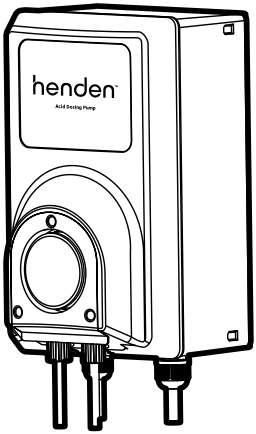
henden™

Henden Acid Dosing Pump

INSTALLATION & OWNER'S MANUAL



IMPORTANT
Please read carefully

CAUTIONS AND WARNINGS:

The Henden Acid Dosing Pump case contains live components internally. There is a danger of electric shock if opened. If the power cord is damaged, then it should be replaced by the manufacturer, their agent or a similar qualified person to avoid a hazard.

The Henden Acid Dosing Pump must be installed by a qualified person in accordance with AS/NZS 3000 wiring rules.

The Henden Acid Dosing Pump should be installed in the correct pool zone and connected to supply via a power outlet that is protected by a residual current device (RCD) having a rated residual operating current not exceeding 30 mA. The power outlet should have a degree of protection suitable for the pool zone.

To reduce the risk of injury, do not permit people with lack of experience and knowledge to use this appliance unless they have been given supervision or instruction concerning use of the appliance.

To reduce the risk of accidents or incidents, service on the unit should only be performed by a qualified pool service professional, after disconnecting it from the mains power supply.

When mixing acid with water, ALWAYS ADD ACID TO WATER. NEVER ADD WATER TO ACID. Always wear the appropriate safety equipment specified by the acid supplier when handling acid.

Do not plug in if the carton is wet.

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INTRODUCTION

Thank you for purchasing the Henden Acid Dosing Pump.

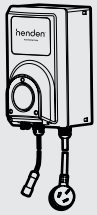
This Pump automatically doses pH/acid to maintain balanced pH in the pool, and is the perfect companion for the Henden Compact Salt + Mineral Chlorinator.

HELPFUL HINTS

- The system uses a 1 : 3 Acid : Water mix ratio (e.g. with a 20-litre drum add 15 litres water then 5 litres acid). It is important to use this mix for the correct acid volume to be added.
- As part of regular maintenance, ensure the pump is intact and there are no leaks due to weather or external factors.
- While algorithmic pH control is effective, it does not measure pH. pH testing should be undertaken manually on a weekly basis to ensure the pH is correct.

IN THE BOX

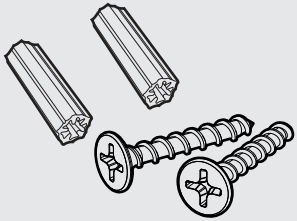
Henden Acid Doser with Wall Bracket



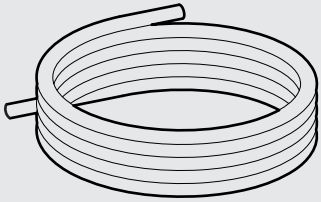
Installation & Operating Instructions

Drum Weight Suction Valve with Tube Nut

2 x Red Wall Plugs with Screws

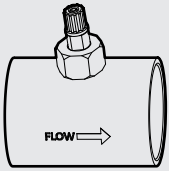


PVC Flexible Tube 6m



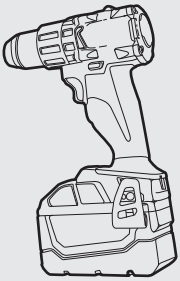
Drum Label

Clear Faucet Tee and Lock Nut Injector Valve with Sleeve and Tube Nut and Injector O-Ring.

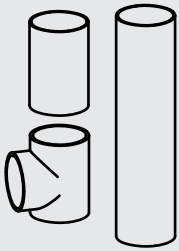


TOOLS REQUIRED

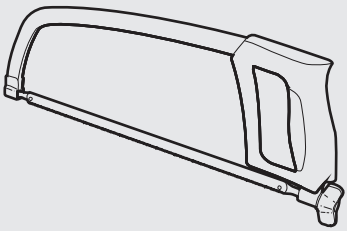
Drill with 6.0mm Drill Bit



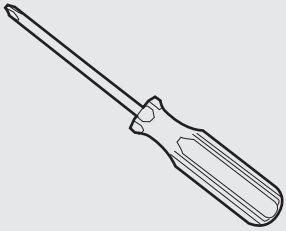
Basic PVC Fittings



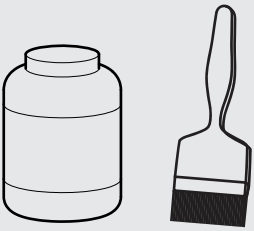
Hacksaw



No.2 Phillips Head Screwdriver



Pressure Rated Solvent Cement



SET UP

Ensure that your pH is balanced to the recommended level for your swimming pool surface. Maintaining pH within the recommended range can prevent problems such as blackspot, staining, cloudy water etc.

