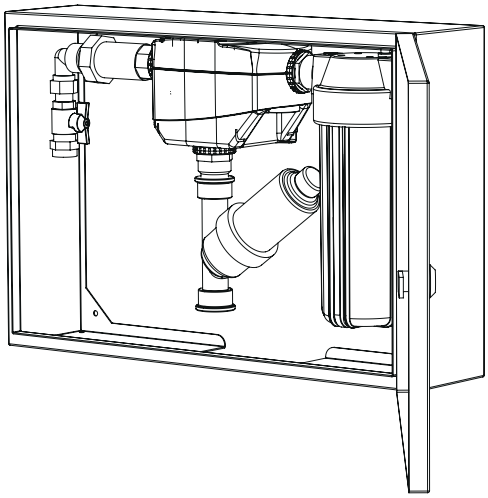
DEPEND ON
DAVEY
WATER PRODUCTS

DAVEY
RAINBANK® MKII
household water savings



Installation and Operating Instructions

WaterMark
ATS 5200.477 Lic WMKA 22042

3 YEARS GUARANTEE ON ALL RAINBANKS
3 YEARS

PLEASE READ IMPORTANT CAREFULLY

Please pass these instructions on to the operator of this equipment.

For any assistance or after sales service contact your Davey Dealer. For help in locating your closest dealer contact your appropriate **Davey Support Centre** listed on the back of this booklet.

DEPEND ON
DAVEY
WATER PRODUCTS

Davey commenced in 1934 and today, as Davey Water Products, manufactures and distributes a comprehensive range of products for transfer, conservation, treatment and filtration of water.

Davey has a dominant market share in Australia and exports to more than 60 separate countries, servicing some of the toughest environmental and climatic conditions on the globe.

Davey has maintained its commitment to research and development, resulting in innovative new products servicing specific and emerging market opportunities. Many of these products have received multiple awards for innovation and excellence which have led to our induction into the Manufacturing Hall of Fame in Victoria.

Davey maintains leadership in quality with an environmental focus by holding ISO 9001 certification and ISO 14001 environmental standard.

Davey is today a wholly owned subsidiary of GUD, a 'Top 200' Australian public company whose shares are listed on the Australian Stock Exchange.

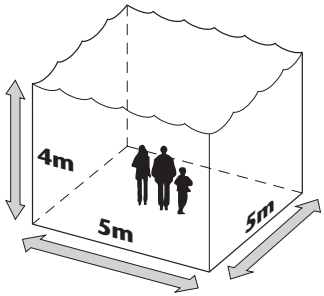
Now more than ever "Depend on Davey" reflects a business culture of dependable, innovative water solutions when and where you need them, supported by the best service and advice.

CONTENTS

ABOUT RAINBANK®.
THE EASY WAY TO SAVE WATER

Congratulations on your purchase of a high quality Australian made Davey RainBank® automatic water controller. RainBank® is patented and has been fitted to thousands of Australian homes.

- RainBank® allows you to use water from your rainwater tank for your toilet, washing machine or garden whenever there is water in the tank.
- If the tank water is exhausted RainBank® automatically and seamlessly switches you over to mains water.
- RainBank® has an in-built “dual check valve” for low hazard back flow prevention.



100,000 Litres

RainBank® can save up to 40% of your home’s usage of mains water, which could be up to 100,000 litres of water a year.

Your actual savings depend on your roof catchment area, rainfall and the size of your tank.

RainBank® may allow you to claim tank rebates (when installed on existing homes). Check with your local water authority.

In most areas of Australia, having a RainBank® and using rainwater for your toilet and washing machine allows you to claim tank rebates paid by state governments and some councils.

RainBank® is energy efficient and cheap to run.

Because RainBank® only works when it is needed it uses very little energy.

The daily power used to run a RainBank® and pump system supplying two toilets in a three person dwelling is equivalent to:

- A reverse cycle air conditioner for 3 minutes
- A clothes dryer for 3 minutes
- A washing machine for 10 minutes
- A TV or PC for 30 minutes

HOW RAINBANK® WORKS

1. When there is demand for water from your toilet, washing machine or garden tap, RainBank® senses this demand and checks the level of water in the rainwater tank.
   Note: demand must be greater than 1.5 litres per minute or mains water will be delivered.
2. If there is rainwater in the tank RainBank® switches on the pump. The pressure of the pump is sufficient to overcome the pressure of the mains water inside RainBank® and this moves a plunger and allows the rainwater to flow.
   Note: mains water pressure is not restricted.
3. When there is no longer a demand for water, RainBank® detects that water has ceased to move inside the pipes, switches off the pump and waits for another water demand.
4. If RainBank® senses a water demand and detects insufficient water in the rainwater tank it will automatically allow the mains water to flow.
5. If there is a power failure during a demand for water, RainBank® will automatically supply the mains water as backup.

