



# Jet Pump

**BIA-FERRO60M, BIA-FERRO60MPCX, BIA-FERRO60MP**

**BIA-FERRO110M, BIA-FERRO110MPCX, BIA-FERRO110MP**

**BIA-FERRO110HM, BIA-iFERRO110HM**

**BIA-INOX60S2MPCX, BIA-INOX90S2MPCX, BIA-iINOX90S2**

**BIA-INOXG60MPCX, BIA-TECHG60MPCX**





Please read these operating instructions carefully before starting the pump and keep this manual in a safe place. Use these operating instructions to familiarise yourself with your pump, its proper use and the safety instructions. Failure to comply with the safety regulations not only causes risk to personal safety and damage to the equipment, but invalidates all warranty.



**Attention:** Please read the following carefully.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Please keep the operating instructions in a safe place.

## **1. Where to Use the Pump**

The pump is intended to supply water to households, pipeline pressure boosting, garden watering, industrial washdown, water supply, tank fill and emptying and small scale irrigation.

It must only be used to transfer clean water and other non-corrosive liquids with low viscosity. It must not be used to transport inflammable, explosive, gasified liquids and liquids containing solid particles.



**Attention:** Please read the following carefully.

**WARNING!** Corrosive (chemicals, cleaning fluids etc...), flammable or explosive substances (e.g, petrol, paraffin, cellulose thinners); grease, oil, salt water and sewage must not be pumped. Fluids other than water may damage the water pump and/or create a fire hazard.

**CAUTION!** The pH of water must between 6.5 and 8.5.

**CAUTION!** The temperature of the liquid conveyed may not exceed 40 °C.

**CAUTION!** In case ambient temperature is lower than 4°C or the pump is not used for a long time, empty the liquid in the pump and pipes to avoid ice cracking of the pump chamber.

WARNING! Do not use in swimming pools or spas.

WARNING! This is not a submersible pump. Do not submerge in water.

CAUTION! Do not run the pump without water or allow the pump to run dry. This will damage the pump's seal and void the warranty

CAUTION! Do not place the suction line in mud or sludge. They can block the inlet and cause the pump to overheat.

CAUTION! The pump MUST be protected from the elements. The pump must be protected by a cover or similar. Do not expose the pump to the elements (frost, direct sunlight, rain, hail)

WARNING! Always use an electrical outlet that is protected by Residual Current Device RCD (Safety switch) with a trip current of 30mA or less (single phase pumps only).

WARNING! DO NOT ABUSE THE MAINS LEAD

- Never pull the mains lead to disconnect the pump from the mains socket.
- Keep the mains lead away from heat, oil and sharp edges.
- If you have to use an extension lead with this product, it must be designed for outdoor use

## 2. Safety Instructions



**Attention: Please read the following carefully.**

Before starting up the pump make sure that:

That the electrical plug and socket connections are fitted in an area which cannot flood. Protect power plug from moisture.

Check if there is any damage to the pump, especially to the cable and plug. A damaged pump must not be used until the pump has been checked by an authorised service agent

For single phase pumps, a power point (10 amp), installed to appropriate local and national standards should be provided by a qualified electrician, and a residual current device with a nominal trip current of 30mA should be installed in compliance with the requirements of AS 3000.

The mains supply voltage matches the voltage indicated on the pump identification plate.

### 3. Correct Operation of the Pump

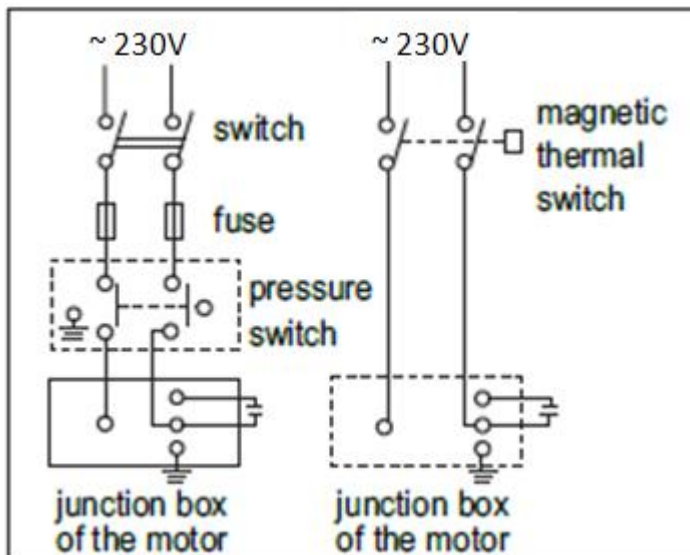
Never carry the pump by its cable and do not pull the cable to disconnect it. Do not pull out the power cable from the socket as a method of turning the pump off.

