RAIN HARVESTING
by Blue Mountain Co

First Flush In-Ground

w/ 300mm Chamber

Installation and Specification Guide

PRODUCT DETAILS

A high volume first flush diverter, designed specifically for inground applications. Divert the dirtiest water and transform your rain harvesting system from “wet” to “dry” with this large volume inground first flush diverter.

This design uses large diameter, 300mm pipe to create the first flush diversion chamber - it's a straight forward design that's been trusted for years.

Code	Size	Country
WDIG01	90mm 100mm	Australia
WDIG01	90mm 100mm	New Zealand
WDIG01	110mm	India

Installation

WHAT'S IN THE BOX?

- 2 end caps
- Hose connecter
- 8 flow control washers
- Slim Plastic filter screen
- Screw cap with O-ring seal
- 90mm length of 90mm pipe
- Threaded coupling
- Large Plastic filter screen
- Ball
- Ball seat
- 28mm length of 90mm pipe (Ball seat ring keeper)

TOOLS/MATERIALS YOU MAY REQUIRE

- 300mm pipe (for diversion chamber)
- Tape measure
- Marker pen
- Saw
- Solvent weld glue
- T-junction
- 90 degree elbow (optional)
- 90mm pipe or 100mm socket or T-Junction
- 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 slim 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 90mmlength 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 - Place the large plastic filter in the lower end cap outlet through the threaded coupling, then attach the screw cap with O-ring seal (and assembled components) to the threaded coupling.

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-degree bend in the pipe that feeds your tank, the T-junction can be used in place of the existing 90-degree 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 degree bend with the T-junction), connect a 90 degree 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 28mm 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.

POLLUTION FACTORS

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

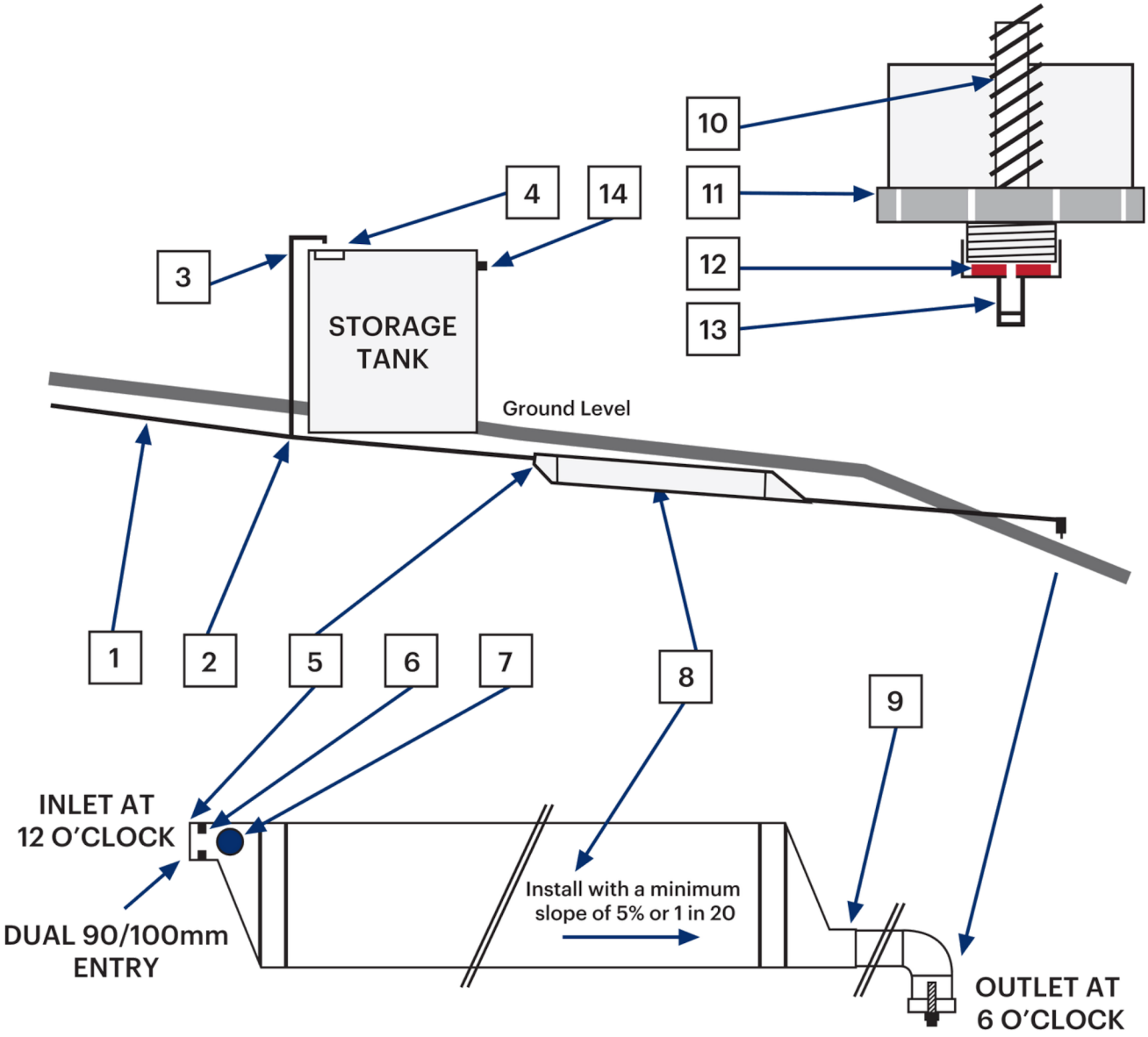
POLLUTION FACTOR FOR THE ROOF	
MINIMAL POLLUTION	SUBSTANTIAL POLLUTION
DIVERT 0.5L PER M2 Open field, no trees, no bird droppings, clean environment	**DIVERT 2L PER M2** Leaves and debris, bird droppings, various animal matter, e.g. dead insects, skinks, etc.

