

MARLEY AKASISON SIPHONIC ROOF DRAINAGE



Justice Precinct
Christchurch

akason

MARLEY
by aliaxis

SPACE MATTERS

The more space you have to work within a building project the more creative the design. Save space in your next building by specifying Marley Akasison siphonic roof drainage. Akasison is a concealed drainage system that rapidly removes water from your roof. The system siphons the water off your roof while maximising space due to its unique pipe system design.

Freedom of design

Create the building of your dreams as the siphonic system allows for flexible routing of pipework.

Space saving

Akasison allows for more usable space within a building utilising smaller diameter pipes. Fewer downpipes are needed and the pipework can be installed horizontally and close to the roof with no gradient.

Cost efficient

Material and installation costs can be reduced by using fewer pipes and minimising excavation and groundwork.

Local inhouse design

Marley has a New Zealand technical team that will design Akasison within your project.

High performance

When siphonic performance is required the system flows at 100% capacity.

Eco sustainability

The Akasison pipes are made from HDPE, which is 100% recyclable. As this is a flexible system, you can easily direct the pipes to rainwater storage tanks.

Quality system

Akasison is manufactured at a facility that meets the requirements of ISO9001 – a quality management system, ensuring a consistently high level of quality products.



National Mini Storage
Epsom Auckland



New Football Stadium
Allianz Riviera (Stade de Nice)

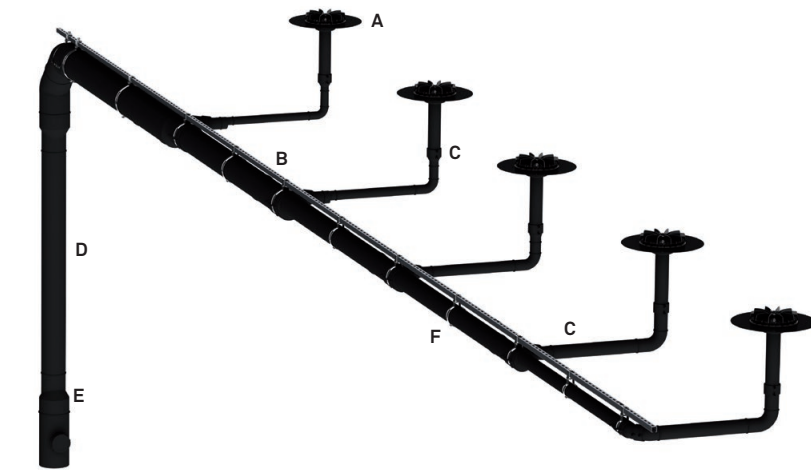
SIPHONICS EXPLAINED

The Akasison siphonic system provides architects and hydraulic engineers maximum freedom when designing roof drainage. Siphonics are used to drain roofs on industrial warehouses, sports stadiums, large commercial retail buildings and convention centres.

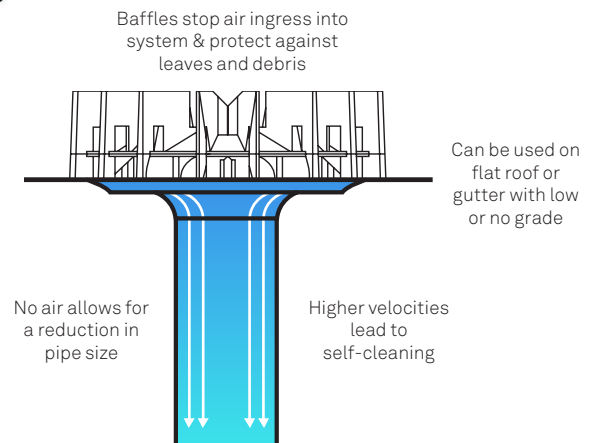
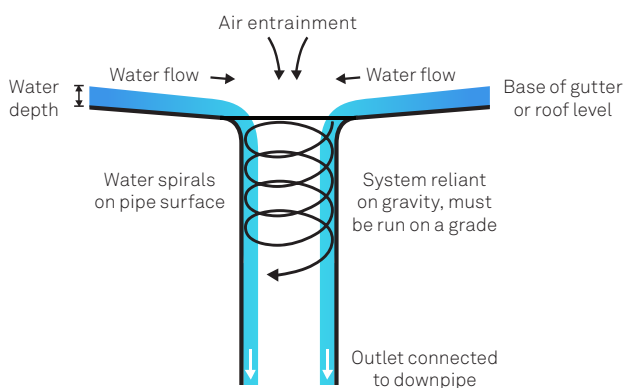
Akasison requires far fewer downpipes than traditional gravity systems. Specially designed roof outlets, located in gutters, or membrane system roof / deck areas are connected to a common collector pipe located at a high level within the building. The collector pipe is installed

