



Stormsaver™ Pressurised system: **Including tank with integrated sedimentation**

Brief summary of system

The Stormsaver™ rainwater recovery system will make the most economic use of the local rainfall with predicted water consumption. It is recommended that the use of low water consuming products are used to complement the system, furthering a reduction in overall consumption.

System

Rainwater is collected from the roof area of the building (1). This is channelled via sealed gullies (2) into the Stormsaver™ storage tank (3), sited close to the building. As water enters the tank it passes the integrated sedimentation chamber (4) which collects large leaves and debris etc, preventing them from entering the main part of the storage tank. If there is an excess of rainwater, this can flow out of an overflow (6) to the storm drain or to Stormsaver™ soakaway. Inside the tank are a number of control sensors (9). Inside the tank there is a submersible pump (7), which takes water from a floating suction filter (8). On demand the system activates the pump and water is then pumped to the Stormsaver™ rain processor unit (15), which provides a direct pressurised supply to points of use (25). or, a gravity fed mains-water top up to the tank (19). In periods of low rainfall a back up supply activates (17), providing a continuous water supply. This either tops up a percentage of the capacity of the Stormsaver™ storage tank, or tops up the header tank inside the building.

Note:

The Stormsaver™ rainwater recovery system is designed for storing and filtering rainwater collected from the roof of the building only, using the approved Stormsaver™ system.

The Stormsaver™ system is not designed to recover surface ground water, should not be integrated with any type of grey water system and is not designed for processing any other types of water.

Warning!

Rainwater in this system is not fit for drinking.



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- 1) **Pressurised system** – Supplies pressurised rainwater on demand from the Stormsaver™ rain processor unit directly to source. In periods of low rainfall the unit automatically feeds a mains-water to the Stormsaver® storage tank providing continuity of supply.

Component	Description
Roof area	Rainwater should be collected from roof area only, taken through gutters and drainage to pre tank filter
Sealed gullies	Rainwater should enter drainage through sealed gullies (2) to prevent unwanted or accidental contamination of the rainwater
Stormsaver™ storage tank with integrated sediment chamber	Rainwater storage tank (3) appropriately sized and sited close to the building, typically installed below ground level. Water enters via a pre-fitted sedimentation chamber (4) in the inlet of the tank. This prevents large leaves and debris from entering the main tank. The tank can overflow to storm drainage or soakaways (6)
Stormsaver™ storage tank	Rainwater storage tank appropriately sized and sited close to the building, typically installed below ground level
Lockable lid	Each storage tank is supplied with a lockable lid for safety purposes
Submersible pump	Sited on the base of the tank, used to pump water through the Stormsaver™ rain processor unit to points of supply
Floating suction filter	Floats on the surface of the water to allow water to be taken from the cleanest part of the tank, without disturbing the sediment
Inlet calmer / diffuser	Prevents incoming water from disturbing sediment on the base of the tank
Water level sensor	Detects the level of water inside the tank
Overflow	Allows excess water to drain away
Overflow to filters	Allows dirty water from the pre-tank filter and the backwashing filter to pass to the drain
Ducting	Cables and pipe-work to be taken from tank to building in ducting
Stormsaver™ rain processor unit	Contains all system electrics, controls and backwashing filtration and should be mounted inside the building
Mains 240V electrics	The unit requires a fused single phase supply, to provide water for the control equipment and pump
Mains-water backup	A supply of mains-water is required to provide a continuous water supply in periods of low rainfall.
Gravity feed	Connect mains-water top up to the Stormsaver™ rain processor unit. A volume of mains water gravity feeds back to the Stormsaver™ storage tank for continuity of supply.
Appliances / points of supply	Clean, clear rainwater is fed to points of supply on a continual basis. The system operates automatically, providing mains-water in periods of low rainfall. Rainwater should NOT be used for drinking
Monitor Unit	Allows the monitoring of rainwater and mainswater consumption – on a user friendly aesthetically designed visual display panel



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List of parts:

Please check complete content of goods against the order and delivery note.

Stormsaver™ storage tanks: Includes as standard

- ¹*Pre-moulded inlet
- *Pre-moulded over-flow
- *2 x 500mm x 600mm dia. access turret fitted with 2 x Pre-moulded service duct
- *Galvanised pedestrian duty lockable manhole cover and frame
- Stainless steel inlet calmer (pre-fitted to tank inlet)

Tank management; this set of equipment is to be installed within the tank and includes:

- Stainless steel submersible pump; including 20m power cable
- Stormsaver™ floating suction filter 180micron
- Suction hose includes: One way valve and connections from floating suction filter to pump
- 5m stainless steel cable for lifting pump from tank
- Tank 10% Low level sensors
- Tank 20% Mainswater level sensors
- Tank 0-100% Level sensor (with monitor unit only)

Stormsaver™rain processor unit (wall mounted) includes:

- ²Manual valve, backwashing filtration unit (35 micron) as standard
- Electrical control unit
- 22mm Solenoid valve
- Compliant airbreak chamber

¹ *Pre-moulded inlets and outlets to storage tank can be ordered to suit drainage dimensions: This must be specified upon ordering of storage tank and stated on our drawing for approval- tanks cannot be rectified after dispatch from our factory.