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 100m2 100 x 0.5 = 50 Litres to be diverted	**Example for a heavily polluted roof of 100m2** 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	

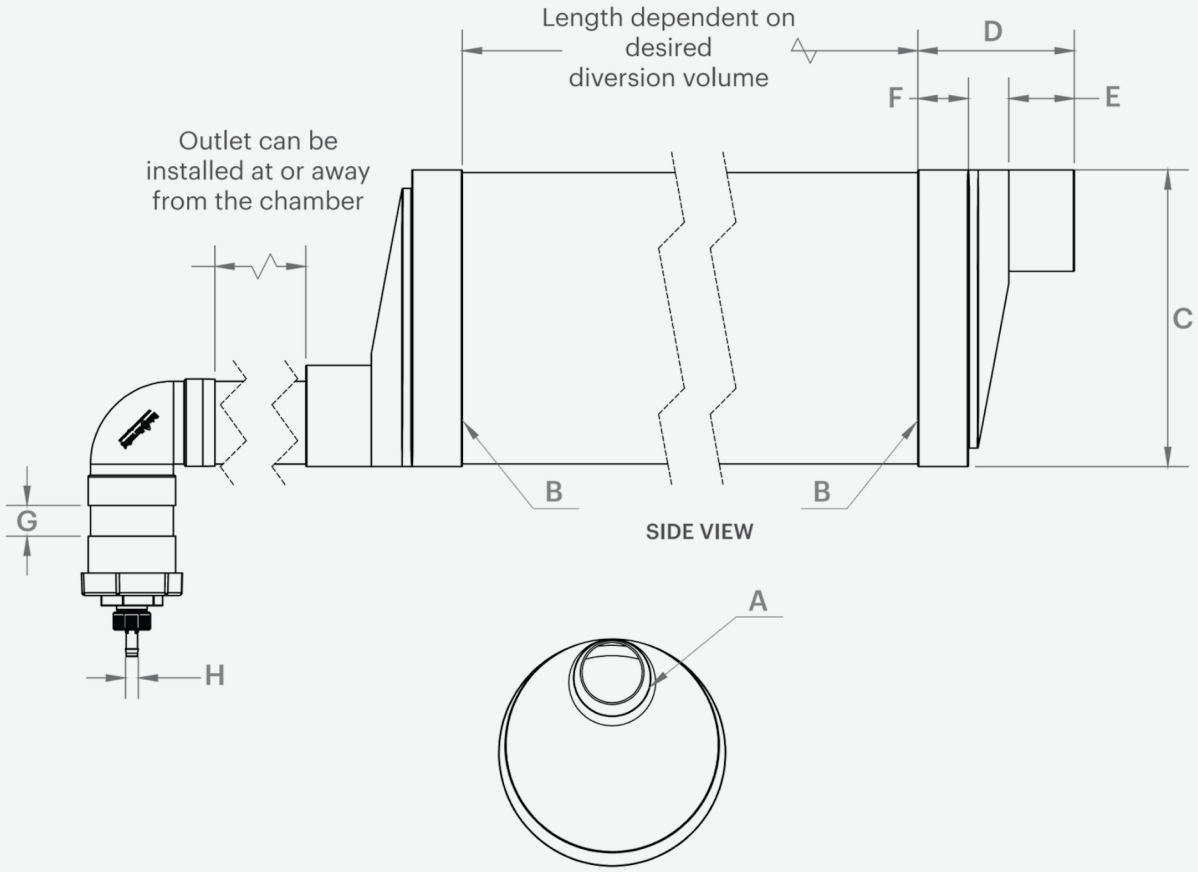
REFERENCE CHART



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

Product Specifications

First Flush In-Ground w/ 300mm Chamber



Country	Code	A	B	C	D	E	F	G	H
Australia	WDIG01	90 F	300 F	322	170	71	55	33	14
		100 M	300 F	322	170	71	55	33	14
New Zealand	WDIG01	90 F	300 F	322	170	71	55	33	14
		100 M	300 F	322	170	71	55	33	14
India	WDIG01	110 M	300 F	322	170	71	55	33	14

All dimensions are in mm unless otherwise stated.

Fitting guide:
F = Female / Socket Fitting
M = Male / Spigot Fitting (Pipe size)
IP = In-Pipe Fitting

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.

COMPLIANCE

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

RAIN HARVESTING

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For more information or to find out
how we can help, just give us a call on

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Or visit our website at

rainharvesting.com