Before operating the pump, check the outlet and the inlet of the pump for any debris that may clog the pump. Clear the outlet and the inlet before starting and after any maintenance.

### 4. Electrical Connections

Electrical connection and protection should be conducted according to relevant authorities and standards applicable to where the pump is installed.

Specification of working voltage is marked on the nameplate.



## 5. Pump Startup and Maintenance



Attention: Please read the following carefully.

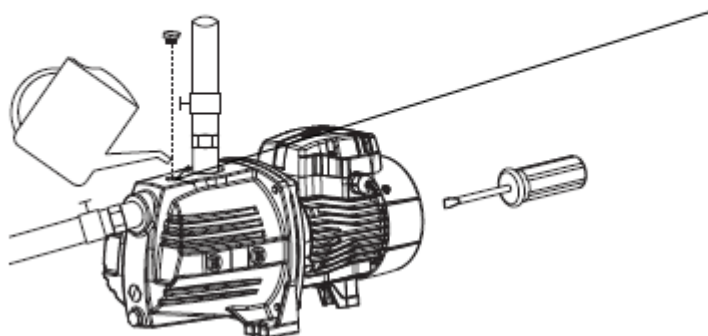
BIANCO JET pumps are “self-priming” however, the pump and delivery line **MUST** be manually primed before the pump is started for the first time.

Do not start up the pump before the pump chamber is filled with water.

Do not unscrew pump terminal box unless power has been turned off for at least 5 minutes.

Do not undo the pump body unless water in the pump chamber is emptied.

Priming Port



Before startup,

- 1) Ensure that the fan blade rotates freely
- 2) Unscrew the priming plug from the priming port and fill the pump chamber completely with clean water (\*Note This ensures that the mechanical seal is well lubricated. Dry operation causes irreparable damage to the mechanical seal)
- 3) Tighten the plug screw after pump is filled with clean water
- 4) Start the pump
- 5) If no water comes out of discharge or there is limited flow, repeat steps 2-4 above. Also check for any possible leaks in the pipework
- 6) Once pump is primed and there is sufficient water, adjust discharge valve to the desired flow rate ensuring that the flow falls within the working limitations of the pump (refer to pump nameplate)



**Attention: Please read the following carefully.**

The pump should not be started more than 20 times in one hour so as not to subject the motor to excessive thermal shock.

**DANGER OF FROST:** When the pump remains inactive for a long time at temperatures of less than 0°C, the pump body must be completely emptied through the drain cap to prevent possible cracking of the hydraulic components. This operation is advisable even in the event of prolonged inactivity at normal temperature. When starting after long periods of inactivity, the starting-up operations listed above must be repeated.

In summer or when the ambient temperature is high, pay special attention to ventilation, avoid moisture on electrical parts which will result in electrical faults. In case the motor is hot or abnormal, cut off the power immediately and check faults according to the following table.

If the pump is drawing water from a supply below the level of the pump (suction lift), the pump will need to re-prime each time it starts. This can be avoided by fitting a non-return valve to the end of the delivery line.

When used with a Pressure switch (MP version), always install a pressure tank on the delivery side of the pump. A run dry protection product is recommended to be installed when the pump is controlled by an electro/mechanical pressure switch.

Fault	Possible Cause	Corrective Action
The motor does not start and makes no noise	A. Check electric connections B. Check that the motor is live C. Check the protection fuses	C. If fuse is blown, change fuse. (If fault is repeated immediately it means that the motor is short)
The motor does not start but makes noise	A. Supply (mains) voltage is too high or too low B. Look for possible blockages in the pump or motor C. Faulty capacitor	A. Check mains voltage B. Remove any blockages C. Replace the capacitor
The motor turns with difficulty	A. Check the supply (mains) voltage which may be B. Check whether any moving parts are scraping against fixed parts	A. Check mains voltage B. Examine pump and eliminate the cause of the scraping
The pump does not deliver water	A. The pump has not been primed correctly B. The diameter of the intake pipe is insufficient. C. The foot valve (or inline check valve is blocked)	A. Reprime the pump B. Replace the pipe with one with a larger diameter C. Clean the foot valve (or check valve)
The pump does not prime	A. The suction pipe or the foot valve is taking in air B. There are air pockets in the line possibly caused by the suction pipe sloping downwards	A. Check pipework and foot valve B. Fix the suction pipework
The pump supplies insufficient flow	A. Blocked foot valve B. Impeller is blocked or worn C. The diameter of the intake pipe is insufficient. D. Blocked or broken ejector/diffuser	A. Clean the foot valve B. Clean the impeller and replace the impeller if necessary C. Replace the pipe with one with a larger diameter D. Inspect ejector and replace if necessary
The pump vibrates and operates noisily	A. Check that the pump and pipes are firmly anchored B. There is cavitation in the pump meaning that the demand for water is higher than it is able to pump C. The pump is running higher than it is capable of.	A. Affix the pump and pipes securely B. Reduce the cause of cavitation by reducing the intake height C. Limit the delivery flow