horizontally, without gradient and is typically of a smaller pipe diameter. When operating siphonically, the pipe network flows full, without air and with a higher velocity than traditional gravity systems, so pipes can be smaller.

The horizontal collector pipe is routed to a convenient point in the building, such as a services riser. It then connects to a downpipe which is the engine room of the system. A full bore plug of water accelerates as it falls under gravity through the downpipe, creating a vacuum action which is used to efficiently and rapidly suck rainwater from the roof.



- A** Akasison siphonic roof outlet
- B** Pipe support system – rail and brackets
- C** Vertical and horizontal tailpipes
- D** Downpipe
- E** Siphon break point
- F** Horizontal collector pipe



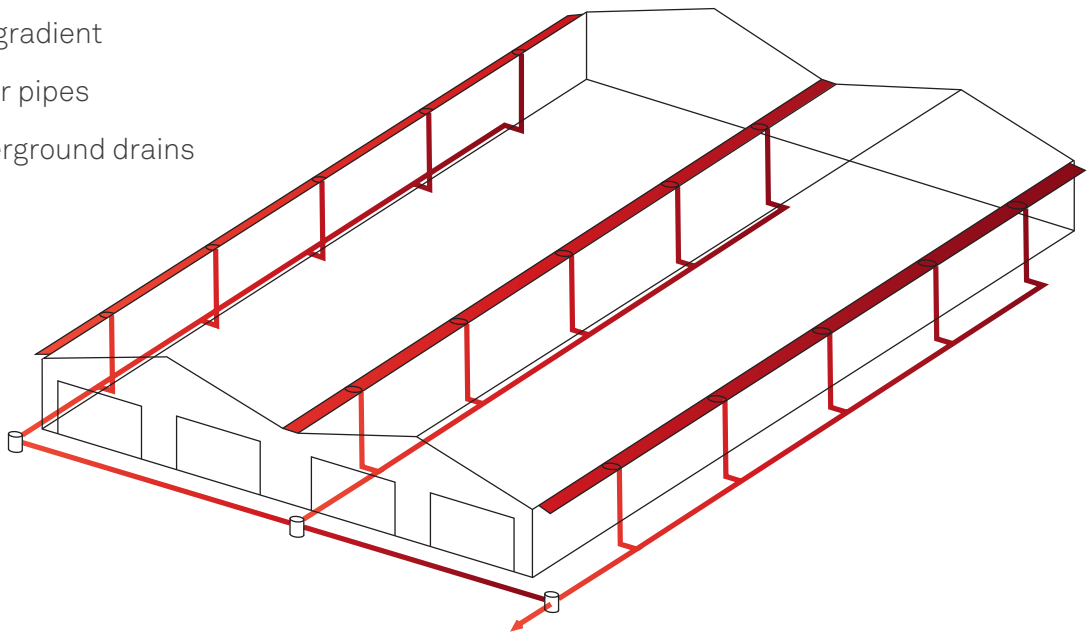
In a traditional drainage system, rainwater on a roof surface flows to the lowest point under gravity. A roof outlet at the gutter low point enables rainwater to connect via a downpipe to the underground drainage system. Both water and air are drawn in and travel through the downpipe in a spiral motion. The capacity of the roof outlet determines how much water can enter the downpipe.

Akasison siphonic outlets are designed to streamline rainwater flow. As a rain storm increases in intensity, the outlets become submerged, preventing air entering the system. Small diameter pipes beneath the outlets prime quickly and generate plugs of water that flow to the downpipe. Water falling vertically through a downpipe, accelerates under gravity and creates negative pressure above them. The vacuum generated and eventual 100% filling of the pipework, translates back through the system and siphons or sucks water off the roof.

