West Java Airport Development

Project Name
Kertajati International Airport

Rainfall Intensity
330 mm/hr

Developer
PT. BIJB

Consultant
PT. Penta Rekayasa

Main Contractor
WIKA–PP Joint Venture

In September 2016, with the help of Fast Flow's licensed distributor in Indonesia (Siphonic Flow Mandiri), Fast Flow was appointed to design a rainwater drainage solution to a new innovative project in Java Island, Indonesia. The project, Kertajati International Airport is an infrastructure development project based on two phases and located in Majalengka, West Java.

PT Wijaya Karya (Persero) Tbk. (WIKA) was chosen as consortium leader in construction package of land side stage 1A West Java International Airport, Kertajati Majalengka Package 2 (Passenger Main Building). Siphonic Flow Mandiri (SFM) worked together with WIKA to complete Bali International Airport and Terminal 3 Ultimate – Jakarta International Airport. The two companies have now been reunited to complete the development of Kertajati Airport.

Siphonic Flow Mandiri's design team works closely with Fast Flow's system consultants in Singapore to analyze the water flow and design the solution to control the water depth on the roof top as well as transporting the rainwater to the rainwater harvesting tank. Fast Flow Siphonic system offers time and cost saving due to its value engineering solutions. The system' flexible design caters for construction constraint such as a wavy large roof design. This three-storey project utilizes 62 Primo™ outlets to drain a total roof area of 25,600 square metres.

The psPipe™ (LEAD-FREE UPVC Pressure Pipe Systems) is also used in the discharge pipeworks and stacks. The pipes are designed to withstand both positive and negative working pressure that can occur in siphonic and pressurised rainwater downpipe systems. The functional stability of psPipe™ has been tested and validated by TÜV SÜD PSB and SIRIM.

Inside this issue…

A Large-scale Integrated Development in Singapore

Project Name
DUO Residences

Rainfall Intensity
330 mm/hr

Developer
M+S Pte Ltd

Consultant
DP Architects Pte Ltd

Main Contractor
Obayashi Singapore Private Limited

The DUO Residences, owned by Malaysia's Khazanah Nasional Bhd and Singapore Temasek Holdings is currently the largest integrated development in Ophir-Rochor business district. The district is undergoing rapid development with numerous high-rise offices, hotel and residences. Duo Residence with its prestige office spaces is among Singapore's tallest building. Designed by M+S Pte Ltd, the 49-storey Development has hexagonal patterns of sunshades on the towers' slender profile as its key feature. The simple form gives dignity to the building among its various neighbors.

Fast Flow started working on this project in January 2014 and completed its systems installation in June 2017. The multi layered system in the canopy on top of the podium was the main challenge during the design stage as the steel module design creates pipe routing constraint. The team put a lot of effort in providing the main contractor with proposals which lead to gaining their trust to provide an opening in the modular steel of the pre-fabricated canopy for our pipe fitters to install the pipe onsite.

As the tallest building in the vicinity, DUO Residences is served by both Fast Flow Siphonic and Pressurised Systems. The development utilised 99 of Fast Flow's Primo™ outlets; ranging from Primo 50 to Primo 100, 78 Arteco™ and also 989 psVent® coupled with 1,121 Arteco™ grating series to drain a total catchment area of 15,106 square metres.

Duo Residences was awarded the "Best Futura Project" at the 2012 MIPIM Asia Awards, an acknowledgment of excellence and innovation in real estate development. DUO's office and residential towers also received the Green Mark Platinum Award in recognition of the development's environmentally friendly and sustainably built environment.

Universal First Flush Diverter

Technical Information:

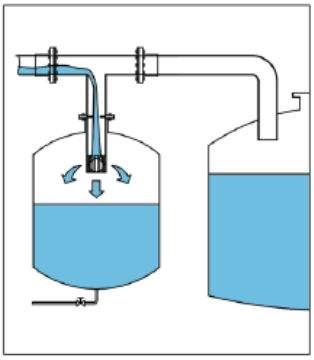
Suitability:
On all types of tanks
(PE, stainless steel, concrete tanks)

Pipe sizes:
Can be customized to any pipe size.
Typical sizes available: Ø200, Ø250, Ø300

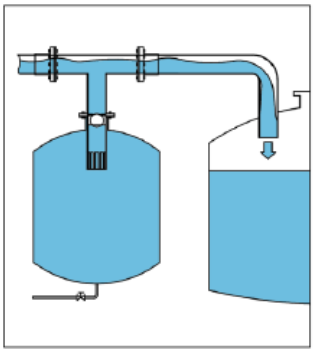
Dimensions:
Fully customizable to requirement

When it rains, water slowly builds up in the roof gutter system before it exits through the downpipe. The first flush of water from the roof can contain high concentration of pollutants, i.e., bacteria from decomposed insects, lizards, bird and animal droppings and concentrated tannic acid. It may also contain sediments, water borne heavy metals and chemical residues, all of which are undesirable elements to have in a water storage system.

