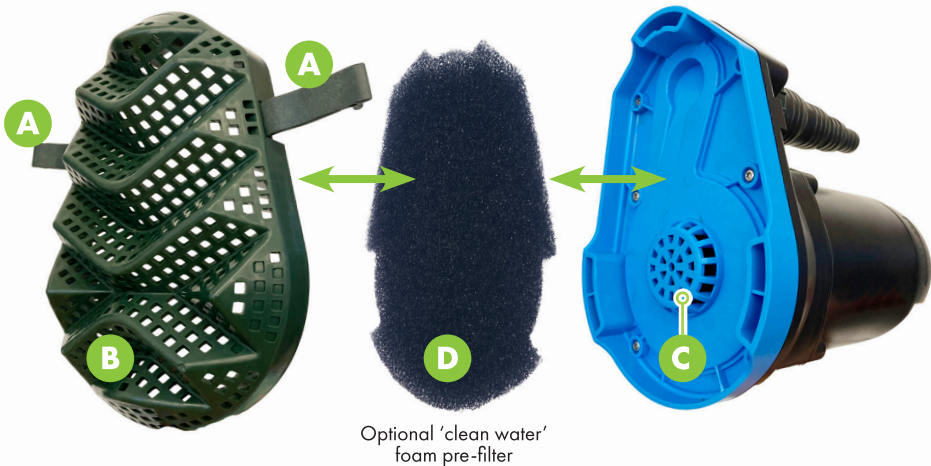
The pump can be run in an outdoor reservoir during the winter, but care should be taken to ensure that it is fully immersed and cannot freeze solid. If the pump is not used during the winter, follow annual maintenance procedure and store frost-free in the house or garage until spring. No additional steps need to be taken for an indoor reservoir.

MAINTENANCE

ROUTINE MAINTENANCE

Carry out routine maintenance when pump flow is visibly reduced.

1. Switch off electricity and unplug pump from the mains.
2. Remove pump from reservoir (DO NOT use the cable to lift the pump).
3. Unclip the two cage clips **A** and remove the 'dirty water' intake cage **B** (if fitted). Clean thoroughly.
4. Clean the impellor intake grill **C** thoroughly
5. Remove the optional 'clean water only' foam pre-filter **D**.
Clean thoroughly in fresh water or replace.



WARNING:

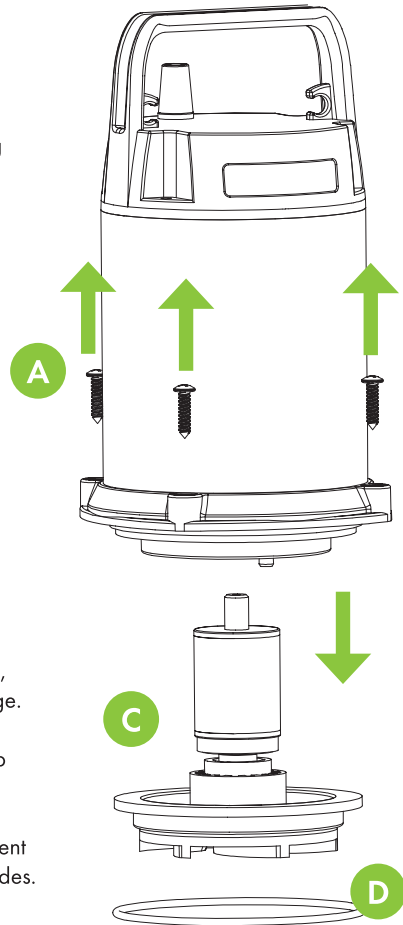
Failure to carry out routine maintenance leaving the pump under reduced or no flow conditions for long periods will result in a shorter pump life and will invalidate the guarantee.

MAINTENANCE

CLEANING THE IMPELLER

In conditions where the water is contaminated, there is a risk of obstructing the impeller with debris, preventing it from rotating. This pump incorporates a digital motor protection system designed to prevent impeller rotation if it becomes physically obstructed by debris, thus safeguarding the pump from enduring permanent damage. To check for a potential obstruction, power off the pump from the mains for 60 seconds, then restart it. This action initiates a pump restart, serving as a test for the presence of any debris. Ensure the pump is fully assembled and submerged. If the pump fails to start, disassemble it and clean the impeller.