What are the advantages of RainBank® over conventional air-gap systems?

- RainBank® is totally hands off for your customer and needs no maintenance or adjustment.
- RainBank® is easy to install.
- RainBank® does not require mains water to be re-pressurised and therefore saves energy.
- RainBank® is WaterMark approved – this means plumbing inspections will be approved & your plumbers insurance should cover installation faults.
- RainBank® will provide mains water as backup when:
  - there is no rainwater
  - there is no electricity to run pump
  - the pump has been removed for servicing. Air-gap systems rely on pumps to pressurise all water and do not function without them.

BEFORE YOU START

⚠ IMPORTANT:

- RainBank® must be installed and serviced by a licensed plumber.
- Check with your local water authority on water restrictions when your rainwater tank is connected to mains water.
- Do not enter a empty rainwater tank - they may contain hazardous gases.
- Before installing RainBank® please read all instructions carefully as failures caused by incorrect installation are not covered under warranty.
- If you are in doubt about any aspect of your RainBank® kit's suitability, check with your Davey dealer. For help in locating your closet dealer call the appropriate Davey Customer Service Centre listed on the back of this booklet.
- RainBank® is designed to handle clean rainwater and mains water. It should not be used to interconnect as part of a bore water, dam water, grey water, stormwater or recycled water system.
- The pumping of abrasive materials will damage the system and void the warranty.
- Mains electrical connections and checks must be made by a qualified electrician and comply with applicable local standards. The 12 volt connections need not be carried out by a qualified electrician, but should be done in compliance with applicable standards.
- Secure all openings to the rainwater tank and make sure the wiring, plumbing and the RainBank® unit are protected from access by children and pets.
- Water freezing inside the RainBank® will damage the unit. Locate your RainBank® and pump so that they are not susceptible to freezing.
- Some insects such as small ants find electrical devices attractive for various reasons. If your controller or pump is susceptible to insect infestation you should implement a suitable pest control plan.
- Over time the relevant position of the home or RainBank® and the rainwater tank may change slightly. In order to reduce the stresses on pipework such movement may result in, it is recommended that a length of flexible pipework from pump to RainBank® be installed. This pipework can be a braided hose or polythene pipe or similar.
- **Limit mains water pressure to 900kPa.**
- Under Australian Standard 3500 collecting/storing rainwater in a buried tank is considered a medium level hazard. Even though RainBank® has a built-in dual check back flow valve, you may be required to fit additional backflow protection valves to satisfy this requirement – check with your local council as to their guidelines on rainwater tank installation and backflow prevention.

