

RAIN HARVESTING

by Blue Mountain Co

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First Flush In-Ground



Installation and Specification Guide

PRODUCT DETAILS

Buried and out of sight, the First Flush In-Ground Diverters are perfect for sloping allotments. They can also be used to convert a “wet” rainwater harvesting system into a “dry” system.

WDIG01 90mm/100mm

FEATURES AND BENEFITS

- Prevents sediment, bird droppings, insects, mosquito eggs and debris from entering the rainwater tank
- Improves water quality, protects pumps and internal appliances
- Perfect for sloping allotments
- Converts a ‘wet’ system in to a ‘dry’ system
- 90mm/100mm dual fit inlet
- Easy installation, just add 300mm pipe length and glue
- Comes in kit form

Installation

WHAT'S IN THE BOX?	TOOLS/MATERIALS YOU MAY REQUIRE
• 2 end caps • Hose connector • 8 flow control washers • Screw cap with O-ring seal • Threaded coupling • Plastic filter screen • Primary Filter Screen • Ball • Ball seat • 90mm length of 90mm pipe (for joining end cap and threaded coupling) • 30mm length of 90mm pipe (Ball seat ring keeper)	• 300mm pipe (for diversion chamber) • Tape measure • Marker pen • Saw • Solvent weld glue • 90mm pipe and T-junction (for connecting to 90mm installation) • 100mm pipe and T-junction (for connecting to 100mm installation) • 90mm x 90° bend (for optional use with outlet) • Shovel • Bedding sand or similar

FIRST FLUSH IN-GROUND

NOTE: Select an installation point for your First Flush In-Ground. Your diverter must be installed on a minimum slope (5% or 1 in 20) to ensure it drains after each rainfall event. The outlet must also be accessible for maintenance and inspection. This may be achieved by running pipe to a location aboveground or installing an access pit (e.g. stormwater pit).

1. Determine the length of 300mm pipe required for your first flush diversion chamber using the table below and cut accordingly. Ensure all cut edges are clean and smooth.
2. Attach the upper and lower end caps to your 300mm pipe by applying solvent weld glue to the socket and pipe before inserting the pipe into the end cap and holding until the glue sets. Repeat for the other end cap though ensure your end caps are oriented so that the inlet on the upper end cap is at 12 o'clock and the outlet on the lower end cap is at 6 o'clock. Expect a tight fit.
3. Select the appropriate flow control washer and fit it into the hose connector with the side marked "TOP" showing. Start by using the Control Washer with the smallest gauge hole (lowest number). Try a larger gauge Washer if experiencing blockages. Save the remaining washers for possible future use.
4. Insert the plastic filter screen in through the base of the screw cap with O-ring seal and secure by attaching the hose connector and flow control washer.

5. Apply solvent weld glue to the socket of the threaded coupling and one end of the 90mm length of 90mm pipe. Insert the short section of pipe into the socket and hold until the glue sets. Insert opposite end of this short section inside the lower end cap outlet after applying solvent weld glue.
6. Insert your Primary Filter Screen in the lower end cap, then attached the screw cap with O-ring seal (and assembled components) to the threaded coupling.
NOTE: For some end couplings you may be required to remove and discard the molded keeper ring from the bottom of the Primary Filter Screen.
7. Using a T-junction as a template, measure the pipes at your chosen installation point and cut to create space for the T-junction. If your first flush diverter will be located after the existing 90° bend in the pipe that feeds your tank, the T-junction can be used in place of the existing 90° bend to direct water vertically to the tank. Otherwise the T-junction can be installed in your existing horizontal pipework. Whichever installation option you choose, ensure all cut edges are clean and smooth.
8. Place the ball inside your first flush diversion chamber through the upper end cap inlet.
9. Insert the ball seat into the top of the upper end cap inlet, with the narrow end of the seat facing downstream.
10. If you are installing your diverter below your existing pipework (i.e. you are not replacing the existing 90° bend with the T-junction), connect a 90° elbow to your T-junction and install using solvent weld glue.
11. If you are fitting your diverter to a 90mm T-junction/elbow, cut a length of 90mm pipe to connect your diverter and T-Junction/elbow. Attach the pipe hard down on top of the ball seat, then attach the T-Junction/elbow hard down on top of the pipe.
12. If you are fitting your diverter to a 100mm T-junction/elbow, attach the 30mm length of 90mm pipe hard down on top of the ball seat and glue in place using solvent weld glue. Fit the T-junction/elbow around the upper end cap inlet or, if required, connect the T-junction/elbow and upper end cap inlet using an additional length of pipe.
13. Connect the T-junction to the existing pipework using solvent weld glue.
14. Ensure all subsurface pipe work (including first flush chamber), has been backfilled and supported correctly using appropriate bedding sand or similar after testing for leaks.