For MP/MPCX Pumps

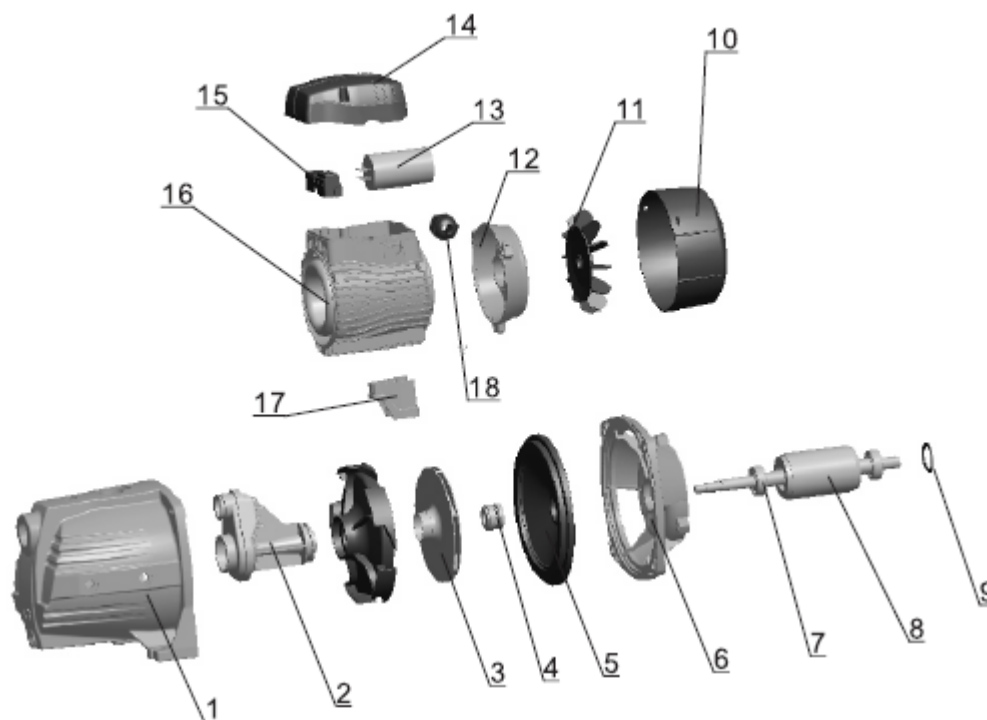
Fault	Possible Cause	Corrective Action
<b>The pump does not shut down</b>	Tap or cistern leak	Repair leak
	Air entering suction line	Carefully seal all joints and connectors
	Leak in discharge Pipework	Repair leak
<b>No Flow</b>	Faulty controller	Replace controller
	Closed Gate valve	Open valve
<b>Pump constantly starts or stops</b>	Air entering suction line	Carefully seal all joints and connectors
	Leak in discharge or suction pipework	Repair leak
<b>Pump does not start</b>	Debris in controller	Call Service Engineer
	Pump is clogged with debris	Call Service Engineer
	Faulty pump capacitor	Call Service Engineer
<b>Pressure switch turns on and off repeatedly</b>	No check valve in suction line	Install Check Valve
	No pressure tank installed	Install Pressure Tank
	Precharge in tank not correct	Ensure Pressure tank precharge is correct (20kPa, 3psi below maximum pump pressure)

Ensure pump is disconnected from the mains power supply before doing any maintenance to the pump.



