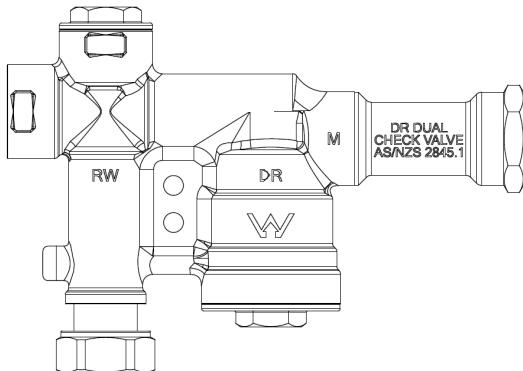




RAIN TO MAINS CHANGEOVER VALVE

RM1500-2 / RM1600-2



INSTALLATION & OPERATION MANUAL



OWNERS COPY

Introduction

The RM1500-2 and RM1600-2 is a fully automatic adjustable mechanical rainwater/mains water changeover device designed for pressure pump supply systems for harvesting rainwater for the toilet, laundry and household applications with automatic mains backup.

It is suitable for up to multiple toilets and washing machine & taps.

Operation

The RM1500-2 and RM1600-2 will always prioritise the use of rainwater over mains water when rainwater is available and will automatically switch over to mains water in the event of the rainwater tank running low or electrical failure.

When rainwater has been replenished, or power has been restored to the pump, the RM1500-2 and RM1600-2 will automatically prioritise back to rainwater.

The pump is only active when rainwater is being drawn from the water tank, it does not operate when the RM1500-2 and RM1600-2 has switched to mains position.

The pump controller starts and stops the pump when it detects a demand - for example flushing a toilet or using a washing machine.

The operating mechanism of the RM1500-2 and RM1600-2 is a unique patent design, it works by hydraulic water pressure created by the pump to close one inlet fully before opening the other inlet. This ensures an extremely reliable mechanism using few moving parts and no electronic components and no energy consumption.

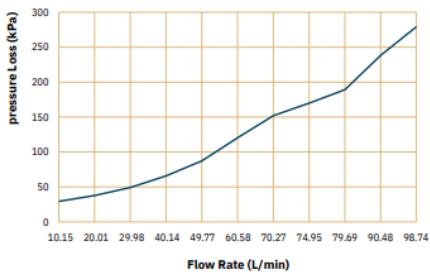
Features

- Easy to install
- Patent design
- Solid Brass mounting bracket (optional)
- Watermark approved to WMTS-477:2016
- Does not require regular maintenance
- No electrical consumption - No electronic components
- Solid brass construction - Fully weatherproof - Built to last
- Suitable for any pressure pump with sufficient head pressure
- Can be mounted in any position
- Dual Outlets
- Built-in dual check valve for backflow prevention
- 3 Year warranty

Flow Rates

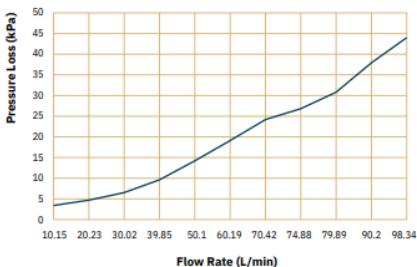
RM1500-2

Flow vs. Pressure curve – Mains Inlet



Pressure drop versus flow rate between the mains water inlet side and the outlet of the device

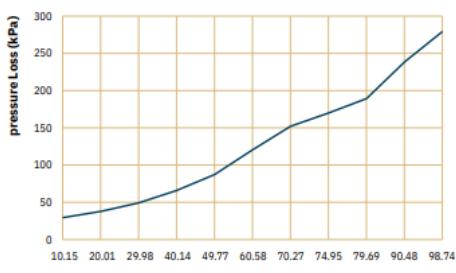
Flow vs. Pressure curve – Pump Inlet



Pressure drop versus flow rate between the rainwater inlet side and the outlet of the device