DIVERSION CHAMBER SIZE

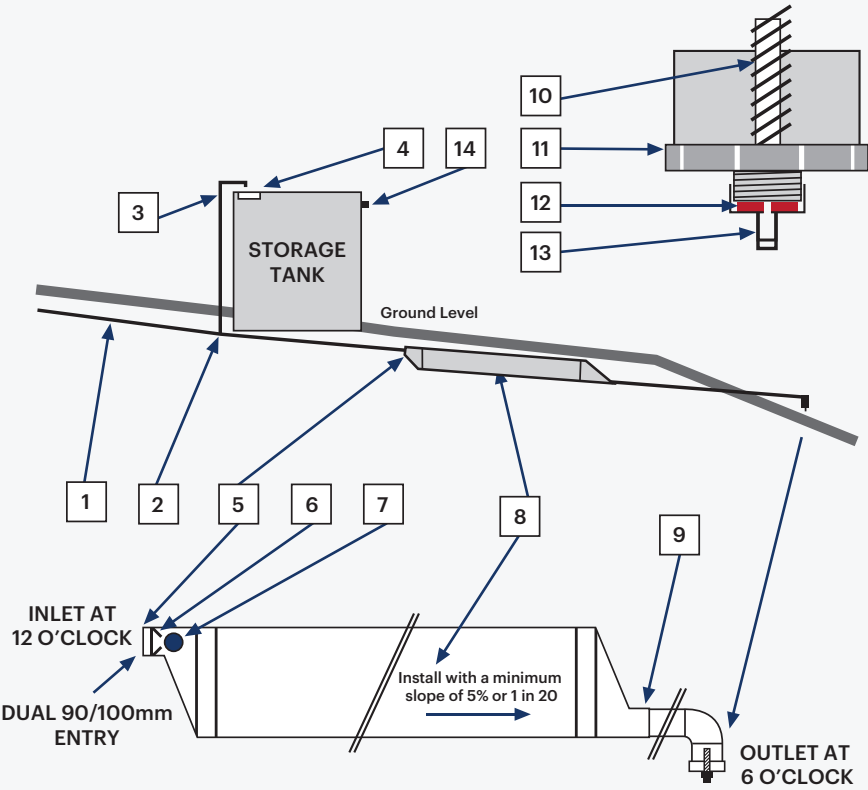
POLLUTION FACTOR FOR THE ROOF	
MINIMAL POLLUTION	SUBSTANTIAL POLLUTION
DIVERT 0.5L PER M² Open field, no trees, no bird droppings, clean environment	DIVERT 2L PER M² Leaves and debris, bird droppings, various animal matter, e.g. dead insects, skinks, etc.
The above quantum are the results of preliminary 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 ROOF AREA X POLLUTION FACTOR = LITRES TO BE DIVERTED	
Example for a minimal polluted roof of 100m ² 100 x 0.5 = 50 Litres to be diverted	Example for a heavily polluted roof of 100m ² 100 x 2 = 200 Litres to be diverted

CHAMBER SIZES (300mm Diameter Pipe)		
Length Metres	Volume in Litres Contained (approx)	
1.0	72	Add the volume of water held in the pipe section downstream of the Diverter, between the Chamber and the Flow Control Valve/Outlet
1.5	108	
2.0	144	
2.5	180	
3.0	216	
3.5	252	
4.0	288	
4.5	324	
5.0	360	
5.5	396	
6.0	432	

REFERENCE CHART

REFERENCE CHART					
1	In-feed from the roof	6	Ball Seat	11	Screw Cap with O'Ring Seal
2	Tee Junction	7	Sealing Ball		
3	To the tank	8	Diverter Chamber	12	Flow Control Valve
4	Tank Screen	9	Chamber Outlet	13	Hose Connection
5	Chamber Inlet	10	Filter Screen	14	Mozzie Proof Flap Valve



