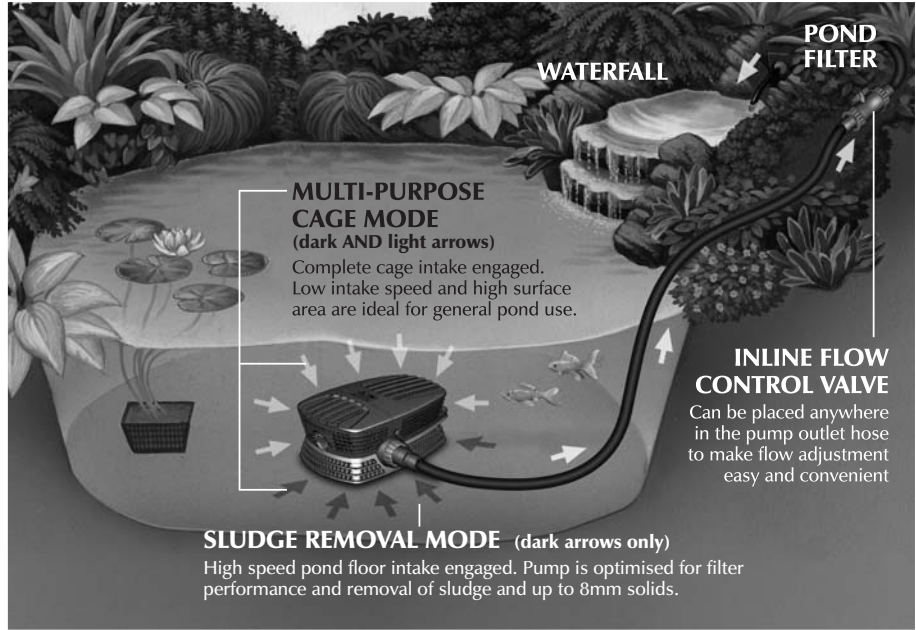


# INSIDE FRONT COVER SEE SEPARATE QUARK DOCUMENT

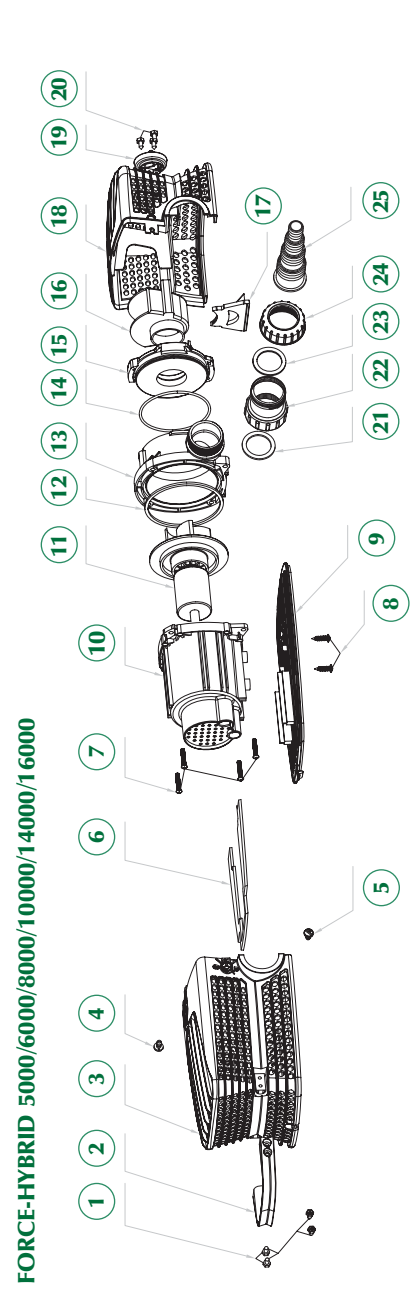
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## GETTING TO KNOW YOUR FORCE-HYBRID PUMP