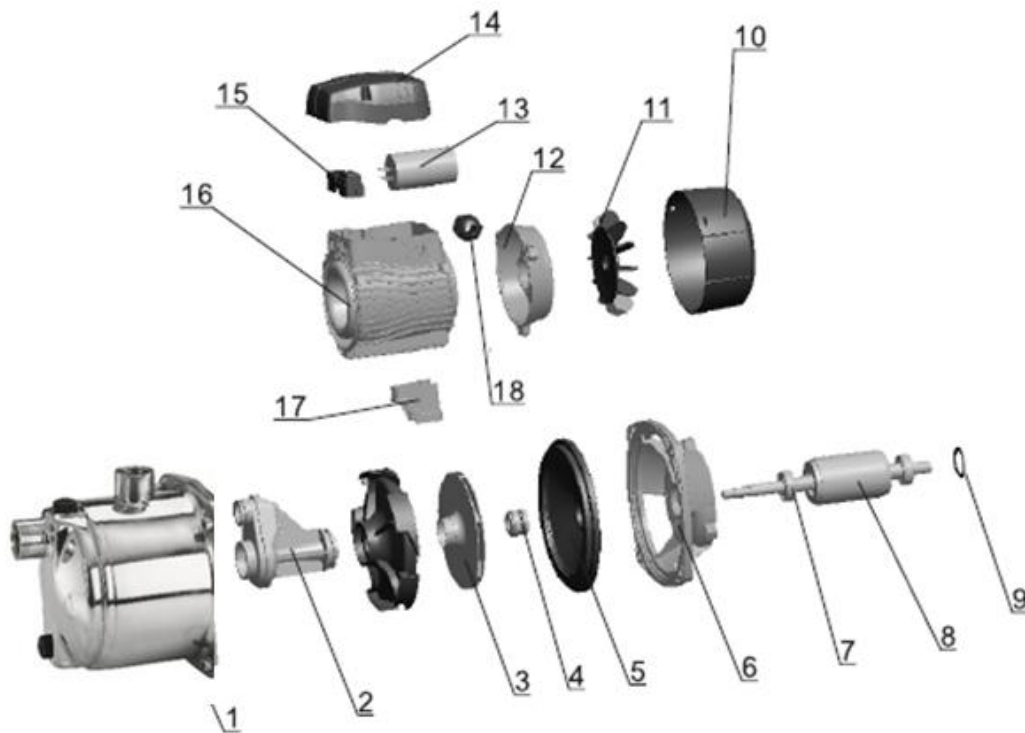
## 6. Pump Exploded View

FERRO60, FERRO110



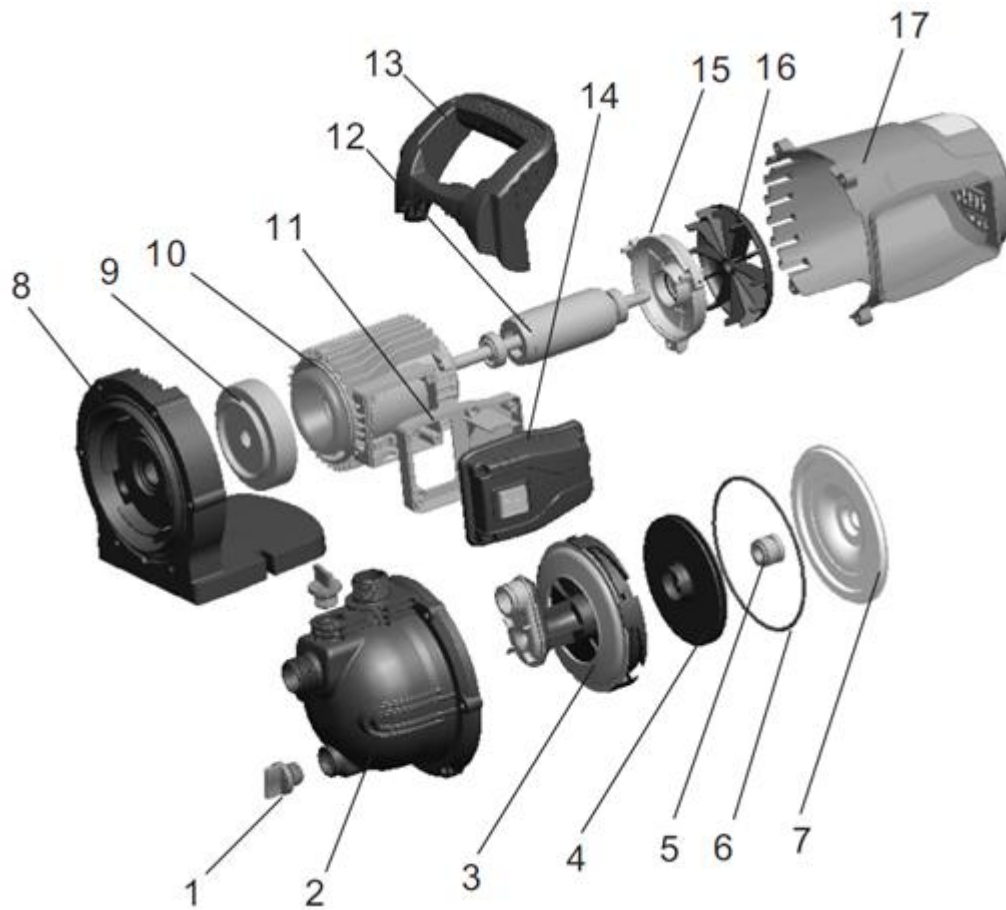
POS.	Part	POS.	Part
1	Pump body	10	Fan cover
2	Diffuser	11	Fan
3	Impeller	12	End plate
4	Mechanical seal	13	Capacitor
5	Seal holder	14	Capacitor box
6	Pump support	15	Terminal board
7	Bearing	16	Stator
8	Rotor	17	Bracket
9	Spring washer	18	Cable holder