Proceed by removing the four screws **A** securing the impeller cover. This action releases the impeller cover, including the intake grill **B**. Thoroughly wash both the cover and grill with fresh water. Gently pry the impeller from the motor housing **C** and wash the impeller cover and impeller chamber in fresh water. Importantly, retain and refit the impeller cover O-ring **D** after cleaning.

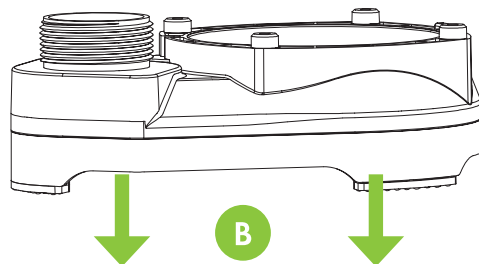


ANNUAL MAINTENANCE

Dismantle pump and examine all parts for wear or damage, replacing any parts that show obvious wear and/or damage. Particular care should be taken to examine the cable entry point and the cable; if there is any sign of damage the pump should be discarded.

The impeller and impeller O ring are available as replacement parts. See page 2 getting to know your pump for spares codes.

The **Blagdon Waterfall and Utility pump** is a digitally controlled centrifugal pump with a magnetic impeller movement driven by a watertight asynchronous motor. It requires minimum cleaning; only periodic cleaning of the pre-filter and impeller is necessary.



TROUBLE SHOOTING

PROBLEM

Low flow from pump

1. Follow routine cleaning procedure if no improvement.
2. Follow cleaning the impeller procedure.
3. Ensure pipe work is not blocked or leaking or is laid so that it gets crushed or kinked.
4. Keep the height that water is to be pumped from the water surface (called Head) to a minimum. The higher the head the lower the flow rate and the more wear on the pump.
5. Use the largest diameter, smoothest bore pond hose over the shortest distance and keep hose fittings to a minimum. This removes frictional loss of flow and increases pump flow rates.

No flow from pump

1. Follow low flow procedure as above.
2. Check power supply is on.
3. Check that the pump has not entered the Run Dry Protection mode – observe it for 2 minutes to check if it attempts to run, add water to the reservoir if required or turn off the power supply for 60 seconds, then turn the supply back on and observe for a return to normal function.
4. Check fuse and wiring (SEE ELECTRICAL INSTALLATION).

FAULTS - PROBLEMS PROCEDURE

Before returning your pump to your retailer, please carry out the following steps.

This will solve most problems quickly and easily.

1. Ensure electrical procedure has been followed fully. Check fuse and any cable connectors/switch boxes. **NOTE:** If the pump has overheated the thermal overload will temporarily switch off the pump.
2. Follow the steps below:
 - (a) Follow routine maintenance and check pump.
 - (b) Follow troubleshooting guide.
 - (c) Follow maintenance guide 'cleaning the impeller'.
 - (d) Follow annual maintenance guide.
3. Return pump to point of purchase for inspection and advice. You may need proof of purchase.

CONSUMER ADVICE CONTACT DETAILS

Interpet (Blagdon) Consumer Advice Department
Vincent Lane, Dorking, Surrey RH4 3YX
E-mail: customercare@interpet.co.uk

GUARANTEE

This product is guaranteed against defects in materials and workmanship for 3 years from the date of purchase, under normal usage. **The guarantee DOES NOT APPLY in case of improper use, negligence, lack of maintenance or accidental damage either to the pump, or impeller.**

This guarantee is not transferable and does not affect your statutory rights. This guarantee does not confer any rights other than those expressly set out above. Excludes the impeller and pre-filter foam, which may become worn over time. If any parts need replacing, spares are available from your local retailer.

ENVIRONMENT FRIENDLY DISPOSAL



You can help to protect the environment, please remember to respect local regulations: hand in non-working electrical equipment to an appropriate waste disposal centre.





Established over 50 years ago, Blagdon are committed to producing a comprehensive range of high quality and easy to use water gardening equipment. We have an on-going programme of research and development that ensures excellent product performance and value for money for our customers. Our products are brought together with half a century of expertise and knowledge so you can be assured of a successful and creative water garden.

INNOVATIVE



DESIGN

Interpet Ltd. Interpet House, Vincent Lane,
Dorking, Surrey RH4 3YX, England

Interpet Europe Ltd, 22 Northumberland Road,
Ballsbridge, Dublin 4, Ireland D04 ED73

www.blagdonwatergardening.co.uk

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