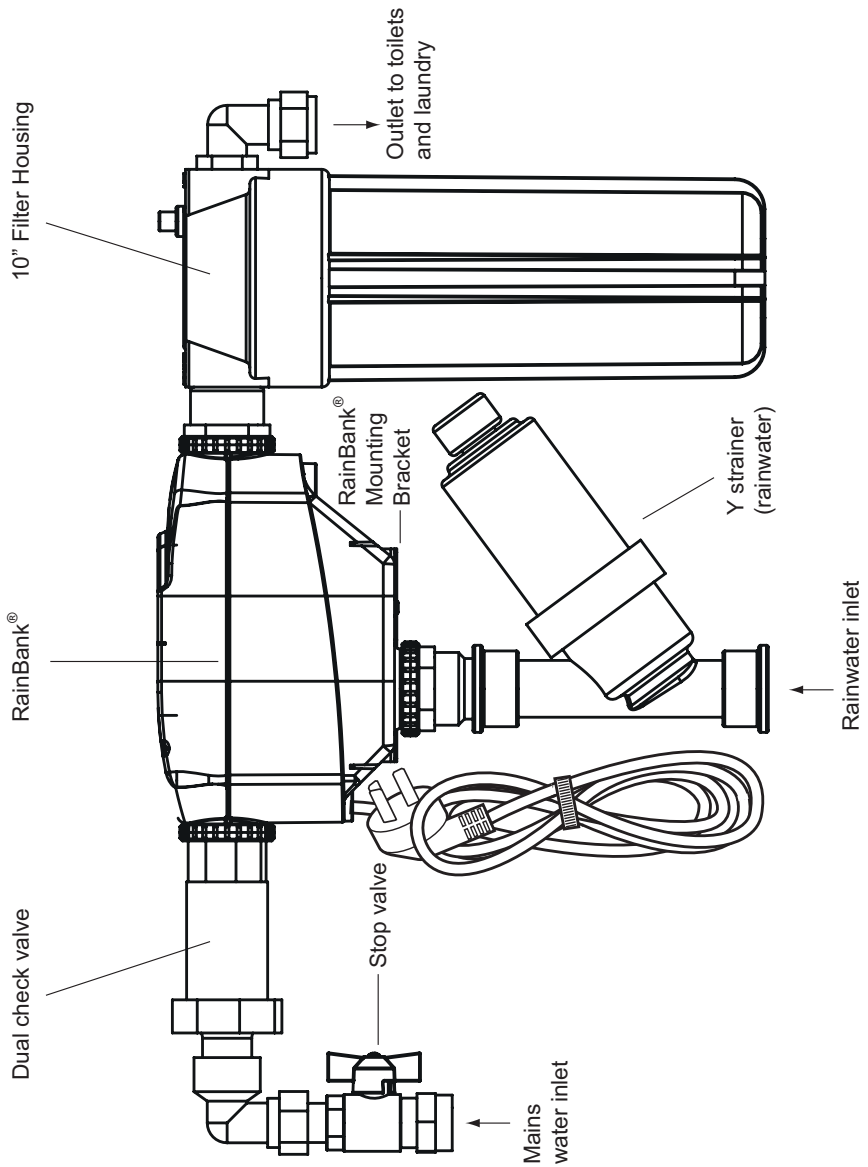
- All pipe work and fittings should be labelled in accordance with local standards such as Australian Standard AS/NZS 3500. This standard requires that all pipework containing rainwater is marked with green ‘rainwater’ tape or stickers at 1 meter intervals and every outlet that may deliver rainwater is to be permanently signed with ‘Rain Water’ signage or a green tap marked ‘RW’.
- In accordance with AS/NZS 60335.2.41 we are obliged to inform you that this controller and any pump controlled by it is not to be used by children or infirm persons and must not be used as a toy by children.
- Davey recommends a 2mm hole in the pipe work just above the pump outlet to clear air from the pipe work.
- There is no need for a separate float switch as this comes attached to the submersible pump and does not plug into the RainBank® unit.

INSTALLATION TIPS

Other things we recommend to maximise the performance and serviceability of your RainBank®.