## GETTING TO KNOW YOUR FORCE-HYBRID PUMP

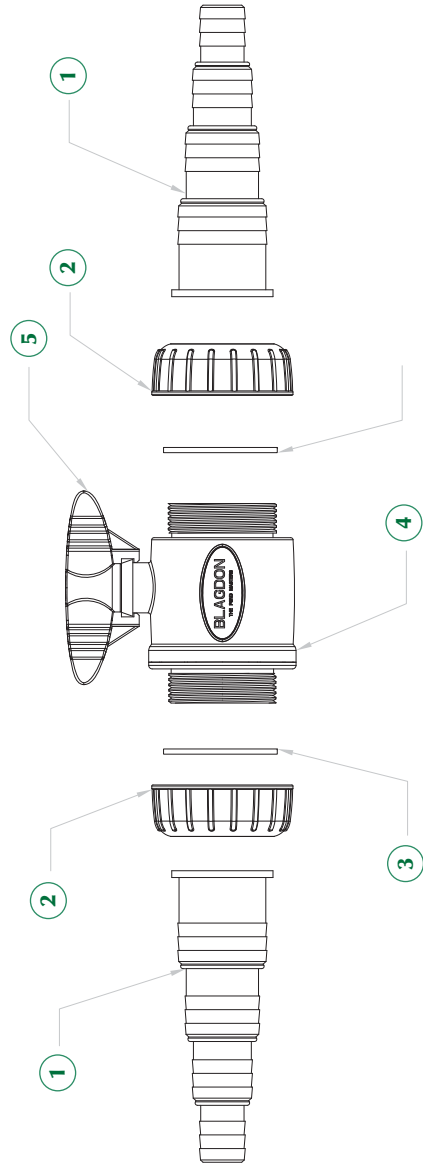


No.	Part Description	Code	No.	Part Description	Code
1	Handle screws		12	Impeller housing seal 5000-6000-8000-10000	in part 14
2	Handle			Impeller housing seal 14000-16000	in part 14
3	Back cage		13	Impeller housing 5000-6000-8000-10000	
4	Cage locks		14	Impeller housing 14000-16000	1050807
5	Back cage divider 5000			Impeller cover seal 5000-6000-8000-10000	1050814
	Back cage divider 6000-8000-10000		15	Impeller cover seal 14000-16000	1050838
	Back cage divider 14000-16000			Impeller cover 5000-6000-8000-10000	1050845
7	Impeller housing screws	in part 11	16	Impeller cover 14000-16000	
8	Motor location screws	in part 11	17	Inlet valve	
9	Cage base			Valve locator	in part 15
10	Motor Housing		18	Front cage	
11	Impeller assembly 5000		19	Intake valve switch	
	Impeller assembly 6000	1050722	20	Intake valve switch screws	
	Impeller assembly 8000	1050739	21	Outlet cage adaptor seal	
	Impeller assembly 10000	1050746	22	Outlet cage adaptor	
	Impeller assembly 14000	1050753	23	Inlet / outlet lock nut seal	1050821
	Impeller assembly 16000	1050760	24	Inlet / outlet lock nut	
		1050777	25	1 1/2" - 11/4" - 1" - 3/4" multi Hoseetail	

Please note: Spares / replacements of all of the parts / fittings listed above are available from your retailer.

## GETTING TO KNOW YOUR FORCE-HYBRID PUMP

### FORCE-HYBRID - INLINE FLOW CONTROL VALVE EXPLODED



No.	Part Description	Spare Code
1	1 1/2" - 1 1/4" - 1" - 3/4" multi Hose tail	105616
2	Inlet / outlet lock nut	
3	Inlet / outlet lock nut seal	
4	Ball valve	
5	Flow control valve handle	

