

MAINTENANCE

It's important to ensure that your first flush diverter outlet remains clear of any debris. If your outlet becomes blocked, the chamber will not empty and the first flush of water will not be diverted when it rains.

To ensure the flow of water out through your diverter's outlet, periodically check the transparent, rapid release exit funnel for any build-up of matter (Remove primary filter and clean if required).

Periodically check that the Advanced Release Valve batteries have charge. This is indicated by the flashing light.

To protect your Advanced Release Valve from freezing or "winterising", remove the timer prior to the first frost or freeze and store it indoors until spring. Remember to remove the batteries from the battery compartment.

For best results and minimal maintenance, we recommend installing rain heads such as our Leaf Eater rain heads on all your downpipes to limit the volume and number of leaves and debris that reach your first flush diverter.

DISCLAIMER This product specification is not a complete guide to product usage. Further information is available from Rain Harvesting Pty Ltd and from the Installation and Operating Instructions. This specification sheet must be read in conjunction with the Installation and Operating Instructions and all applicable statutory requirement. Product specifications may change without notice. © Rain Harvesting Pty Ltd.

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First Flush Advanced
with Max Chamber Upgrade Kit



Installation and Specification Guide

PRODUCT DETAILS

Divert more contaminants and take greater control over your water volume with this next generation First Flush Advanced Diverter with Max Chamber Upgrade Kit.

AUS	WDDP21	90mm
NZ	WDDP221	80mm
USA	WDDP121	3"

FEATURES AND BENEFITS

- Patented First Flush Plus tee prevents dirty water "skipping" over the traditional T-junction gap during heavy rainfall.
- Diverts water containing particles of organic and inorganic matter into collection chambers installed on each downpipe.
- Transparent, Rapid Release Exit Funnel allows for easy visual inspection and draws sediment into the exit flow for reduced buildup and blockages.
- Advanced Release Valve allows you to program how frequently the first flush chamber empties and reduces maintenance.
- The Max Chamber Upgrade kit allows the chamber pipe size to be increased to 100mm/4" making it easier to divert the optimum volume of first flush.

Installation

WHAT'S IN THE BOX?	TOOLS/MATERIALS YOU MAY REQUIRE
<ul style="list-style-type: none">• First Flush Plus Tee• Ball seat• Sealing ball• End coupling• Primary Filter Screen• Transparent, rapid release exit funnel• Advanced Release Valve• 90mm/3" pipe wall brackets x 2	<ul style="list-style-type: none">• 90mm/3" or 100mm/4" pipe (for diversion chamber)• Tape measure• Marker pen• Saw• Solvent weld glue• Screws• Drill or screwdriver• 2 new 1.5 volt AAA batteries

To make Max Chamber:

- Max Chamber adaptor
- 100mm/4" end coupling
- 100mm/4" pipe wall brackets x 2
- 4" SCH40 - 4" SDR35 adaptor x 2 (USA only)

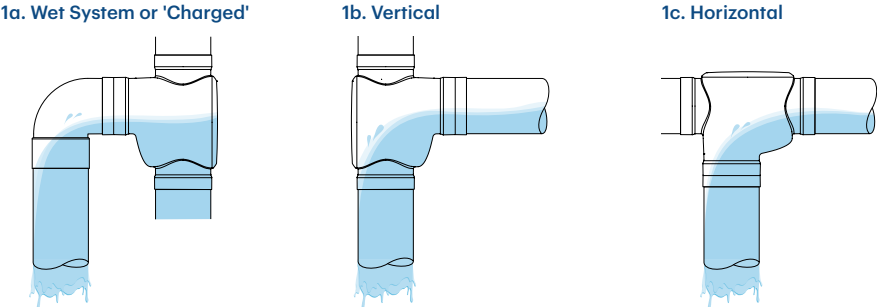
Your kit may include international adaptors:

- 90mm to 80mm socket adaptor x 4 (NZ only)
- 3" SCH40 - 3" SDR35 adaptor x 4 (USA only)

FIRST FLUSH ADVANCED WITH MAX CHAMBER

1. If you're using the Max Chamber adaptor to create your first flush diversion chamber, you will need to determine the length of 100mm pipe you require. As a general guide, 1 metre of 100mm pipe holds 8.8 litres of water. 3 feet of 4" pipe holds 2 gallons of water. Ensure all cut edges are clean and smooth.
2. If you aren't using the Max Chamber adaptor, you will need to determine the length of 90mm (80mm or 3") pipe required for your first flush diversion chamber. As a rough guide, 1 metre of 90mm pipe holds approximately 5.9 litres of water. 1 metre of 80mm pipe holds approximately 4.6 litres of water. 3 feet of 3" pipe holds 1.2 gallons of water. Ensure all cut edges are clean and smooth.
3. The First Flush Plus tee can be installed in the horizontal or vertical orientation to suit your installation. The outlet must be accessible for maintenance and inspection. (Refer to Figures 1a, 1b and 1c for suggested installation orientations).
4. Select the orientation of the First Flush Plus tee appropriate for your chosen installation point. This will determine which socket on the First Flush Plus tee will attach to your diversion chamber.