Recommended pH Levels:

- Concrete Pools: 7.4-7.6
- Fibreglass and Vinyl Pools: 7.2-7.6

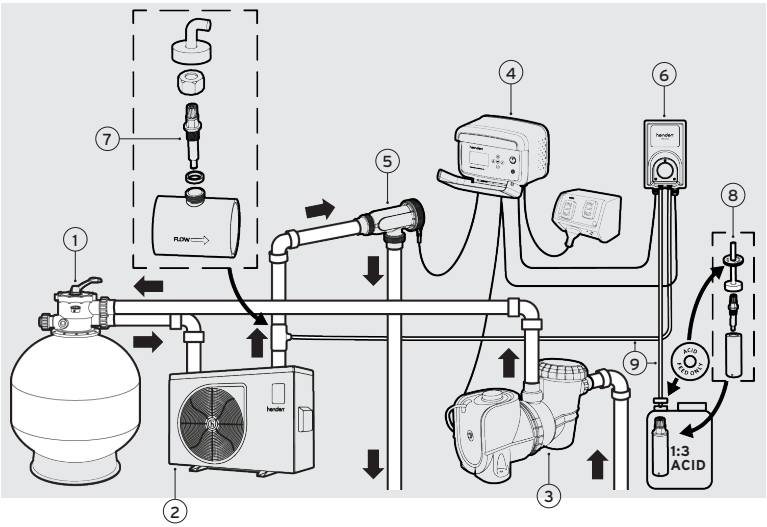
Handy tip: When pH is high you can add Hydrochloric Acid to lower the pH. When pH is low you can add Sodium Carbonate (soda ash) to increase the pH.

INSTALLATION

⚠ Warning: During the installation, check the following:

- The injector point pressure is lower than 150kPa (to ensure optimum flow).
- The peristaltic pump's acrylic front cover is correctly fitted.
- The suction tube is securely fitted in the acid container, with weight touching the bottom, and the drum label is fitted on the outside of the container.
- The suction tube is fitted to the left side and the injector tube to the right.
- The injector valve o-ring is fitted between the valve and the CLEAR faucet tee and the BLACK lock nut is securely fastened.

Installation Diagram



1. Pool Filter
2. Heat Pump
3. Pool Pump
4. Henden Compact Salt + Mineral Chlorinator
5. Cell Housing
6. Henden Acid Dosing Pump
7. Injection with Tee
8. Suction with Drum Weight & Label
9. PVC Flexible Tube 6m

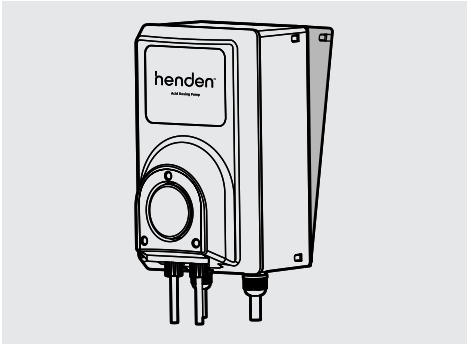
INSTALLATION cont.

Mounting the Henden Acid Dosing Pump

1. Position the Henden Acid Dosing Pump as indicated in the installation diagram, ensuring it is NOT too close to other equipment or power outlets, but close enough to the Henden Compact Salt + Mineral Chlorinator power supply so the piggy-back power cord can plug into its socket outlet.

2. Attach the Henden Acid Dosing Pump to the wall by removing the simple "Click ON – Click OFF" wall mounting bracket that is attached to the controller case.

3. Pull the wall bracket away from case making sure to pull away one corner at a time.



4. Mount the bracket to the wall using the wall plugs and screws provided. CLICK ON the case to the wall bracket.

NOTE: This unique design protects the controller case from any water entry.