MINIMISE PIPE WORK, SIMPLIFY DESIGN

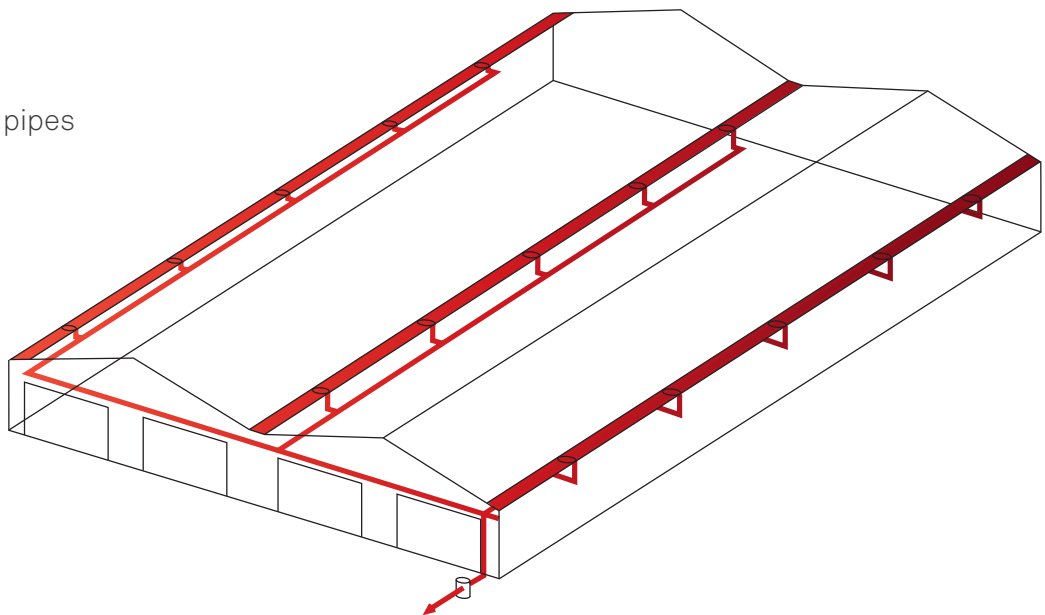
Traditional gravity system

- > Multiple downpipes
- > Pipework with gradient
- > Larger diameter pipes
- > Extensive underground drains



Akasion siphonic system

- > Fewer downpipes
- > Level pipework
- > Smaller diameter pipes
- > Less groundwork



SYSTEM DETAILS

Scope of application

For all levels of rain intensity, roof construction or roofing membrane you can use an Akasison roof outlet.

Further options are available for a gully, emergency overflow, vapor barrier connection, fire protection and parking decks.

Material

Akasison is made from high density polypropylene (HDPE). HDPE is light weight, impact resistant and flexible making it the ideal choice for siphonic roof drainage projects.

Durability

Akasison components are made to:

- EN1519 2000: "Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure. Polyethylene (PE). Specifications for pipes, fittings and the system"

Akasison also has certification to the following Australian / New Zealand standards:

- AS/NZS 4401:2006 -Plastic Piping systems for soil and waste dispatch (Low and high temperature) inside buildings—POLYETHYLENE (PE)
- AS/NZS 5065: 2005 Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications


These approvals ensure the Akasison system is made to the highest standards. Akasison components are made under a quality management system in accordance with ISO 9001 certified by Lloyds Register Quality Assurance.

Environmental

The Akasison system is made at a facility that meets the requirements of ISO 14001 Environmental Management.

This controls the overall environmental performance making sure there are permanent environmental improvements and maintaining conformity with current rules and regulations.

THE RANGE

PRODUCT	COMPONENT	PRODUCT	COMPONENT	PRODUCT	COMPONENT
	Roof Outlet		Cleanout Branch 90°		Electrofusion Coupler
	45° Bend		Pipe 5m		Expansion Socket
	88° Bend		Reducer Eccentric Long		Accessories: Welder & Output Leads
	Junctions 88.5°		Reducer Eccentric		
	Junctions 45°				