## GETTING TO KNOW YOUR FORCE-HYBRID PUMP

### PUMP - LIFT CHART

FORCE-HYBRID PUMP FLOW RATE IN LITRES/HOUR

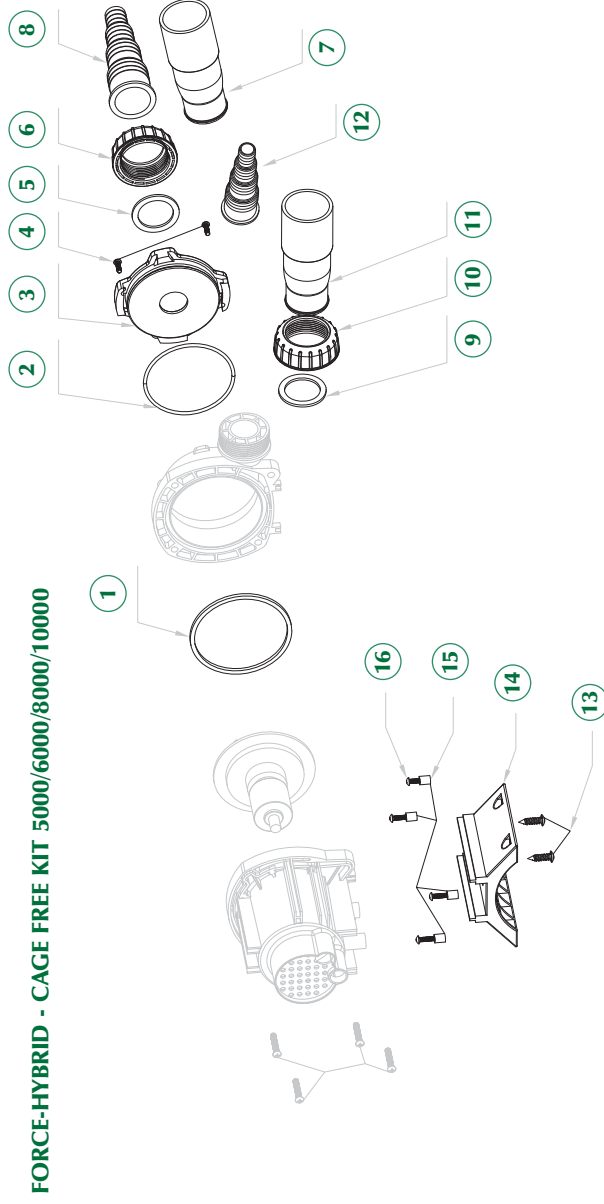
HEAD (M)	MEDIUM FH5000	MEDIUM+ FH6000	LARGE FH8000	LARGE+ FH10000	XLARGE FH144000	XLARGE+ FH16000
5.00						1500
4.50			800	1800	2000	3000
4.00			1800	2500	3000	4200
3.50			2500	3340	4290	5600
3.00		1200	3500	4350	5700	6400
2.50	1100	2000	4180	5050	7200	7730
2.00	2050	2880	5000	5900	8360	9250
1.50	2735	3575	5590	6700	9570	10625
1.00	3460	4360	6220	7520	10750	12000
0.50	4100	5100	6800	8400	12000	13320
0.00	4650	5800	7300	9200	12900	14900

Flow is given as optimum rate

### Technical Specification and Performance

MODEL	MEDIUM FH5000	MEDIUM+ FH6000	LARGE FH8000	LARGE+ FH10000	XLARGE FH144000	XLARGE+ FH16000
Cable Fitted	10m	10m	10m	10m	10m	10m
Voltage	230V	230V	230V	230V	230V	230V
Hertz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz
Watts	77W	105W	140W	185W	220W	260W
Safety Rating	IPX8	IPX8	IPX8	IPX8	IPX8	IPX8
Maximum Flow	4650 ltr/hr 1023 gal/hr	5800 ltr/hr 1276 gal/hr	7300 ltr/hr 1606 gal/hr	9200 ltr/hr 2024 gal/hr	12900 ltr/hr 2838 gal/hr	14900 ltr/hr 3278 gal/hr
Maximum Lift	3m 9'8"	3.5m 11'5"	4.8m 15'7"	5.5m 18'	4.8m 15'7"	5.5m 18'

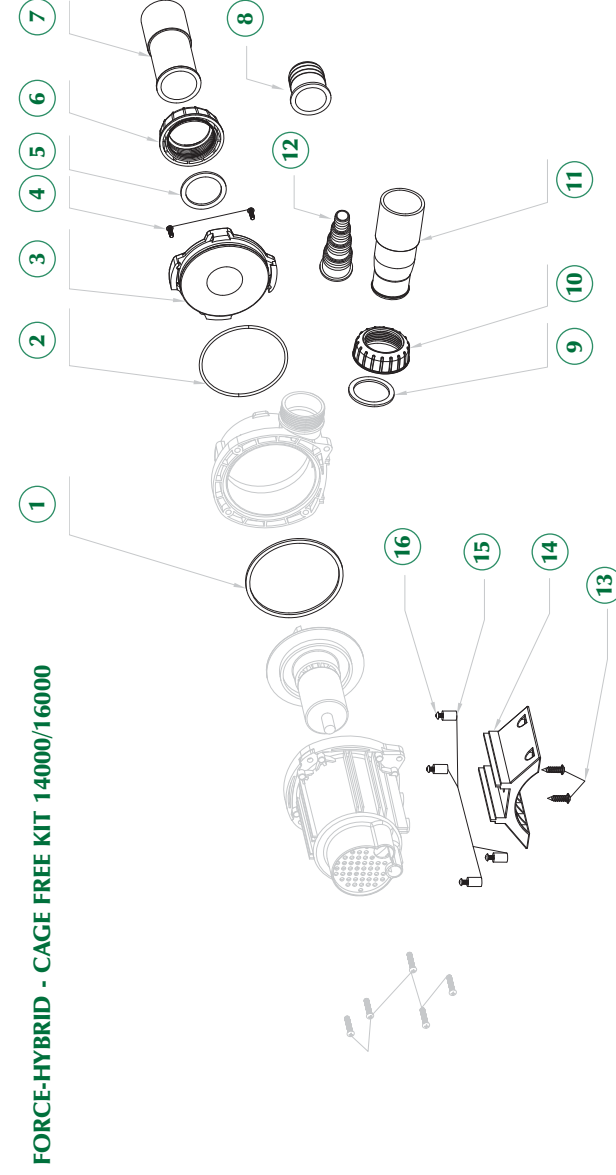
## GETTING TO KNOW YOUR FORCE-HYBRID PUMP