Connecting the Henden Acid Doser

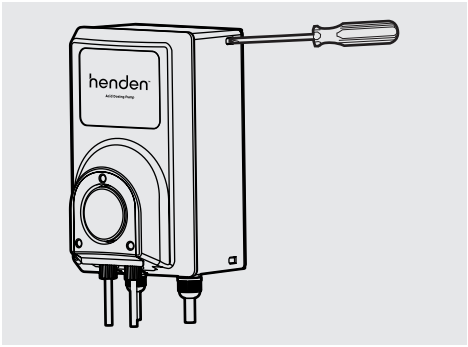
1. Fit the CLEAR faucet tee with injection valve to the pool water line, avoiding high pressure areas (i.e., after the pump, filter, and prior to heat pump).

Handy tip: It can be installed prior to the cell housing (or after if needed).

2. Cut and connect a length of clear flexible PVC tube that will reach from the outlet at the base of the peristaltic pump (right side) to the injection valve, which is mounted in the CLEAR faucet tee, using the tube nut to secure the tube.

NOTE: Do not cut the other length of clear flexible PVC tube yet.

3. Place the acid drum (with the required mix) in a ventilated area, at least 2m away from the pool equipment.



NOTE: The system uses a 1 : 3 Acid : Water mix ratio (e.g. with a 20-litre drum add 15 litres water then 5 litres acid). It is important to use this mix for the correct acid volume to be added.

INSTALLATION cont.

⚠ Warning: When mixing acid with water, ALWAYS ADD ACID TO WATER. NEVER ADD WATER TO ACID. Always wear the appropriate safety equipment specified by the acid supplier when handling acid.

4. Pass the clear flexible PVC tube through the drum label and a 6.0 mm hole in the acid drum vent cap. Connect the clear flexible PVC tube to the suction valve that is mounted to the drum weight. Use the tube nut to secure the tube.

5. Before placing the tubing into the drum, measure the tubing against the outside of the drum and measure the feed tubing so that there is sufficient tubing. Lower the drum weight into the acid drum and screw on the drum cap.

6. Connect the pH Signal Cable with 5 Pin Plug to the Henden Compact Salt + Mineral Chlorinator programming cable port. This is where the signal from the chlorinator comes from to turn the Henden Acid Dosing Pump ON & OFF.

7. Connect the piggy-back power cord to the AC socket outlet of the Henden Compact Salt + Mineral Chlorinator and the pool pump plugs in to the other end of the piggy-back socket.

8. Start up your pool pump and check the system for any leaks.

9. Prime the acid feed lines and finalise run settings using the menu options on the Henden Compact Salt + Mineral Chlorinator.

OPERATION

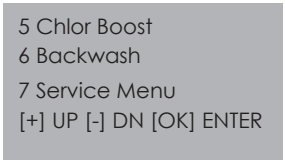
Navigating the LCD pH Menus on the Henden Salt + Mineral Chlorinator

As fresh water is added, or chlorine is produced, the pool pH will slowly increase. This can be offset by adding small doses of acid to the pool automatically. The Henden Acid Dosing Pump uses a maintenance free algorithm that calculates the amount of acid per dose, which is needed to maintain the pH. Initially it is based on the size of your pool, but through your testing, it can smartly be adjusted to make it truly near-maintenance free for you the owner.

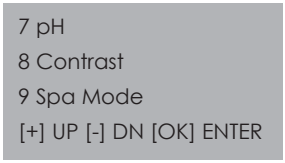
NOTE: It is important that the system is initially adjusted based on pH result to suit your pool and that pool pH is still checked regularly.

Accessing the pH Control Menu on the Henden Compact Salt + Mineral Chlorinator

1. Press [OK] on the Henden Compact Salt + Mineral Chlorinator to access the main menu, then use the [+] or [-] to scroll to '7 Service Menu' and Press [OK]



2. Use the [+]/[-] buttons to scroll through the menu until the LCD reads '7 pH' then press [OK].



OPERATION cont.

pH Control Mode – Turning ON or OFF the pH Mode

NOTE: The default setting on the chlorinator is for the acid dosing system to be 'OFF'. This needs to be turned to 'ON' to operate the pH ASSIST.

