

Terrain HydroMax™ Siphonic Rainwater System



Why use a Siphonic roof drainage system?

With average UK annual temperatures predicted to rise by up to 3.5°C over the next 70 years, climate change is already driving the need for innovative solutions to the management of rainfall and surface water.

With ten times the flow capacity of a conventional gravity system and significantly faster water removal rates, Terrain HydroMax™ 'sucks' excess water from a roof to cope with downpours that would overwhelm a gravity system and is ideal for complex roof shapes.

Offering valuable total project cost savings of typically 20-45% over a conventional system, Terrain HydroMax™ can be factory prefabricated and gives important structural and space savings, with a reduced build programme.

Terrain HydroMax™ has a comprehensive range of roof drains for every flat and pitched roof membrane, from asphalt to bitumen to lead.

Ideal for commercial, industrial, sports, leisure, education and healthcare buildings, the roof drains are extremely compact and the range includes an inlet for the top deck of multi-storey car parks.

- o 10 times the flow capacity of a conventional gravity system
- o Faster water removal rates
20-45% cost savings over a conventional gravity system
- o Reduces underground drainage
- o Ideal for complex roof shapes, structural and space saving
- o Accurate design software

Flow capacity

A 75mm roof drain can remove up to 25 litres of rainwater per second, whilst the 125mm drain can remove up to 100 litres of rainwater per second with certain piping configurations.

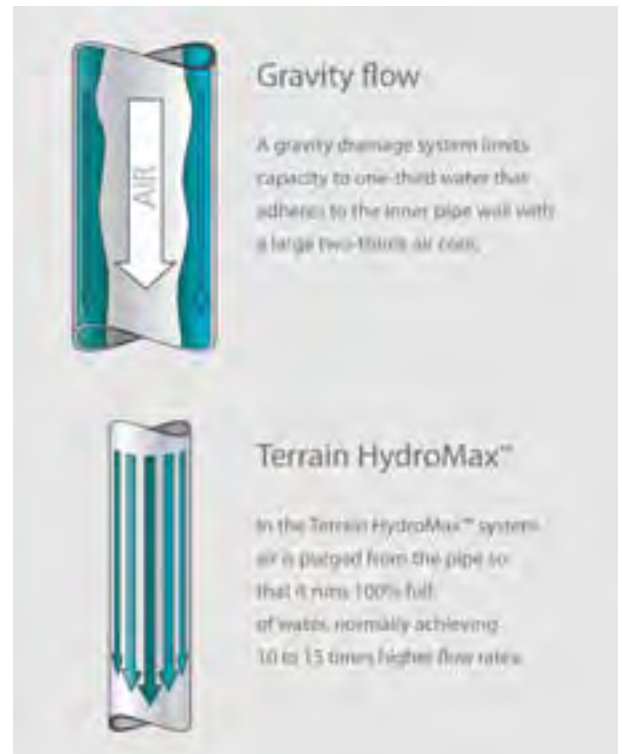
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Technical Bulletin No.4 (2012)