**FORCE-HYBRID - CAGE FREE KIT 5000/6000/8000/10000**

No.	Part Description	No.	Part Description	Spare Code
1	Impeller housing seal 5000-6000-8000-10000	9	Inlet / Outlet lock nut seal	
2	Impeller cover seal 5000-6000-8000-10000	10	Inlet / outlet lock nut	
3	Cage free kit Impeller cover 5000-6000-8000-10000	11	Inlet outlet solvent weld female 1 1/2 fitting	
4	Cage free kit Impeller cover locating screws	12	1 1/2 - 1 1/4" - 1" - 3/4" multi Hose/tail	1050784
5	Inlet / Outlet lock nut seal	13	Motor location screws	
6	Inlet / outlet lock nut	14	Cage free motor foot	
7	Inlet outlet solvent weld female 1 1/2 fitting	15	Foot location wall plugs	
8	1 1/2 - 1 1/4" - 1" - 3/4" multi Hose/tail	16	Foot location screws	

## GETTING TO KNOW YOUR FORCE-HYBRID PUMP



**FORCE-HYBRID - CAGE FREE KIT 14000/16000**

No.	Part Description	No.	Part Description	Spare Code
1	Impeller housing seal 14000-16000	9	inlet / Outlet lock nut seal	
2	Impeller cover seal 14000- 16000	10	Inlet / outlet lock nut	
3	Cage free kit Impeller cover 14000-16000	11	Inlet outlet solvent weld female 1 1/2 fitting	
4	Cage free kit Impeller cover locating screws	12	1 1/2 - 1 1/4" - 1" - 3/4" multi Hose/tail	1050791
5	14000-16000 wide bore Inlet lock nut seal	13	Motor location screws	
6	14000-16000 wide bore Inlet lock nut	14	Cage free motor foot	
7	14000-16000 wide bore Inlet solvent weld female 1 1/2 fitting	15	Foot location wall plugs	
8	14000-16000 1 1/2 Hose/tail	16	Foot location screws	

## INSTALLATION

### Electrical installation



The power supply must meet the specifications on the product.

The pump is intended to be used with either a weather-proof cable connector or connected 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 electric cable is permanently connected and sealed in the motor body.

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.

**IMPORTANT:** If this product is installed using a Blagdon Powersafe armoured garden power supply fitted with a flexible lead to a three pin plug, in conjunction with a circuit breaker as recommended. It would not therefore be deemed to be a permanent part of the house wiring and would not fall within the scope of Part P of the building regulations. However if the product is wired directly into a fixed wiring spur, it will fall under part P of the building regulations and must be installed by a qualified electrician or in consultation with a building control officer.

### ELECTRICAL STANDARDS STATE THAT:

- All outdoor power supplies must be protected by a circuit breaker.
- All outdoor electrical components must comply with outdoor weatherproof safety standards.
- All power supplies across the garden must be carried by metal sheathed armoured cable. If buried, warning tape must be applied.



You can take power to your pond/garden using a Blagdon Powersafe Armoured Garden Power Supply and Circuit Breaker. This provides safe, legal and easy DIY power to your pond or garden. Other garden power products are available in the Blagdon Powersafe range.



### WARNING - THIS PUMP MUST BE EARTHED

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.

## INSTALLATION

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 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 mains electricity supply whilst the equipment is being installed, repaired, maintained or handled. Consult a qualified electrician if in any doubt about wiring this product to the main supply.



**Warning -** The Force-Hybrid pump is provided with a thermal cut out that temporarily switches off the pump in case of overheating and the pump may automatically restart.

### Locating your Force-Hybrid Pump

The Force-Hybrid pump should be located on a firm and level base in the pond/water feature in a depth of at least 15cm, but no more than 3m.

### Water Feature / Filter / Waterfall

Depending on water feature to be supplied, your pump can be used with 1 1/2" 1/4" 1" 1/2" hose fitting. Hose clips should be used to secure hose.

**Tip:** The larger 1 1/2" hose fitting will give maximum pump flow performance.

- Ensure pipe work is not blocked, leaking or is laid so that it gets crushed or kinked.
- 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.
- 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 so increases pump flow rates.