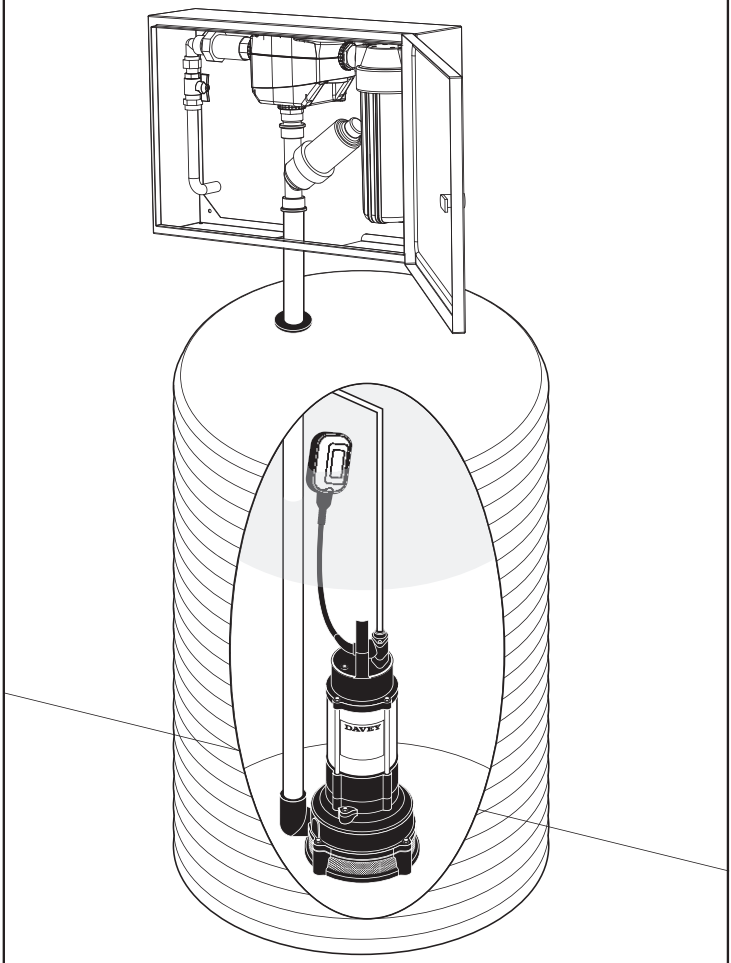
- Install cabinet on a solid, well protected wall (this will reduce noise and pipe stress).
- Fit first flush devices to all down pipes to ensure clean water inside the tank (dirty tank water can stain toilets & clothes).
- Fit a strainer to the top of your tank inlet to stop leaves entering the system.
- Use at least 20mm or 3⁄4 inch plumbing to and from RainBank® to reduce the effect of pipe friction. Galvanised pipe not recommended.
- Clear swarf from all pipes and holes drilled into the tank (swarf can block valves, RainBank® and toilet valves).
- Check with local council plumbing teams for backflow requirements.
- Keep pipe work well braced as vibrations can become noisy.
- Fill rainwater tank above float switch with garden hose to check system.
- Make sure pump is full of water (primed) before leaving site. Flush all air out of system by running pump with an outlet downstream open.
- Advise the customer to clean filters inside cabinet regularly.