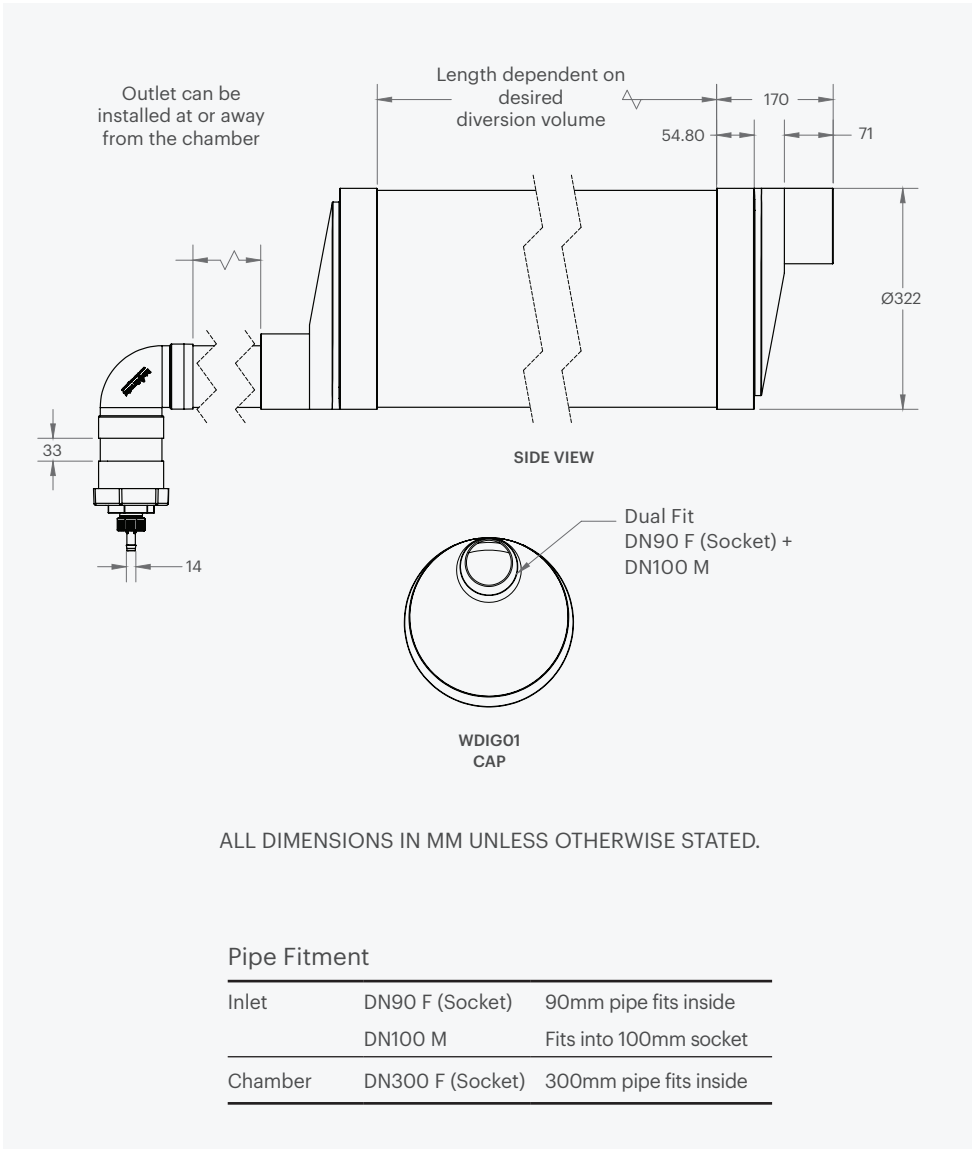
MAINTENANCE

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 unscrew the outlet to allow debris to fall out. If the diversion chamber is full of water, take care as it empties. Remove the flow control washer, hose connector, keeper ring and filter screens and hose or wash the screens with clean water. Check the flow control washer for any blockages and remove and clean as necessary.

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.

PRODUCT DIMENSIONS



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

COMPLIANCE

- AS/NZS 4020:2005 - Testing of products for use in contact with drinking water