INSTALLATION

Fixing system

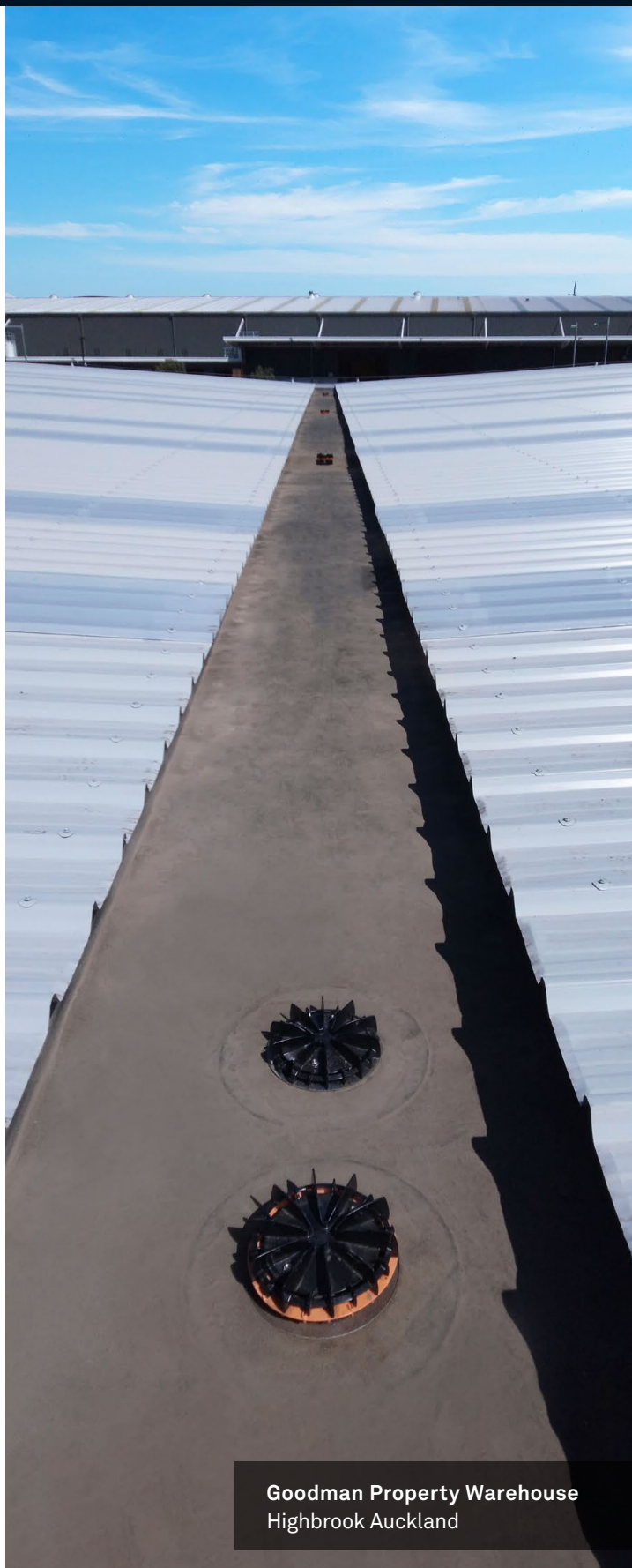
The Akasion fixing system offers a single solution for all types of roofs. The system has many features that enable a secure and convenient pipe installation. The brackets have a 215° hook which supports the pipe, freeing both hands for further installation. The brackets can be installed on a rail system or as a suspended system from a threaded rod.

Rail fixing system

The rail fixing system is designed to hold various pipe sizes without transferring stress onto the roof construction. The rail height is set, maintaining the same plane across the system. The brackets can be installed over the rail using easy click on mounting, allowing for a quicker installation.

Akafusion welding technology

For jointing PE pipe and fittings, we use our Akafusion system. Electrofusion is the ideal method for jointing large roof systems as pipe work can be easily assembled and welded close under the roof. The akafusion control box is lightweight and can weld the full diameter range of electrofusion couplers 40-315mm.




Goodman Property Warehouse
Highbrook Auckland

Sustainable Manufacturing

Marley is committed to creating environmentally sustainable processes and products and was the first plastics manufacturer in New Zealand to achieve ISO14001 registration. We are also Best Environmental Practice certified for our entire range of manufactured uPVC systems. This means we get our raw materials from sustainable and responsible sources, continuously work on our manufacturing processes to reduce our environmental footprint and accept our products back at the end of their useful life for recycling.



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