COMPONENTS


10" Filter Housing
Outlet to toilets and laundry
RainBank®
RainBank® Mounting Bracket
Y strainer (rainwater)
Rainwater inlet
Dual check valve
Stop valve
Mains water inlet

PUMP INSIDE TANK Option - Overall

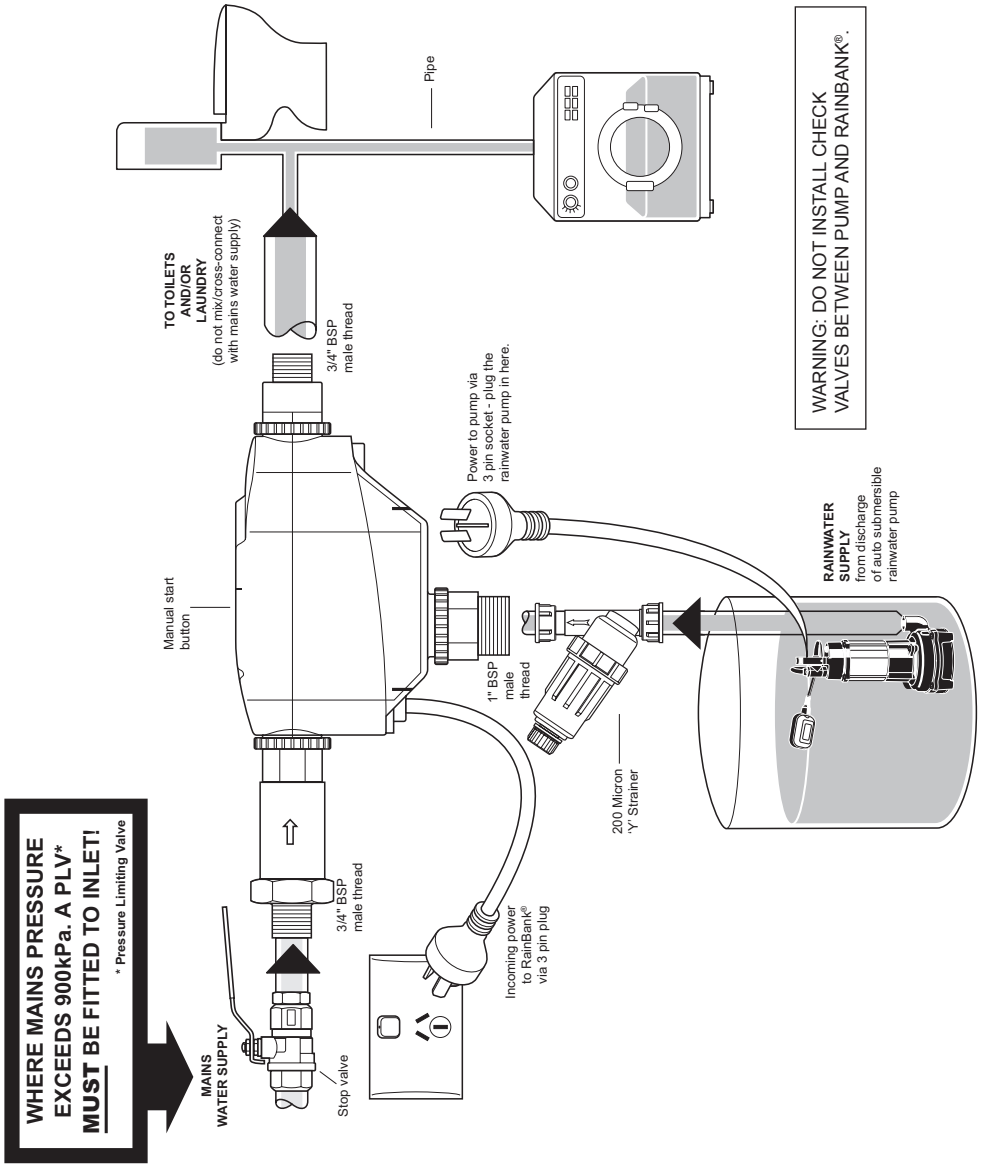
MODEL NO. KRBCABS1/20 & KRBCABS2/20



In-tank Option

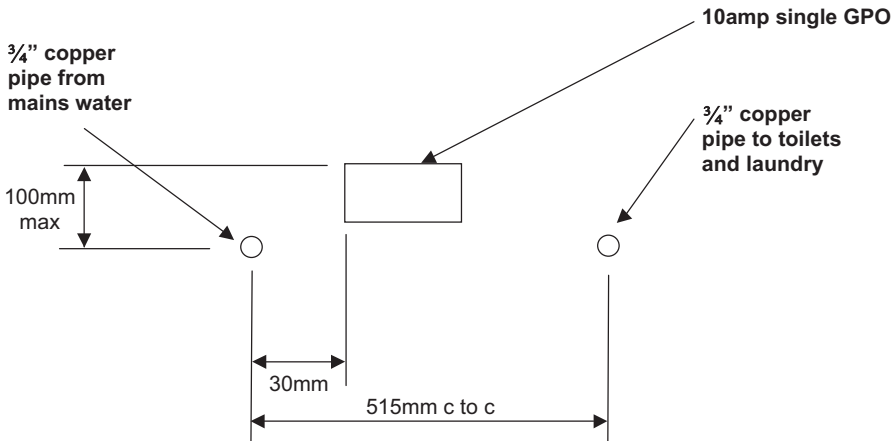
PUMP INSIDE TANK Option - Close up

IMPORTANT: ALL PIPEWORK AND OUTLET FITTINGS FROM RAINBANK® MUST BE LABELLED TO AS3500. DO NOT CONNECT WITH CRIMPED FITTINGS.