1. Enter the 'pH Control Mode' menu by pressing [OK] then using the [+][-] and [OK] button, change the selection from OFF to ON to turn on the acid dosing of the Henden Acid Dosing Pump.

```
pH Control Mode
pH Mode: OFF
[+] or [-] to change
[OK] Save [<] Back
```

NOTE: The pH software includes a feature where the pH run time adjusts based on the Chlorinator output setting. For instance, for a 50K pool, the pH run time is set to 20 minutes. At 50% output, the run time decreases to 10 minutes; in SPA mode, at 10% output, it's further reduced to 2 minutes. If your chlorinator output is 75%, the runtime will be 15 minutes. However, if you adjust the runtime, this will become the new default runtime, and the unit will not adjust the output by itself.

pH1 Run Time – Programming

The 'pH1 Run Time' is programmed automatically when setting up the volume of the swimming pool in the chlorinator. The system calculates how many minutes per day your pH controller should run based on the volume of your pool, and this can be manually changed.

1. Enter the 'pH1 Run Time' menu from the pH1 Run Time' menu to adjust the run time using the [+]/[-] and [OK] button.

```
pH CONTROL MODE
pH1 Run Time
pH2 Demand or Prime
[+] UP [-] DN [OK] Enter
```

2. The LCD will now show 'On Time----min/day'.

3. Press [+] or [-] to adjust the On Time in min/day. This can be adjusted from 0 to 120 minutes per day

4. Press [OK] to save your selection and return to the main menu. This is the new default running time.

```
pH1 RUN TIME
On Time: ----min/day
[+] or [-] to change
[OK] Save [<] Back
```

NOTE: Entering 0 min/day means the system will not run at all.

OPERATION cont.

pH2 Demand or Prime – Add Acid Manually or Prime Clear Flexible PVC Tubes

The 'pH2 DEMAND or PRIME' quantity can be manually adjusted from 0 - 500 ml. The default reading is always 100 ml. This function is useful for:

- Priming tubes after an acid drum change.
- Adding the required acid from your acid demand test.

⚠ Important: Enter the exact amount from your test result in ml (e.g., 500 ml) and the system automatically adds 4 times that amount, thereby allowing for the 1 : 3 ACID: WATER mix ratio in the acid drum.

1 Enter the 'pH Demand or Prime' menu from the 'pH Control Mode' menu.

```
pH CONTROL MODE
pH1 Run Time
pH2 Demand or Prime
[+] UP [-] DN [OK] Enter
```

2 The screen will show 'Acid Demand: 100ml', use [+] or[-] to adjust the quantity required then press [OK] to save. The peristaltic pump will start turning and 'Time Left' will display under the remaining minutes for the Henden Acid Dosing Pumps run time.

```
pH2 DEMAND OR PRIME
Acid Demand: 100ml
[+] or [-] to change
[OK] SAVE [<] BACK
```

3 Adjust the 'Time Left' in this menu or press [<] to return to the Henden Compact Salt + Mineral Chlorinator display screen.

Handy tip: If the lines are primed, you can stop the peristaltic pump by making 'Time Left' 0 min and press [OK].

4 To decrease the dosage time, press [-] to decrease or hold [>] to cancel pH runtime. The screen will alternate this message on the third line of the display.

```
pH2 DOSE TIME LEFT
Time Left: 100 min
Press [-] to decrease
[OK] SAVE [<] RETURN
```

5 If [>] is held the following will display:

```
Do you want to stop
manual ACID dosing?
[+] YES [-] No
```

6 If [NO] is selected the screen will return to the dose time left. If [YES] is selected the chlorinator will return to the default display screen.

Turning OFF the pH Controller

1. Press [OK] on the Henden Compact Salt + Mineral Chlorinator to access the main menu, then use the [+] or [-] to scroll to '7 Service Menu' and Press [OK]

```
5 Chlor Boost
6 Backwash
7 Service Menu
[+] UP [-] DN [OK] ENTER
```

2. Enter the '7 pH Mode' menu by scrolling and then pressing [OK] then using the [+][-] and [OK] button, to scroll to 'pH control Mode' and change the selection from ON to OFF to turn off the acid dosing of the Henden Acid Dosing Pump.

```
pH CONTROL MODE
pH Mode: ON
[+] or [-] to change
[OK] Save [<] Back
```