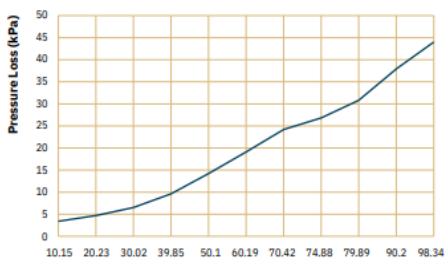
RM1600-2

Flow vs. Pressure curve – Mains Inlet

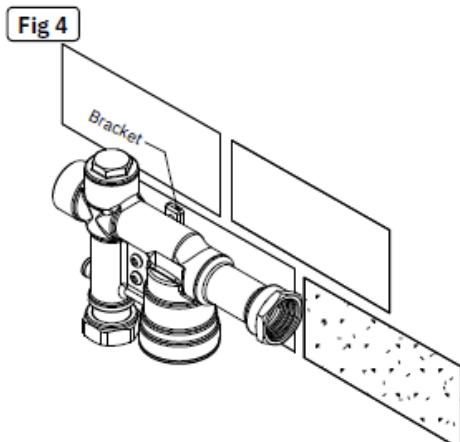
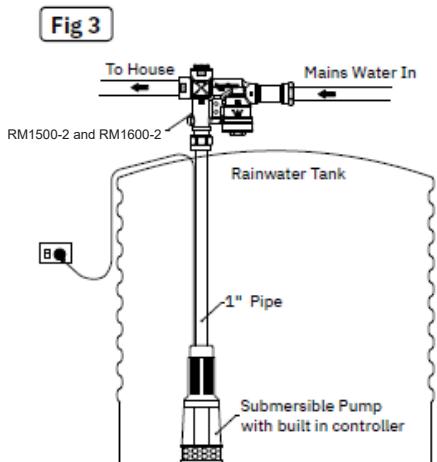
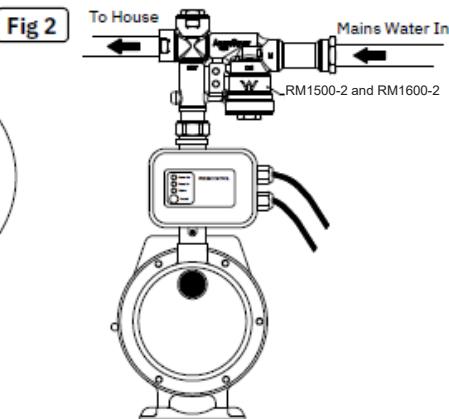
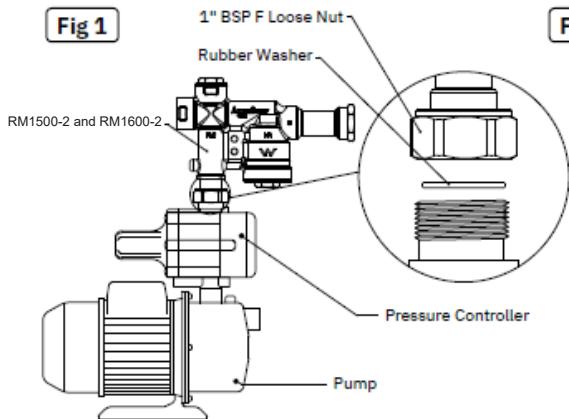


Pressure drop versus flow rate between the mains water inlet side and the outlet of the device

Flow vs. Pressure curve – Pump Inlet



Pressure drop versus flow rate between the rainwater inlet side and the outlet of the device



Connection

Step 1.

The RM1500-2 or RM1600-2 is fitted onto the pump controller as shown in Fig 1. Lock up the 1" BSP F loose nut with the rubber washer supplied, do not over tighten.

Step 2.

Connect mains water to the RM1500-2 or RM1600-2 Fig 2.

Step 3.

Connect outlet to the household. Fig 3 shows a typical installation for a submersible pump. Fig 4 shows the RM1500-2 or RM1600-2 mounted to a surface using a bracket

NOTES:

The RM1500-2 and RM1600-2 can be installed in any position and location, it does not require to be installed on the pump as shown in the diagram.

The connection of the pump should be carried out to manufacturers instructions. It is recommended a Y-Strainer be fitted between the tank and pump. Pump needs to be primed before use.

Specifications

	RM1500-2	RM1600-2	
Max Mains Pressure	1000 KPa	500 KPa recommended	Meets Requirements of WMTS477/LN60075
Max Pump Pressure	600 KPa	600 KPa	
Min Pump Pressure	350 KPa	300 KPa Recommended	
Recommended min pump cut-in pressure		2 Bar	Complies to WMTS477/LN60075 when installed by a licensed plumber
Max Flow Rate	100 LPM	50 LPM	
Max Water Temperature	50° C	40° C	
Min Water Temperature	0°C*	0°C*	
Pump Inlet	25mm 1" BSP F	25mm 1" BSP F	
Mains Water in	25mm 1" BSP F	20mm 3/4" BSP	
Outlets	25mm 1" BSP F	20 3/4" BSP	
Weight	1.6 KG	2.5 Kg	* Ensure proper protection against freezing weather. Complies to AS/NZS 3500.1 when installed by a licensed plumber.

IMPORTANT INSTALLATION & WARRANTY CONDITIONS - EXTERNAL PUMPS

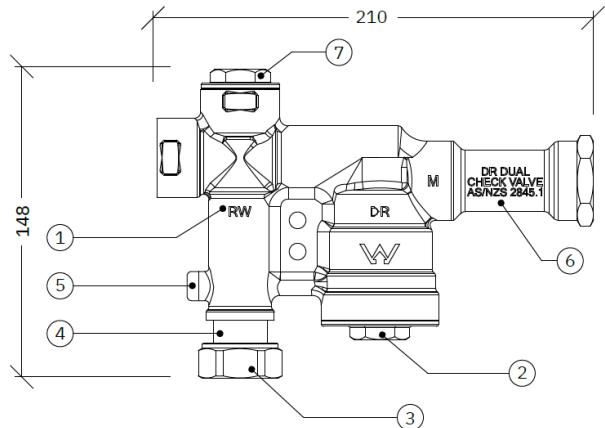
- 1) The mains supply must not exceed 500kPa refer AS/NZS 3500.1
- 2) The pump must have flood suction (gravity feed of tank-water) with an inlet pipe not less than the size of the pump inlet (typically 25mm)
- 3) The suction must have a Y-Strainer fitted (on the inlet from tank)
- 4) Mains supply must have an isolation valve (ball-valve)
- 5) Tank supply must have an isolation valve (ball-valve)
- 6) ALL CONNECTIONS must be with Barrel-Unions
- 7) Most pump warranties are conditional upon a pump cover being fitted