Figure 1
Suggested Installation Orientations



5. Measure your existing downpipe and cut to create space for the First Flush Plus tee. The outlet of your diverter must sit at least 150mm (6") from the ground when fully assembled, so select your installation point and measure and cut accordingly. Ensure all cut edges are clean and smooth. Install your First Flush Plus tee in place by applying solvent weld glue to the sockets and pipe. Insert the pipe into the sockets or socket adaptors at either end of the First Flush Plus tee.
6. Apply solvent weld glue to the threaded end coupling socket and one end of your diversion chamber pipe and insert it firmly into the end coupling. If you're using 90mm pipe, you will need to use the 90mm end coupling socket (and adaptors if required). If you're using the Max Chamber adaptor, you will need to use the 100mm end coupling socket (and adaptors if required).
7. Apply solvent weld glue to the Max Chamber adaptor and glue it onto the upper end of your diversion chamber. If you aren't using the Max Chamber adaptor you can disregard this step.
8. Orient the ball seat so it will fit inside the First Flush Plus tee socket that will attach to your diversion chamber. If you're using 3" pipe for your diversion chamber, you will need to snap off the outer spacer ring from the ball seat
9. With the ball seat in place, apply solvent weld glue to the upper end of your diversion chamber into your First Flush Plus tee. The upper end of your diversion chamber will be either 90mm pipe or the Max Chamber adaptor, depending on which configuration you are using. Insert the upper end of your diversion chamber into the First Flush Plus tee. If you are using the Max Chamber adaptor, make sure you align the indicator mark to point away from the mounting wall. This will ensure your First Flush unit will sit flush on the wall.
10. Attach to the wall using the supplied brackets, supporting the unit until it is fully secured. The smaller brackets are for the standard diversion chamber. The larger brackets are for the Max Chamber. The upper bracket should sit directly under the First Flush Plus tee where it will hold the weight of the unit.
11. Place the ball inside your first flush chamber through the end coupling. Install the Primary Filter Screen, Transparent Rapid Release Exit Funnel with O-ring, and Advanced Release Valve by following the instructions in Figure 2 (next page).

Figure 2

Installing and setting up the Advanced Release Valve

2a. Insert the Primary Filter into the end of the First Flush chamber. It should fit snugly into the socket on the end of the pipe.



2b. Install the Transparent Rapid Release Exit Funnel, ensuring the o-ring is seated correctly. It should be screwed up firmly to compress the o-ring.



2c. Attach the Advanced Release Valve by first installing the 25mm x 20mm (1" x 3/4") reducing adaptor and washer to the 25mm (1") thread of the screw cap.



2d. Remove the union from the valve and attach to the reducing adaptor with 20mm (3/4") washer in place.



2e. Attach the valve at the union and orientate dial for easy access.



2f. Remove the waterproof cover from the Advanced Release Valve.



2g. Ensure the reset interval and drain time control knobs are in the "RESET" and "CLOSED" positions. Carefully slide out the battery box and install two new 1.5-volt AAA batteries.



2h. Test the unit by turning the drain time knob to the “OPEN” position. You should hear the sound of the motor within 5 seconds. Turn the drain time knob back to the “CLOSED” position ready for setting.

NOTE: If you do not hear the sound of the motor, check that the batteries are installed correctly.



2i. Ensure that the reset interval and drain time knobs are in the “RESET” and “CLOSED” positions.

NOTE: The first time you program the Advance Release Valve it will not begin to operate until after a time delay equal to the setting of the reset interval knob you select. The Advance Release Valve starts to keep time when you set it. It is important that you set the timer at the hour you want it to operate. For example, if you want the Advance Release Valve to operate at 07:00AM, you must physically set it at 07:00AM.