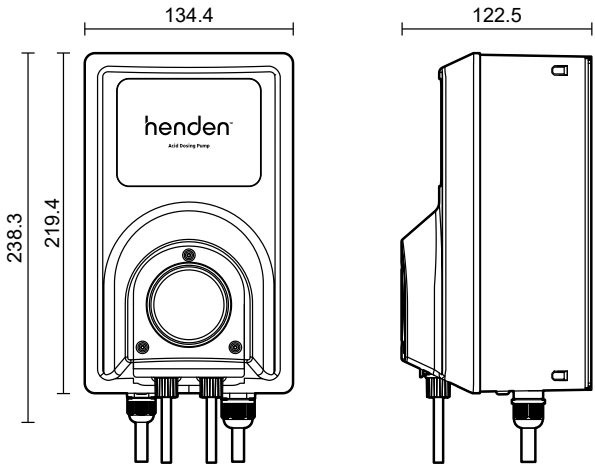
NOTE: Entering 0 min/day means the system will not run at all. If the setting on the chlorinator has previously been set for the acid dosing system to be 'ON' and the system needs to be 'OFF' then follow the steps below.

SPECIFICATIONS

SPECIFICATIONS	
Volts & Amps Input (AC)	220-245 V, 0.1 A
Total Power Consumption	13 W Motor, 20 W Max.
Frequency	50 Hz
Output as Controlled by Sanitiser	0-1000 ml per hour
Rated Pressure	350kPa (optimum for injector is 150kPa)
Squeeze Tube	Tygon® Norprene® (Commercial spec)
Case Pump Inspection Window	Cleat Acrylic Viewing Window
Motor Speed	10 RPM
Non-Return Injector Valve	Polypropylene Injector with Norprene Sleeve
Tubing Size	4m long x 6mm diameter Clear Flexible PVC
Power Cord	Approved piggy-back type
Roller Block	Heavy-duty Glass filled Nylon
Casing Material	Glass Filled Polypropylene
Wall Mounting	Simple Click ON - Clip OFF
Water Connection	CLEAR Acrylic Faucet Tee 50mm pipe
Water Flow Rate (L/min)	80-650 L/min
Ingress Protection Rating	IP 35
Net Weight	2.5kg

NOTE: Certain specifications may change without notice for reasons of improvement or better performance.

DIMENSIONS



MAINTENANCE

Ensure you regularly undertake the following basic maintenance:

1-3 Months Maintenance: Injection Point on Injector Valve

Check the injection point periodically, by looking through the CLEAR faucet tee, for build-up of solid matter at the end of the clear flexible PVC tubing. This could only occur from contaminants in your acid container and the result is a blockage hindering the flow of acid and reducing the life of the pump tube and roller block. While unscrewing the BLACK lock nut, take care not to lose the rubber O-ring.

3-6 Months Maintenance: Lubricate Squeeze Tube

Lubricate the pump squeeze tube every 3-6 months. Using a silicone-based lubricant only as petroleum-based lubricants will cause damage to the tube and rollers.

1-2 Years Maintenance: Replace Squeeze Tube & Tri Roller Block

Depending on usage, the squeeze tube may need replacement after 1-2 years of use. Before replacing, please ensure that the suction and injection tubes are empty. To change the squeeze tube, please follow the instructions in the replacement kit. Only use the original sized commercial grade Tygon® Norprene® tube as incorrect sizing will result in early failure of the Tri Roller Block. We recommend, to prevent leaks, that you replace both the squeeze tube and tri roller block at the latest after 24 months.

⚠ Warning: When removing the clear vinyl tube between the pH pump and injector nozzle, pressurised contents will be expelled. Correct PPE needs to be worn and adhered to, to avoid contact with skin and/or eyes. Cover the tube nut with a wet rag when loosening the nut to contain any pressurised discharge. Clean up any spillage immediately.