INOX60, INOX90



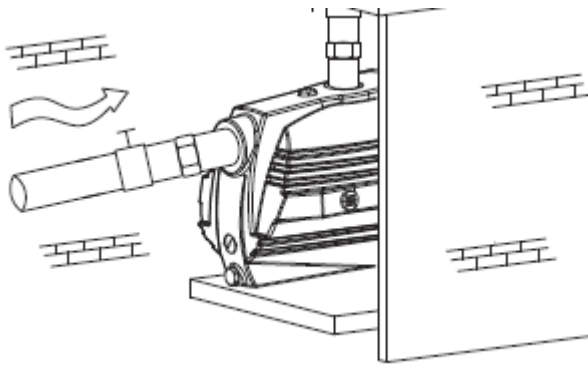
POS.	Part	POS.	Part
1	Pump body	10	Fan cover
2	Diffuser	11	Fan
3	Impeller	12	End plate
4	Mechanical seal	13	Capacitor
5	Seal holder	14	Capacitor box
6	Pump support	15	Terminal board
7	Bearing	16	Stator
8	Rotor	17	Bracket
9	Spring washer	18	Cable holder

TECHG60, INOXG60



POS	Part	POS	Part
1	Plug	10	Stator
2	Pump Body	11	Inside Switch Cover
3	Diffuser	12	Rotor
4	Impeller	13	Handle
5	Mechanical Seal	14	Switch Cover
6	O ring	15	End Plate
7	Seal Plate	16	Fan
8	Pump Support	17	Motor Cover
9	Front Cover		

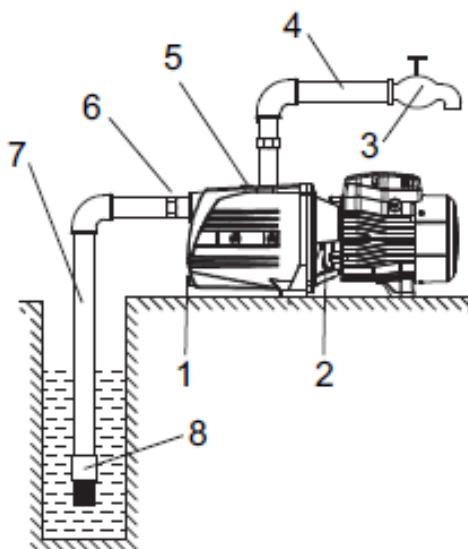
## 7. Pump Installation



For pump installations, the inlet (or suction) pipe should be as short as possible with the least number of bends. The pump should be installed in a ventilated environment. It could be installed outside, provided the pump is adequately covered from the elements.

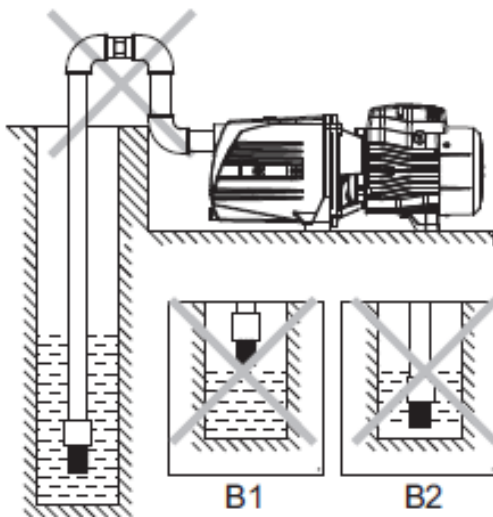
It is good practice to have a check valve installed on the inlet pipework.