Set your reset interval and drain time according to the tables below, then replace the waterproof cover. A long reset interval will mean that the first flush diversion chamber empties less frequently, leading to higher rainwater yield. A short reset interval will mean that the first flush diversion chamber empties more frequently, resulting in a lower water yield. It should be noted, however, that differences in yield are minimal, so set your reset interval as appropriate for the pollution in your area.

Advance Release Valve Reset and Drain Time Settings

Suggested Reset Setting	Pollution Level	Recommended drain time setting	Approx. First Flush chamber size			
1 day	Very high	5 minutes	20	litres	5.3	gallons
2 days	Very high	10	40		10	
3 days	High	20	80		20	
4 days	Medium	30	120		30	
5 days	Medium	45	180		50	
1 week	Low	60	240		60	
2 weeks	Very Low	75	300		80	
4 weeks	Very Low	100	400		100	
		125	500		130	
		150	600		160	

POLLUTION FACTORS

The following factors can be used as a guide to determining the volume of water to be diverted.

POLLUTION FACTOR FOR THE ROOF	
MINIMAL POLLUTION	SUBSTANTIAL POLLUTION
DIVERT 0.5L PER M² (0.0123 GALLONS PER FT²) Open field, no trees, no bird droppings, clean environment	DIVERT 2L PER M² (0.0491 GALLONS PER FT²) Leaves and debris, bird droppings, various animal matter, e.g. dead insects, skinks, etc.

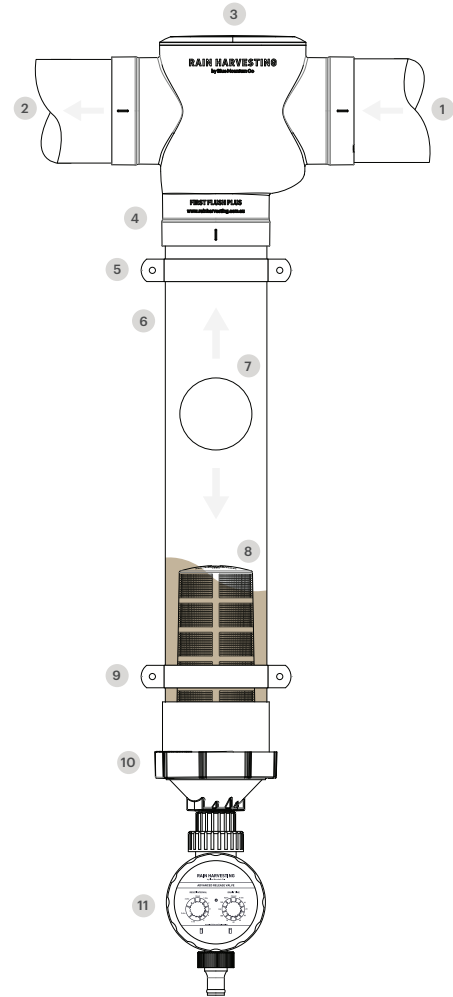
The above quantum are the results of preliminary testing. Individual site analysis and field testing is required to more accurately assess the quantum to be diverted in each individual case.

DIVERSION FACTOR FOR A FIRST FLUSH WATER DIVERter	
MINIMAL POLLUTION	SUBSTANTIAL POLLUTION
M² (or FT²) ROOF AREA X POLLUTION FACTOR = LITRES TO BE DIVERTED	
Example for a minimal polluted roof of 100m² 100m ² x 0.5 = 50 litres to be diverted Example for a minimal polluted roof of 1000ft² 1000ft ² x 0.0123 = 12.3 gallons to be diverted	Example for a heavily polluted roof of 100m² 100m ² x 2 = 200 litres to be diverted Example for a heavily polluted roof of 1000ft² 1000ft ² x 0.0491 = 49.1 gallons to be diverted