TROUBLESHOOTING

PROBLEM	POTENTIAL CAUSE	REMEDY
The Henden Acid Dosing Pump is not turning on.	pH control mode has not been turned on. The Henden Acid Dosing Pump power cord is not plugged in. No demand for it to turn on from the Henden Compact Salt + Mineral Chlorinator. The demand signal is present, but the peristaltic pump is not turning.	Check that the power cord is plugged into the Henden Compact Salt + Mineral Chlorinator AC socket outlet. The demand for acid dosing takes place each day at the start of T1 ON time or the Chlorinator is turned ON for the first time each day when it is operated through an external controller. Check if the signal for the pH demand is ON. Contact your service agent.
Everything displays correctly, but the pH level does not change when testing the pool water.	The acid drum is low or empty.	Check the acid level and replenish if necessary.
The Acid Dosing Pump tubes are deteriorating at a fast rate.	The acid drum has not been diluted with water.	Ensure you are using diluted acid only. The system uses a 1:3 Acid: Water mix ratio (e.g. with a 20-litre drum add 15 litres water then 5 litres acid).
The Henden Acid Dosing Pump is not running when the Henden Compact Salt + Mineral Chlorinator is in AUTO mode.	The Henden Acid Dosing Pump has already operated in today's timer cycle.	The Henden Acid Dosing Pump will not run again if it has already completed its automatic cycle for the day.
Henden Acid Dosing Pump is running but the pool pump is not on.	The pump is not plugged in, or there is a problem with flow.	The system should automatically stop when the pool pump stops but check that there is not a closed valve and that all pool equipment is plugged in and working properly.
Henden Acid Dosing Pump tri-roller is turning, but acid is not pumping.	Air leaks in the squeeze tube, injector tube or suction tube due to potential breaks. Excessive wear on the squeeze tube. Excessive wear on the tri-roller black. AFTER 24 MONTHS REPLACE BOTH SQUEEZE TUBE & TUBE ROLLER BLOCK	Check all tubes for damage or leaks and repair such or replace the tubes. Order and replace the squeeze tube kit. Order and replace the entire tri-roller block assembly.
Water flow returning from the pool to the acid drum.	In the unlikely event of this happening, it can only be one of two things: i. Worn/damaged injector sleeve. ii. Worn tri-roller block.	Replace the entire injector valve as a kit. Replace the tri-roller block.

TROUBLESHOOTING cont.

pH level in the pool is too high or too low.	Incorrect pH run time. Incorrect ACID : WATER mix. Incorrect ACID DEMAND amount entered.	Adjust pH run time to suit. The system uses a 1:3 mix ratio. Ensure you have this required mix. You should only enter the required acid amount and not the ACID : WATER mix amount. If you need 500 ml acid, then enter this. The system allows for the 1:3 mix.

WARRANTY

Reece Australia Product Quality Guarantee

You have purchased a quality product from Reece Australia Pty Ltd ABN 84 004 097 090 (“Reece Australia”).

Warranty Terms & Conditions

These Warranty Terms and Conditions (“Warranty”) constitute your agreement with Reece Australia and will apply to your service order. The benefits given by this Warranty are in addition to all consumer guarantees and other rights and remedies prescribed by the Australian Consumer Law and any other applicable laws.

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 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.

In addition to your rights and remedies under the Australian Consumer Law, Reece Australia provides consumers with a Warranty which covers faults in product construction, materials and assembly in the following applicable warranty periods:

Residential Application*	Warranty	Labour
Henden Acid Dosing Pump	1 Year	1 Year

Commercial Application*	Warranty	Labour
Henden Acid Dosing Pump	6 months	6 months

*Residential Application defined as: Any structure containing water to a depth greater than 300 mm and used primarily for swimming, wading, paddling or the like, including a bathing or wading pool, or spa pool.

*Commercial Application defined as any other use of the product other than defined in the domestic application is considered to be a commercial application.

Warranty Periods

The Warranty Periods commence from the date the customer purchased the product from Reece Australia. Within the Warranty Periods, products which are found upon inspection by an authorised Reece Australia representative or an associated licenced technician supplied by either Reece Australia or a relevant supplier (“Service Agent”) to be defective in construction, material, or assembly, will be repaired or exchanged with an equivalent product at no cost to the customer.

Parts of products found upon inspection by a Service Agent to be defective in construction, material, or assembly, will be replaced at no cost to the customer. The labour for the replacement of products and parts to which this Warranty applies will be carried out by a Service Agent. Where the Service Agent is unable to identify any fault in the product, Reece Australia may require the consumer to provide proof that the product is defective.