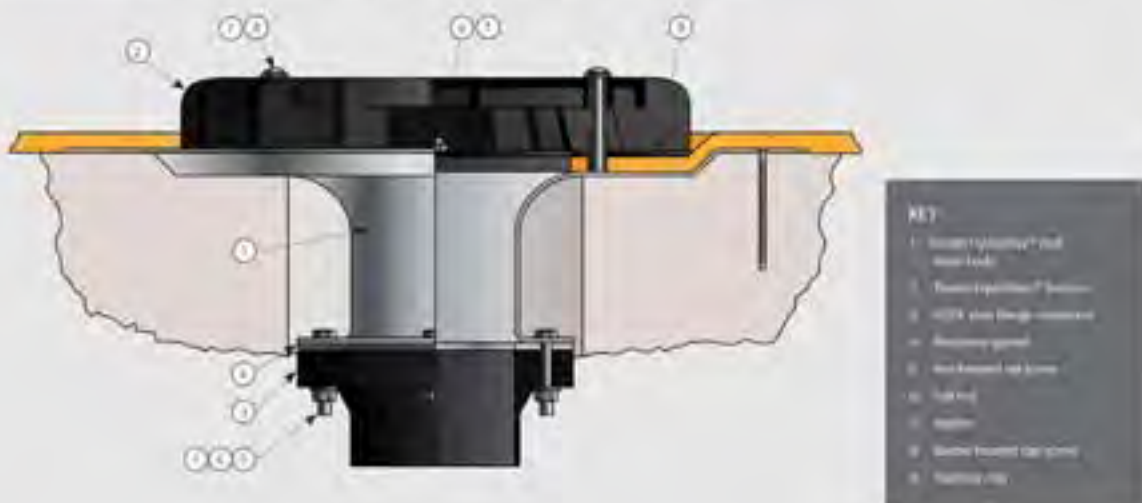
How it works

The Terrain HydroMax™ system 'sucks' water from the roof, using a powerful hydraulic force created by water accelerating down the full height of the building to deliver far greater capacity and flow rates than a gravity system. In a gravity drainage system, pipe work carries both air and water. The flow in gravity pipes is extremely inefficient because of the large core of air which enables the water to flow resulting in the need for larger pipes and more of them as well as extensive underground systems.

In the Terrain HydroMax™ system as rain falls, the roof drain prevents the ingress of air, rapidly purging it until the system is fully primed and running full bore. Water is transported in smaller diameter pipes to fewer, more convenient locations. The system responds quickly to rainfall changes, is self-cleaning, drains rapidly when rainfall ceases, and is designed to prevent blockage by leaves, twigs and other debris.



The Terrain HydroMax™ roof drain incorporates a one-piece inducer or air baffle plate, which becomes submerged in shallow water to exclude air. The height of the inducer above the body ensures the system primes rapidly with a minimum depth of water.



T: 01622 795200

E: info@terraindrainage.co.uk

 **Polypipe**

www.terraindrainage.com

The piping system

The collector pipe is normally installed horizontally without slope at high level and runs to a convenient point where it drops to ground level with a transition break connection into the below ground gravity drainage system or manhole chamber.



Terrain FUZE high density polyethylene pipes are manufactured in the UK to BS EN 1519-1:2000

Recommended pipes

Terrain FUZE high density polyethylene pipes are manufactured in the UK to BS EN 1519-1:2000 and BBA certification. Fully welded to withstand high negative pressures, they offer excellent performance and durability with high weather and corrosion resistance. With a wide range of diameters and fittings for maximum design flexibility, they are lightweight with electro-weld joints for rapid and simple installation.

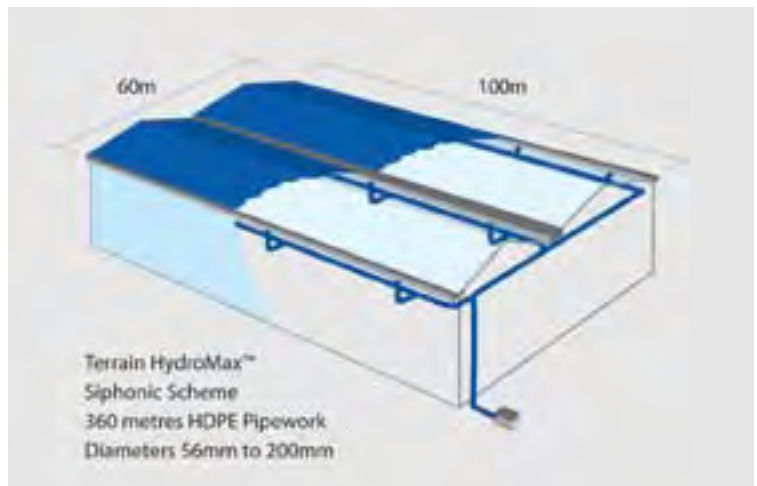


Fig 1

Correct installation

Essential to the success and performance of a siphonic system, correct installation is ensured by the system design software and prefabrication of specified pipework. In addition, installation time may be reduced by prefabricating pipe work. This can be completed offsite by Terrain if required and installation is completed by approved installers.



Fig 2

Terrain HydroMax™ Roof outlets are the perfect partner to the Polypipe Rainstream rainwater harvesting system.

The average person in England and Wales now uses 150 litres of water every day - almost 50% more than 25 years ago. Washing and toilet flushing account for much of this figure, with drinking, cooking, car washing and garden watering also playing large parts. Yet while continental countries such as Italy and Spain enjoy water supply capacities of on average 2,785 m³ per person, per year, England and Wales has a surprisingly low capacity of just 1,334 m³ per person. The high population densities in areas such as South East England mean that there is even less water available to each person in these regions.

Why Harvest Rainwater?

- o Population growth and rising consumption is increasing the demand for water
- o Climate change is creating pressure to conserve water
- o Legislation is enforcing the need to conserve potable water
- o Higher water charges and water metering are predicted



To discuss your requirements further for an integrated Siphonics and Rainwater Harvesting solution please contact the Technical Team on 01622 795200.