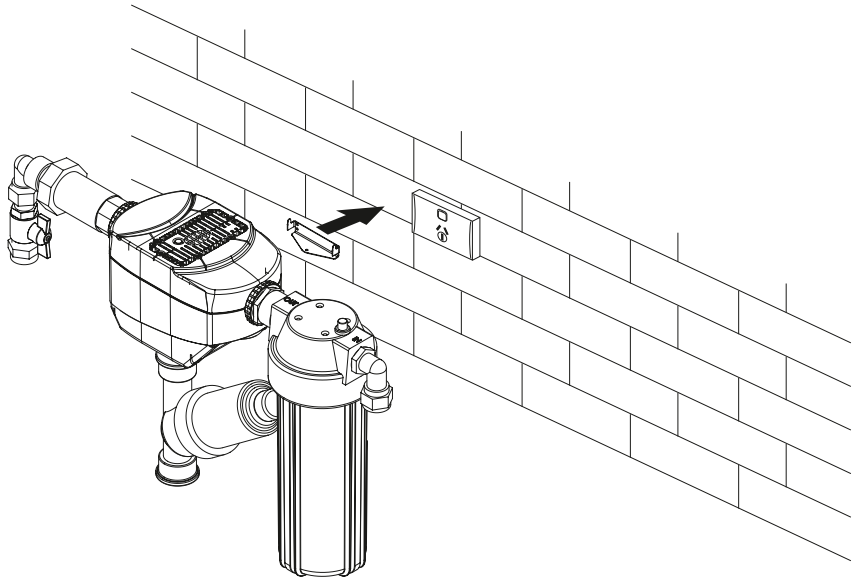


HOW TO INSTALL RAINBANK®

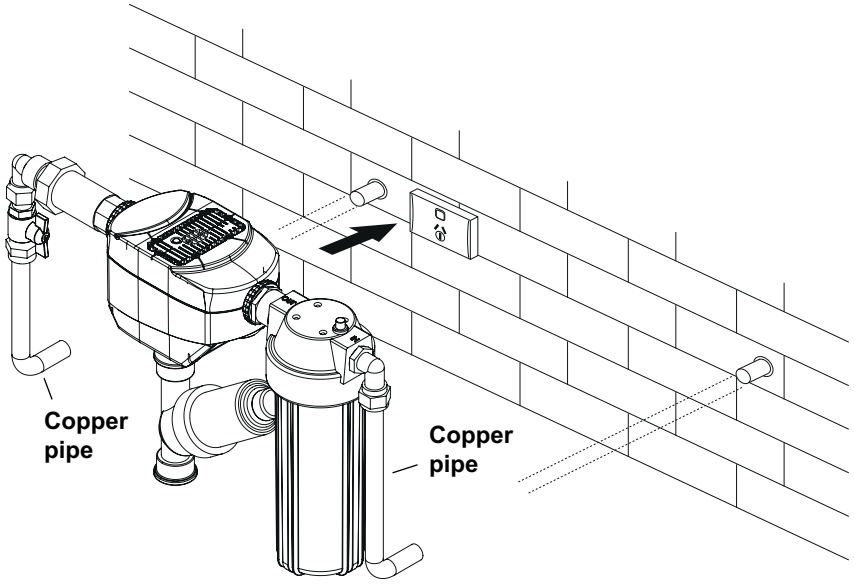
1. Run mains water plumbing, rainwater plumbing and power supply through the external wall according to the following template:



2. Mount RainBank® to the wall using the bracket provided. Ensure outlet and mains copper pipes are aligned with inlet/outlet of RainBank® and it is horizontal.



3. Plumb 3/4” copper pipes to RainBank® compression fittings.
   Note: It is critical that pipes do not interfere with filters to allow access for maintenance.

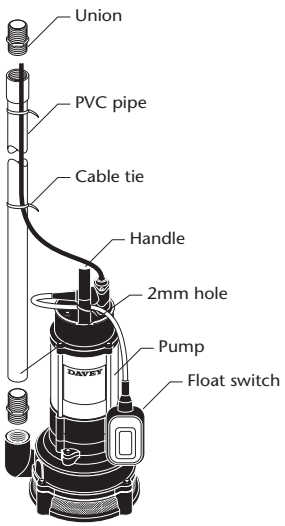


4. Once RainBank® is mounted and plumbed, install cabinet to the wall over the RainBank® using the four fixing holes provided. **Allow at least 50mm clearance between the base of the cabinet and the 10” filter housing**. This allows the filter to be removed for regular cleaning and maintenance.

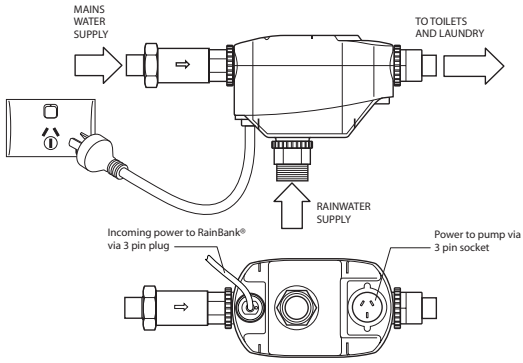
5. Connect a cable or chain to the submersible pump – so that it can be lowered into the rainwater tank – **Important: handling the pump by straining the power lead will damage the pumps water seals and cause premature failure not covered by warranty.**

6. Connect PVC or suitable plumbing to the pump outlet and lower the assembly into the rainwater tank. Cable tie the pump power lead to the pipework.

7. Connect pipework from tank to the Y strainer at the base of the RainBank® cabinet. Secure to the wall to prevent sagging and pipe vibration.



8. Cable tie the power lead from the pump to pipework and plug into base of RainBank®.



9. Open Mains water valve and check for leaks.
10. Switch on power to RainBank® and check for flashing green light – light will flash ten times as it boots up.
11. Open a tap downstream of RainBank® to clear lines of air and check for leaks.
12. Press manual override button on top of RainBank® to start the pump and clear air from rainwater lines. There must be rainwater inside the tank – this is an important part of commissioning the system.
13. Close tap and check for leaks.