Fast Flow Universal First Flush Diverter is a device that is designed to protect a storage cistern from contamination by first flush runoff. Incorporation of Fast Flow Universal First Flush Diverter in rainwater harvesting systems allows higher quality of water captured, and less silting of the cistern over time in dusty area.

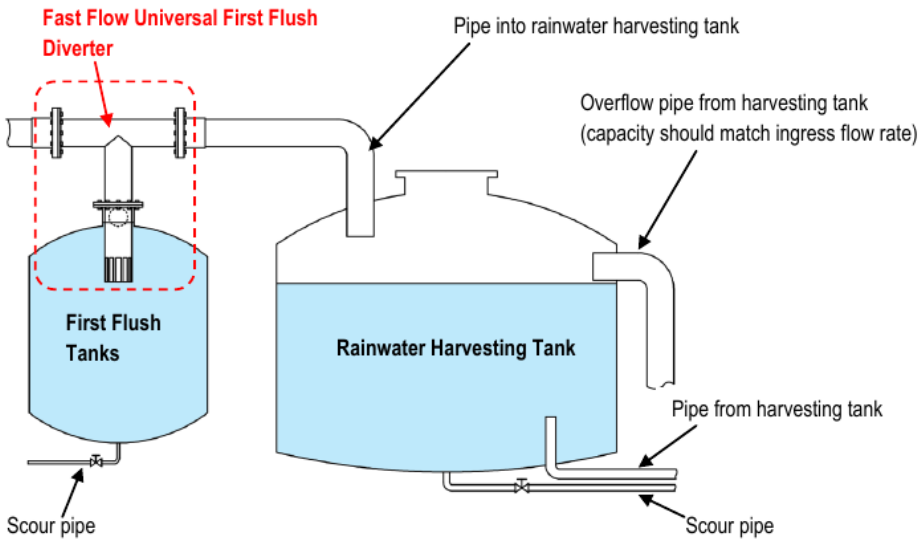


During first flush phase, water with high level of contaminant is directed into a first flush tank through the Fast Flow Universal First Flush Diverter. The volume of first flush capacity is typically calculated from 0.5 to 1mm of water depth over the roof.

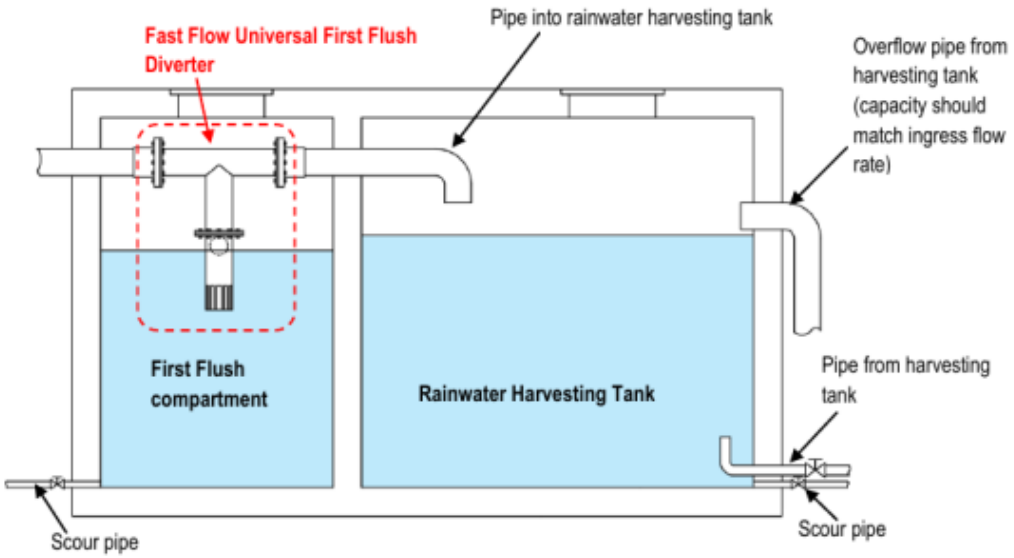


When the first flush tank is filled, the stainless steel float within the first flush diverter will prevents further ingress of water into the first flush tank and the rest of the water will be diverted into the rainwater tank harvesting collection tank

Typical Installation details



Typical incorporation of Fast Flow Universal First Flush Diverter in PE/SS tank



Typical incorporation of Fast Flow Universal First Flush Diverter in concrete tank

Fast Flow Singapore Q4/2016 Project Highlights

Recently Completed Projects

Project name: Amber Skye
Catchment area: 660 sqm

Project name: Eight River Suites
Catchment area: 7,500 sqm

Project name: Punggol Watertown
Catchment area: 26,500 sqm

Project name: Singtel Data Centre
Catchment area: 5,400 sqm

Project name: The South Beach
Catchment area: 30,000 sqm

Project name: Terminal 4 – Changi International Airport
Catchment area: 91,700 sqm

Fast Flow Systems Australia Q4/2016 Project Highlights

Newly Secured Project

Project name: Knauf Plasterboards Factory
Catchment area: 16,100 sqm

Project name: Brisbane Casino Tower
Catchment area: 2,955 sqm

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