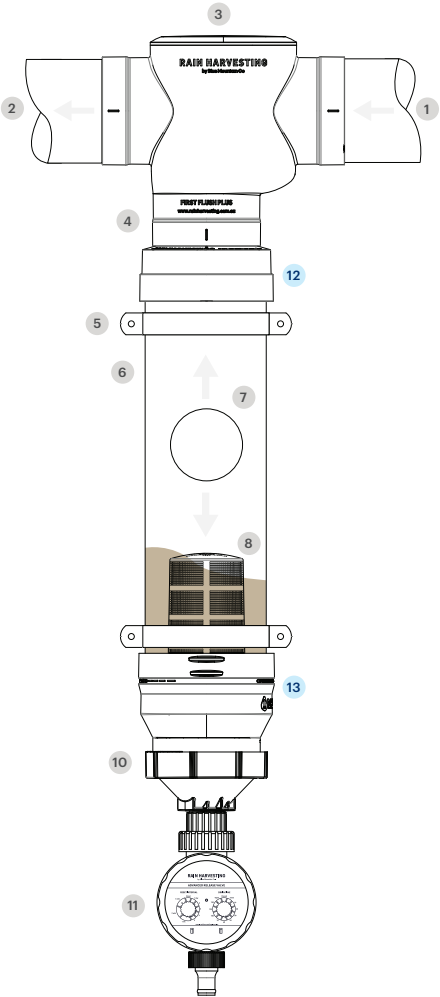
REFERENCE CHART

With 90mm standard diverter chamber

For NZ 80mm and USA 3" attachments, please refer to the Product Dimensions section