There should be no taps or take-off lines installed between the pump delivery outlet and pump controller when used with a Pressure Switch or Automatic Pump control.



## Correct Installation Diagram

1. Drain Plug
2. Jet Pump
3. Water Tap
4. Outlet (Discharge) Pipe
5. Fill (Priming) Plug
6. Barrel Union
7. Inlet (Suction) Pipe
8. Foot Valve



While installing the pump, use correctly rated suction tube for the inlet pipeline

The foot valve should be vertically placed and installed at least 30cm from the bottom of the tank to avoid sucking in sand and stones (B2);

Diameter of the inlet pipe should be at least the same size of the diameter of the pump inlet.

Pay attention to drop of water level while the pump is operating. The foot valve should not be above the water surface (B1).

In the case where the inlet pipe is longer than 10m or its lifting height exceeds 4m, the pipe diameter should exceed diameter of water inlet of the pump.



## White International Pty Ltd Limited Product Warranties

### TERMS & CONDITIONS

This warranty is given in addition to the consumer guarantees found within the Australian Competition and Consumer Act 2010 (Cth) for goods purchased in Australia and the Consumer Guarantees Act 1993 NZ for goods purchased in New Zealand:

- 1) White International Pty Ltd / White International NZ Ltd (White International) warrant that all products distributed are free from defects in workmanship and materials, for their provided warranty period as indicated on the top or opposite side of this document. Subject to the conditions of the warranty, White International will repair any defective products free of charge at the premises of our authorised service agents throughout Australia and New Zealand if a defect in the product appears during the warranty period. If you believe that you have purchased a defective product and wish to make a claim under this warranty, contact us on our Sales Hotline on 1300 783 601, or send your claim to our postal address or fax line below and we will advise you as to how next to proceed. You will be required to supply a copy of your proof of purchase to make a claim under this warranty.
- 2) This warranty excludes transportation costs to and from White International or its appointed service agents and excludes defects due to non-compliance with installation instructions, neglect or misuse, inadequate protection against the elements, low voltage or use or operation for purposes other than those for which they were designed. For further information regarding the suitability of your intended application contact us on our Sales Hotline on 1300 783 601. If you make an invalid claim under this warranty, the original product will be sent back to you unrepaid.
- 3) This warranty refers only to products sold after the 1st January 2012, and is not transferable to another product type and only applies to the original owner, purchaser or end user, and is in addition to the consumer guarantees found within the Competition and Consumer Act 2010 (Cth) for goods purchased in Australia and the Consumer Guarantees Act 1993 (NZ) for goods purchased in New Zealand.
- 4) Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.
- 5) To the fullest extent permitted by law, White International excludes its liability for all other conditions or warranties which would or might otherwise be implied at law. To the fullest extent permitted by law, White International's liability under this warranty and any other conditions, guarantees or warranties at law that cannot be excluded, including those in the Competition and Consumer Act 2010 (Cth), is expressly limited to:
  - (a) in the case of products, the replacement of the product or the supply of equivalent product, the payment of the cost of replacing the product or of acquiring an equivalent product or the repair of the product or payment of the cost of having the product repaired, is at the discretion of White International or a 3<sup>rd</sup> party tribunal elected under the Competition and Consumer Act 2010 (Cth) for goods purchased in Australia and the Consumer Guarantees Act 1993 (NZ) for goods purchased in New Zealand; and
- 6) To the fullest extent permitted by law, this warranty supersedes all other warranties attached to the product or its packaging.
- 7) In the case of services, supplying the services again or the payment of the cost of having the services supplied again, is at the discretion of White International or a 3<sup>rd</sup> party tribunal elected under the Competition and Consumer Act 2010 (Cth) for goods purchased in Australia and the Consumer Guarantees Act 1993 (NZ) for goods purchased in New Zealand.
- 8) Our warranty commences from the date of purchase of the above mentioned pumps. Proof of purchase is required before consideration under warranty is given. Record your date of purchase in the space below and retain this copy for your records.

Date of Purchase ..... Model Purchased .....



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