Also see the explanatory diagram on page 2.

## MAINTENANCE & CLEANING

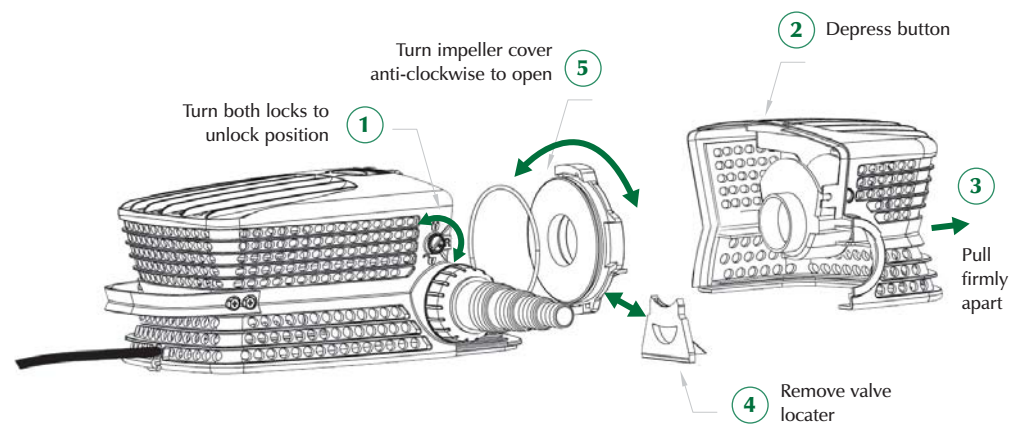


**Warning** - Failure to carry out routine maintenance leaving the pump under reduced or no flow conditions for long periods (i.e. blocked outlet, pipework filter cage) will result in a shorter pump life and will invalidate the guarantee.

**Blagdon Force-Hybrid Pumps** are centrifugal pumps with a magnetic impeller movement driven by a watertight asynchronous motor. They require minimum cleaning, only periodic cleaning of the pre-filter cage and impeller is necessary.

### Monthly Maintenance/Opening the cage

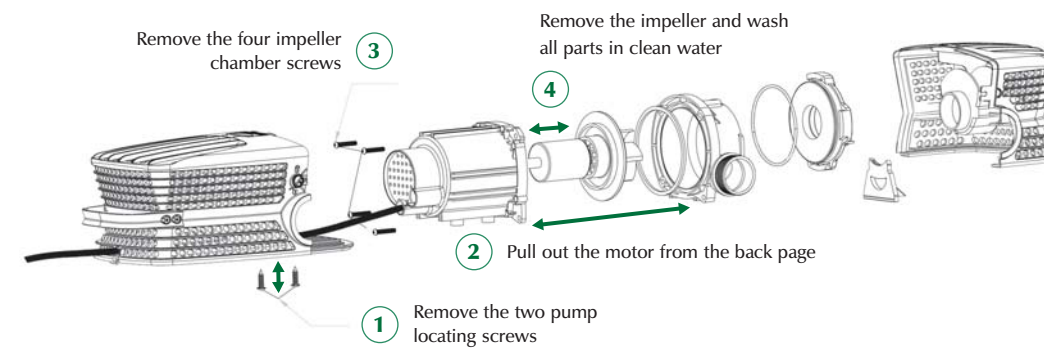
Remove cage and impeller cover, wash all parts thoroughly with fresh water.



## MAINTENANCE & CLEANING

### Annual Maintenance/Removing the impeller

First follow the Monthly Maintenance/Opening the cage steps. Remove the impeller and wash all parts thoroughly with fresh water.



Dismantle pump and examine all parts for wear or damage, replacing any parts that show obvious wear and/or damage. (See getting to know your pump for parts/description and replacement parts codes.) 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.

### Winter Storage

The pump can be run in the pond 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.

## TROUBLESHOOTING

### Problem

#### Low flow from pump

1. Follow monthly cleaning procedure if no improvement.
2. Follow annual cleaning procedure.
3. Ensure pipe work is not blocked, 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 so increases pump flow rates.

#### No flow from pump

1. Check power supply is on.
2. Check fuse and wiring (SEE ELECTRICAL INSTALLATION).
3. Follow low flow procedure as above.
4. If the pump has overheated the thermal overload will temporarily switch off the pump.

If none of the above works contact Interpet (Blagdon) Consumer Advice Department (See Faults problem procedure Page 13).

**INSIDE BACK COVER  
SEE SEPARATE QUARK  
DOCUMENT**