TESTING

IMPORTANT: TO PROTECT AGAINST ELECTRICAL SURGES AND LIGHTNING STRIKE DAMAGING RAINBANK® OR ITS PUMP WE STRONGLY RECOMMEND THE USE OF A SUITABLE SURGE PROTECTION DEVICE AND RESIDUAL CURRENT DEVICES.

Test the operation of RainBank®.

1. With the mains connected and the rainwater tank empty turn on one of the taps in the laundry that feeds the washing machine or flushes the toilet. Mains water should flow normally. The pump should **not** turn on. The **'status'** light should glow **'red'** to indicate that mains water is being used. When this is completed turn off tap.
2. Fill the rainwater tank with sufficient water to activate the pump.
3. Check that the pump is sitting in sufficient water (above the level of the float) to self prime and let air out without causing equipment damage ensure:
    - All taps connected to the rainwater system are turned on.
    - Toilets connected to the system are flushed so that the cistern fills and any air is cleared from the line.
4. Turn on a tap or flush a toilet in the rainwater system. The pump should run and deliver rainwater. Allow to run for several minutes to clear air from pipes. The **'status'** light will now glow **'green'**.
5. Check for leaks around RainBank®, the pump, pipework and fittings.

MAINTAINING RAINBANK®

RainBank® does not need maintenance but there are things you can do to ensure its most reliable operation.

- Fit a “first flush” system that ensures the first run of dirty rainwater does not go into the tank.
- Clean your gutters and first flush devices ‘Y’ strainers and filter regularly.
- Remove branches that over hang your roof.
- Have a strainer fitted to your rainwater tank inlet and regularly check this for leaves and twigs, etc.
- You should also check for debris in the bottom of your tank a few times a year and clean this out if necessary. A first flush system will greatly reduce the need for this action.

⚠ IMPORTANT MAINTENANCE PRECAUTIONS:

- Davey pump motors are fitted with an automatic thermal overload switch that stops the motor if the motor gets too hot to avoid damaging it. This automatically re-starts the motor when the temperature within the pump has dropped to a safe level. Constant tripping of this switch indicates a problem e.g. Low voltage at pump, etc.
- This automatic thermal overload switch can start the pump without warning. Always disconnect the controller and/or pump motor from the electrical supply before maintenance or repairs.
- Care should also be taken when servicing or disassembling pump to avoid injury from hot pressurised water. Unplug the pump, relieve the pressure by opening a tap on the discharge side of the pump and allow any hot water to cool before attempting to dismantle.
- Do not use petroleum based fluids or solvents (e.g. oils, kerosene, turpentine, thinners, etc on the plastic or seal components).
- Do not use hydrocarbon based or propelled sprays around the electrical components of the controller.
- During servicing use only approved non petrochemical based o-ring and gasket lubrication. If unsure consult your Davey dealer for advice.

TROUBLE SHOOTING RAINBANK®

Symptom: Pump will not switch off

1. **Pump plugged directly into power outlet.**
   Plug lead from pump into base of RainBank® as per installation instructions on pg 10.

2. **Water is still being used.**
   Check all taps, toilets and appliances connected to RainBank® system to ensure they are turned off.

3. **Water is leaking on discharge side of RainBank® system.**
   Check for leaks and repair.

Symptom: Pump will not switch on

1. **Pump not plugged in.**
   Plug pump into base of RainBank® and RainBank® into power supply.

2. **No power supply to pump.**
   Contact electrician and have power restored.

3. **No water in tank.**
   Check water level in tank.

4. **Mains water supply not connected to RainBank.**
   RainBank® system must have a pressurised water supply connected to inlet. Press ‘manual override’ button to simulate mains water flowing.

5. **Mains supply to RainBank® turned off.**
   Turn on mains water supply. Press ‘manual override’ button to simulate mains water flowing. Pump will start if rain water is available.

6. **Pump is faulty.**
   To confirm if the fault is within the pump, plug the pump directly into power point and check to see if it starts. If the pump starts plug the pump back into the RainBank® and continue fault finding. If the pump does not start contact your supplier for further advice.

7. **Mains water flow is too low.**
   Ensure flow at most distant outlet is above 5 litres per minute.