With 100mm Max Chamber
with Max Chamber upgrade parts attached



- 1

In-feed from the roof
- 2

To the tank
- 3

First Flush Plus Tee
- 4

Ball seat
- 5

Wall brackets
- 6

Diversion chamber
- 7

Sealing ball
- 8

Primary Filter Screen
- 9

90mm End Coupling
- 10

Transparent, Rapid Release Exit Funnel
- 11

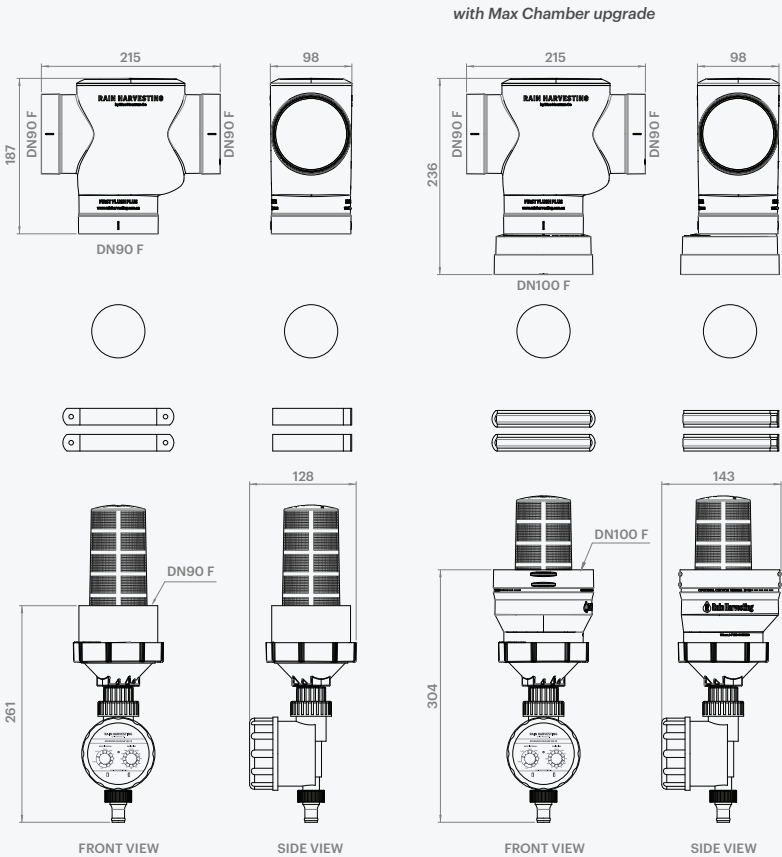
Advanced Release Valve
- 12

Max Chamber Adaptor
- 13

100mm End Coupling

PRODUCT DIMENSIONS

First Flush Advanced
AU WDDP21 90mm

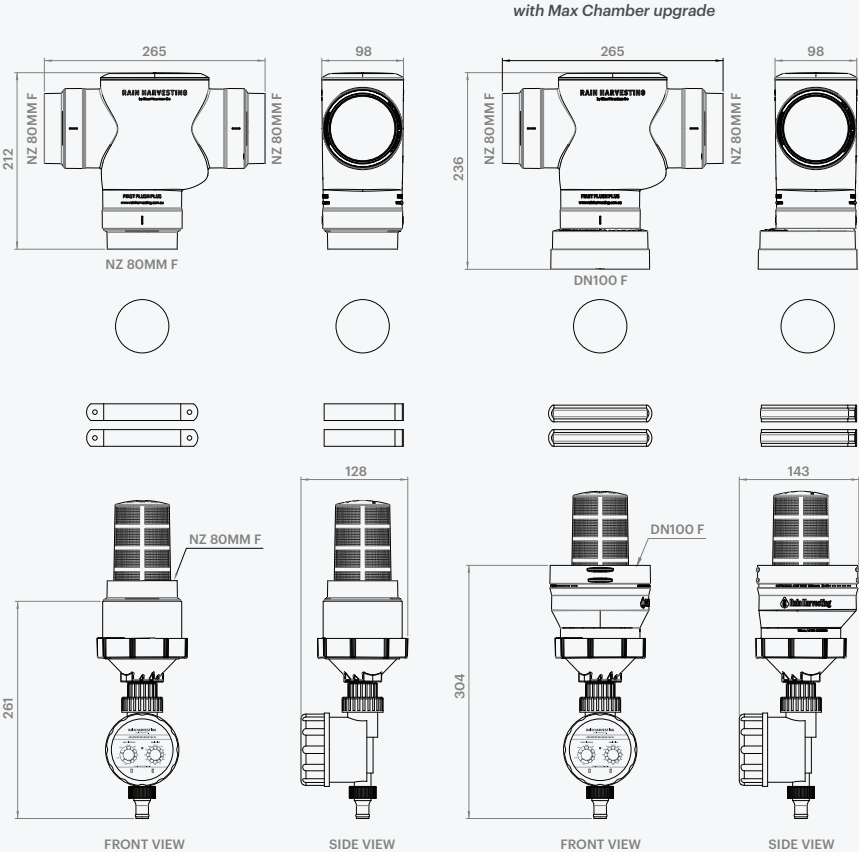


ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.

Pipe Fitment		
WDDP21	DN90 F socket	90mm pipe fits inside
	DN100 F socket	100mm pipe fits inside

PRODUCT DIMENSIONS

First Flush Advanced
NZ WDDP221 80mm

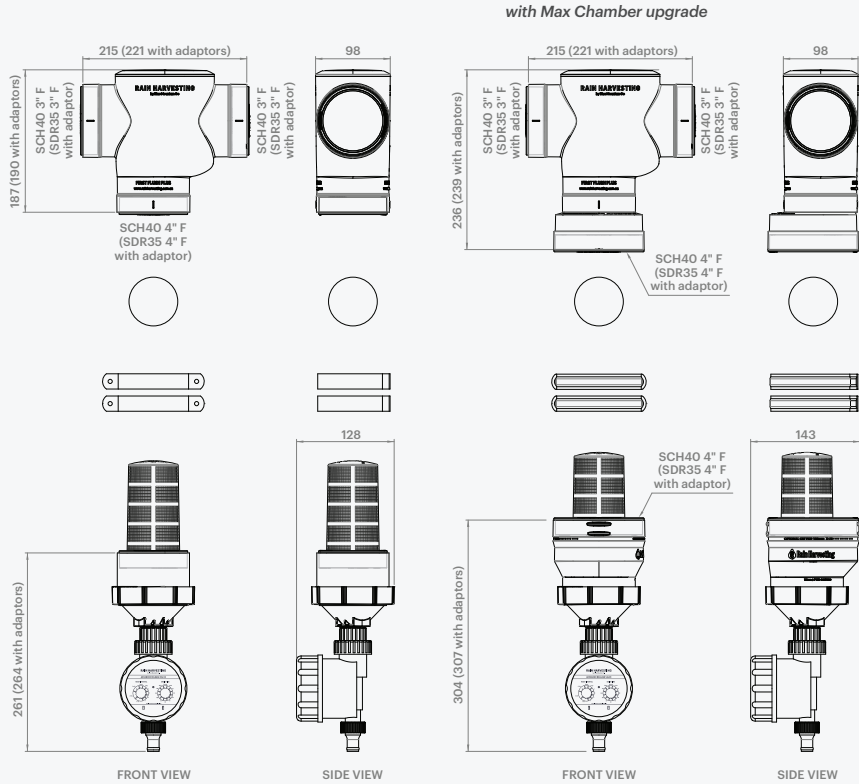


ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.

Pipe Fitment		
WDDP221	DN80 F socket	80mm pipe fits inside
	DN100 F socket	100mm pipe fits inside

PRODUCT DIMENSIONS

First Flush Advanced
USA WDDP121 3"



ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED.

Pipe Fitment		
WDDP112	SDR35 3" F socket	SDR35 3" pipe fits inside
	SCH40 4" F socket	SCH40 4" pipe fits inside