Warranty Conditions

This Warranty applies only if the following conditions are met:

- The Henden Acid Dosing Pump has been installed by a fully qualified technician.
- The Henden Acid Dosing Pump has been installed for and subjected to domestic residential use only subject to local building a municipality guideline.
- The Henden Acid Dosing Pump is appropriately protected from the weather, with adequate ventilation. In line with this, no water has been allowed to enter the Henden Acid Dosing Pump.
- Failure is due to a fault in the manufacture of the project. In this case, proof of purchase, date of purchase and serial number is required.
- Proof of purchase (including the date of purchase) is provided.
- The consumer has operated and maintained the product in accordance with the operating instructions.

WARRANTY cont.

This Warranty does not cover faults caused by:

- Failure to adhere to the conditions above.
- Normal wear and tear.
- Damage by foreign objects.
- Damage caused by, but not limited to, corrosion, scaling, or stress.
- External damage caused by exposure to pool chemicals.
- Inadequate or complete lack of maintenance.
- Installation or part installation by the purchaser or any person other than a tradesperson licensed to install this product.
- Correct salt levels are not always maintained.
- Faults or substandard performance caused by any product or part which has not been supplied by or purchased from Reece Australia.
- Faults or substandard performance caused by vermin, misuse, negligence, vandalism, storm, flood, fire, earthquake, force majeure, war, foreign matter entering the Henden Acid Dosing Pump (e.g. detritus; dirt and moisture) or any other outside agency.

This Warranty does not cover 'ex display' products where the ex-display products have not been checked and certified for sale by the manufacturer prior to purchase.

For the avoidance of doubt, defective items become Reece Australia's property.

Claim Procedure

In order to claim the Warranty, you must cease using the product when a fault arises, contact the Reece Australia branch where the product was purchased to report the issue and follow Reece Australia's directions regarding what to do next. The relevant Reece Australia branch details can be found on your purchase invoice. You must also provide the product serial number.

Reece Australia's general contact details are as follows:

- For a complete list of Reece Irrigation & Pools branches visit our website reece.com.au/storefinder or contact:
- Technical and after sales support: 1300 HENDEN (1300 436 336)
- Mailing/manufacturer address: The Reece Group, 57 Balmain Street, Cremorne, VIC, 3121, Australia.
- If applicable, all replacement products will be available for collection at no cost to the customer at the nearest Reece Australia branch to the customer's location, or elsewhere as agreed between the customer and Reece Australia.

Labour

Warranty for installation labour is twelve (12) months from date of purchase. Any product found to be faulty due to installation/labour fault shall be covered under warranty and will be repaired or replaced by Reece Australia at their cost for a period of twelve (12) months from date of installation.

All replacement parts / components will be supplied direct by Reece Australia. Should the buyer purchase parts / components from their own supplier the company may at their own discretion reject or reimburse the cost to which the company can purchase the part for.

WARRANTY cont.

Costs

The customer will be responsible for any ancillary costs associated with making a warranty claim, such as:

- Any travel outside of the area normally serviced by Reece Australia or any associated repair agent authorised by Reece Australia.
- All costs related to gaining access to unsafe (e.g. high) or restricted locations.
- Any and all arrangements required to create safe access for the Service Representative to service the product; this includes making clear access to and from the unit (e.g. moving furniture etc.)
- Excessive labour costs due to job conditions that make the equipment unusually inaccessible or otherwise difficult to source is NOT covered under this policy. The equipment must be readily accessible to the service men, that no special scaffolding, ladders or lifting equipment other than that which is normally carried in a service vehicle is required, and that the conditions or working meet the requirements of local authorities having justification on conditions of work and safety.
- A service fee may be charged to the customer if an aftersales service call is attended, and the fault is deemed to be a result of incorrect installation, or the points outlined below. Please note the site environment and associated product must be accessible and safe workplace for the service agent.
- If applicable, Reece Australia will also provide information regarding how to claim back any expenses the consumer may incur.

Exclusions

Except to the extent required by law, all consumer guarantees, representations, warranties, terms and conditions in relation to the products (whether implied or otherwise) are hereby excluded to the maximum extent permitted by law.

To the fullest extent permitted by law, Reece excludes all liability for damage or injury to any person, damage to any property, and any indirect consequential or other loss or damage.

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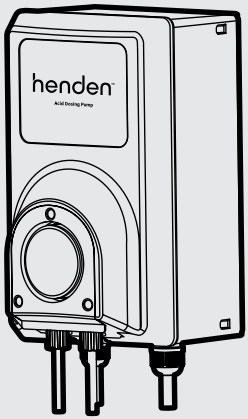
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