Other symptoms

Pump is running but water is being sourced from the mains supply.

1. Pump needs to be primed.
2. Debris is caught inside RainBank preventing plunger mechanism from sealing completely.
3. Pump impeller blocked. Have pump serviced.

Mains water not passing through RainBank®.
Possible cause - RainBank® installed backwards. Install RainBank® according to installation & operating instructions. Arrow on top of RainBank indicates direction of flow.

Mains water not passing through RainBank®.
Possible cause - debris is blocking inlet and or filters in or out of RainBank®.

In order of most likely solution:

1. Mains inlet stop valve closed – open stop valve.
2. Filterpure® 10” filter cartridge element is blocked – remove and clean or replace cartridge.
3. RainBank® blocked – this is highly unlikely, ensure 1 and 2 are checked first.

Mains water pressure and flow too low.
Possible cause - there is a check valve or PRV installed between RainBank® and tank. Remove check valve or PRV from plumbing.

Pump hums.
Possible cause - pump is jammed or seized. Have pump serviced.

Water leaking from connection between pump and RainBank®.
Possible cause - installer has failed to fit connection kit correctly. Remove RainBank® and re-install connection kit.

Mains water filling up tank.
Possible cause - debris caught inside RainBank®.

Pump takes more than 10 seconds to turn on.
Check mains pressure and flow are about 5 litres per minute at 400kPa.

NOTES

DAVEY® REPAIR OR REPLACEMENT GUARANTEE

In the unlikely event in Australia or New Zealand that this Davey product develops any malfunction within warranty periods beginning from the date of original purchase due to faulty materials or manufacture, Davey will at our option repair or replace it for you free of charge, subject to the conditions below.

Davey Guarantee Period

Rainbank - Three Years Filterpure - One Year

Should you experience any difficulties with your Davey product, we suggest in the first instance that you contact the Davey Dealer from which you purchased the Davey product. Alternatively you can phone our Customer Service line on 1300 367 866 in Australia, or 0800 654 333 in New Zealand, or send a written letter to Davey at the address listed below. On receipt of your claim, Davey will seek to resolve your difficulties or, if the product is faulty or defective, advise you on how to have your Davey product repaired, obtain a replacement or a refund.

Your Davey Guarantee naturally does not cover normal wear or tear, replacement of product consumables (i.e. mechanical seals, bearings or capacitors), loss or damage resulting from misuse or negligent handling, improper use for which the product was not designed or advertised, failure to properly follow the provided installation and operating instructions, failure to carry out maintenance, corrosive or abrasive water or other liquid, lightning or high voltage spikes, or unauthorized persons attempting repairs. Where applicable, your Davey product must only be connected to the voltage shown on the nameplate.

Your Davey Guarantee does not cover freight or any other costs incurred in making a claim. Please retain your receipt as proof of purchase; you **MUST** provide evidence of the date of original purchase when claiming under the Davey Guarantee.

Davey shall not be liable for any loss of profits or any consequential, indirect or special loss, damage or injury of any kind whatsoever arising directly or indirectly from Davey products. This limitation does not apply to any liability of Davey for failure to comply with a consumer guarantee applicable to your Davey product under the Australian or New Zealand legislation and does not affect any rights or remedies that may be available to you under the Australian or New Zealand Consumer Legislation.

In Australia, 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.

Should your Davey product require repair or service after the guarantee period; contact your nearest Davey Dealer or phone the Davey Customer Service Centre on the number listed below.

For a complete list of Davey Dealers visit our website (davey.com.au) or call:

*** Installation and operating instructions are included with the product when purchased new. They may also be found on our website.**

DEPEND ON
DAVEY
WATER PRODUCTS

AUSTRALIA

Davey Support Centre
6 Lakeview Drive,
Scoresby, Australia 3179
Ph: 1300 367 866
Fax: 1300 369 119
Website: davey.com.au

NEW ZEALAND

Davey Support Centre
7 Rockridge Avenue,
Penrose, Auckland 1061
Ph: 0800 654 333
Fax: 09 527 7654
Website: daveynz.co.nz

REST OF WORLD

6 Lakeview Drive,
Scoresby, Australia 3179
Ph: +61 3 9730 9121
Fax: +61 3 9753 4248
E-mail: export@davey.com.au
Website: davey.com.au

Davey Water Products Pty Ltd
Member of the GUD Group
ABN 18 066 327 517

P/N 401565-7 supersedes P/N 401565-6