IMPORTANT INSTALLATION & WARRANTY CONDITIONS - SUBMERSIBLE PUMPS

- 1) The mains supply must not exceed 500kPa refer AS/NZS 3500.1
- 2) The pump must be easily accessible for repair or servicing
- 3) If the pump has a float switch, ensure it CANNOT get stuck on the side of the tank or under baffles or similar - warranty service does not cover this situation
- 4) Mains supply must have an isolation valve fitted (ball-valve)
- 5) ALL CONNECTIONS must be with Barrel-Unions
- 6) For underground tanks, the installation must be designed and constructed to allow easy access, for removal or replacement of the pump, warranty does not include costs of digging up gardens etc!

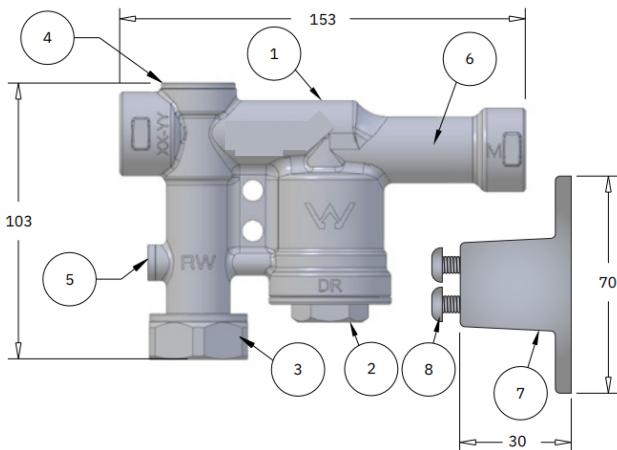
Parts List

RM1500-2



No.	Component	QTY	Material
1	RM1500	1	DZR Brass
2	End Cap	1	DZR Brass
3	DN25 Nut	2	Brass N/P
4	Brass Tail	1	DZR Brass
5	1/8 BSP Plug	1	Stainless Steel
6	Dual Check Valve	1	DZR Brass
7	DN25 End Cap	1	DZR Brass

RM1600-2



No.	Component	QTY	Material
1	RM600	1	DZR Brass
2	Piston Cap	1	DZR Brass
3	DN25 Nut	2	Brass
4	M24 Cap	1	DZR Brass
5	1/8 BSP Plug	1	Stainless Steel
6	Dual Check Valve	1	DZR Brass
7	Forged Bracket	1	Brass
8	Hex Screws	2	Stainless Steel

Trouble Shooting

Symptom	Cause	Remedy
No water is delivered from the pump or pump performance is decreased	The rainwater tank is empty. No Power. Isolation Valve is shut. The pump is not primed. Y-Strainer is blocked.	Wait for the tank to fill. Check power supply & plug. Restart pump. Open isolation Valve. See pump owners manual on priming pump. Clean Y-Strainer.
No water is delivered from mains	No water from mains. Debris in valve Air Lock	Check isolation valve on the water meter. Open bleed plug
Pump continually runs	Leak in the plumbing system. E.g. Toilet or tap leaking. Faulty pump	Repair Leak Contact pump manufacturer

Maintenance

The RM1500-2 and RM1600-2 does not require any regular maintenance; however, there are things you can do to ensure its most reliable operation:

- Fit a Y-Strainer
- Cleaning your gutters
- Cleaning the inlet strainer on rainwater tank

WARRANTY

RM1500-2 and RM1600-2 warranty for Australia and New Zealand. The RM1500-2 is guaranteed for 3 years and the RM1600-2 is guaranteed for 2 years, from the date of original purchase to be free of material or manufacturing defects. Should any part fail as a result of such defects within this period, the RM1500-2 and RM1600-2 will be repaired or replaced free of charge.

The RM1500-2 and RM1600-2 also has a **LIMITED LIFETIME WARRANTY** on all brass components; any brass components will be replaced free of charge if it fails in normal use during its life.

This warranty applies to all states and territories in Australia and New Zealand. The warranty period commences on the day of the original purchase of the RM1500-2 and RM1600-2. Evidence of this purchase must be provided when claiming repairs or replacement; it is recommended you retain all receipts.

Both warranties are subject to conditions by the original purchaser with all conditions set out in the installation and operating instructions. Failure to comply with these instructions, damage or breakdown caused by fair wear and tear, negligence, misuse, incorrect installation, chemical or additives in the water, corrosive or abrasive water, inadequate conditions, attempting repairs or accidents, are not covered by this warranty.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. If you are a consumer as defined by 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. The above conditions form part of the instructions and do not over-ride your statutory rights.



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