² Backwashing filter can be upgraded to back wash automatically in which case the appropriate power supply and connections are factory fitted



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Installation summary

In summary the system comprises a system to collect rainwater from the roof area of the building. Rainwater is channelled through sediment chamber integrated within the main Stormsaver™ storage tank. The Stormsaver™ storage tank is installed below ground level and requires the installation of inlets, outlets, 2 x service ducts, mains water top up and fitting access turret. A service chamber will be located in immediate vicinity to the storage tank to make electrical connections.

In the tank the system requires plumbing of the submersible pump, suction filter and pipework to go back to the building. The two level sensors require fitting into the tank.

Inside the building the Stormsaver™ processor unit requires fitting to the wall at eye level. The unit will be plumbed making connections from the unit to the pump. A supply of mainswater will gravity feed via a compliant connection back to the underground storage tank providing a water supply during periods of low rainfall.

The processor unit requires connection to the mains electrical supply, all cables from the Stormsaver™ underground tank should be terminated within our electrical control panel.

Summary of installation works

1) Building work in connection - requirements:

- a) Installation of Stormsaver™ storage tank with integrated sedimentation chamber; excavation; appropriate backfill surround and cover
- b) Underground drainage, inlet, outlet, overflow, connection to storm drain /soak away, ensuring gullies are sealed at ground level
- c) Fit access turret and install locking manway cover
- d) Install a service chamber in immediate vicinity to the tank access for making electrical connections including appropriate manway cover. Electrical service duct to pass through chamber to building
- e) Builders work in connection with fitting 2 x 100mm service ducts for electrical and plumbing services
- f) Fitting 1 No gravity feed supply pipe from building to the underground storage tank fitted with a compliant connection
- g) Ensure that service ducts exit access turret a maximum 300mm below ground level to enable access without entering the storage tank

2) Plumbing work in connection – requirements:

- a) Fit Black MDPE (minimum 63mm) hose from tank to Stormsaver™ processor unit in building



- b) Connect pump suction inlet
- c) Connect pump outlet to Black MDPE hose, ensure that the connections are accessible to enable fitting and removal of pump from ground level
- d) Fit processor unit to wall inside building, which must be at eye level when standing on the floor
- e) Connect processor unit inlet (from tank), outlet (points of demand) drain (to appropriate drain)
- f) Connection of pressure vessel and disinfection unit (optional)
- g) Mains-water top up supplied via valve and gravity feed directly to underground storage tank
- h) Fit 1 x water meters to each rainwater and mainswater inlet (optional)
- i) Plumb all downstream pipework from processor unit to all designated points of use (including any booster sets or disinfection – Optional)
- j) Appropriate labelling and insulation of all pipe-work

3) Electrical work in connection – requirements:

- a) Connect the pump cable into an appropriate IP rated connection in the service chamber next to the tank access, which should include a local isolator
- b) Fit the low level 10% switch (pump protection) including weight in the underground tank and terminate in the service chamber as with pump connections
- c) Fit the mainswater level 20% switch (mainswater top-up) including weight in the underground tank and terminate in the service chamber as with pump connections
- d) Fit the tank level sensor bracket to the side of the access turret at least 750mm above the water level of a full tank
- e) Fit the 0-100% level sensor into its bracket in the side of the access turret and terminate in the service chamber as with pump connections
- f) Pull cables back from service chamber to the processor unit inside the building
- g) Supply the processor unit with a single phase 230v supply which must pass through a double pole local isolator rated 16A
- h) Connect the solenoid valve next to the Stormsaver® processor unit fitting the connection via a compliant airbreak
- i) Connect 1 x water meters from each rainwater and mainswater meter (supplied as an option)
- j) Connect water meters (Optional) and take cables back to processor unit
- k) Terminate all electrical connections within the electrical control panel. These will include: power supply, pump / pumps, 10% level switch, 20% mainswater switch, 10-100% level gauge, solenoid valve (optional – 2 x water meters, BMS, education unit).
- l) Fit education / monitor panel and supply with local fused (3A) power supply. Connect panel back to processor unit. (Supplied as an option)
- m) Connect BMS to panel (Supplied as an option)
- n) Use of appropriate electrical connections and ducting both internally and externally

4) Commissioning: Must be carried out by a Stormsaver approved engineer