

# Stormwater Chamber

## PRODUCT PROFILE

ARW-1150 StormChamber is a modular open-bottom PP chamber for underground stormwater detention and infiltration. Each unit (1150 × 800 × 510 mm) offers a 98% void ratio for high storage in a compact footprint, helping reduce peak runoff, support groundwater recharge and save surface area under car parks, roads and landscaped zones.



## BENEFITS & FEATURES

- High-void underground storage- Arched chamber geometry and stone backfill create a large void volume below ground, providing significant storage capacity within a compact footprint.
- Open-bottom design for rapid infiltration. The open base allows stormwater to seep directly into the surrounding soil, reducing surface runoff, easing pressure on sewers and supporting groundwater recharge.
- Modular & scalable layout Chambers connect end-to-end in single or multiple rows, making it easy to scale from small residential soakaways to large commercial or municipal systems.
- Lightweight, fast installation Each module is light enough to be handled by a small crew without heavy lifting equipment, helping reduce installation time, labour costs and site disruption.
- Integrated inspection & maintenance access Optional top access ports and end inspection points make it easier to flush, inspect and maintain the system without major excavation.
- Supports SuDS / LID compliance By infiltrating or detaining runoff close to where it falls, ARW StormChamber helps projects meet Sustainable Drainage Systems (SuDS) and Low Impact Development (LID) requirements.

# TECHNICAL DATE SHEET



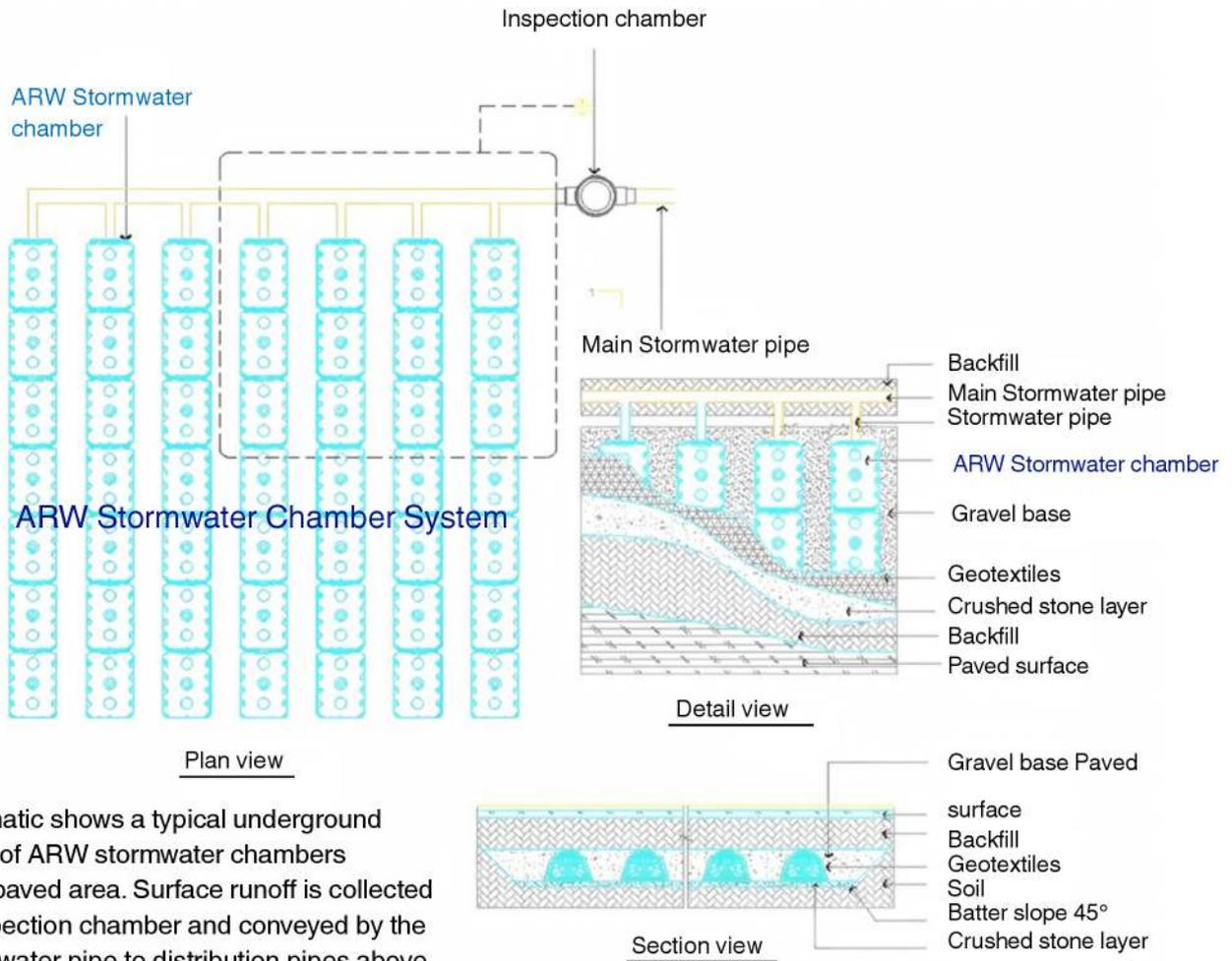
Item	Specification (Example)
<b>Product type</b>	Modular open-bottom stormwater infiltration chamber
<b>Model</b>	ARW-1150
<b>External dimensions (L x W x H)</b>	1150 x 800 x 500 mm (45.3" x 31.5" x 20")
<b>Effective void ratio (system)</b>	≥ 95–98%
<b>Material</b>	High-strength polypropylene (PP), UV-stabilised
<b>Colour</b>	Black/Blue
<b>Load class</b>	Designed for car-park / road traffic loading (e.g. up to 30–60 t, HS-20 / HS-25 equivalent – to be confirmed by project design)
<b>Recommended cover depth</b>	Min. cover: ~0.25–0.30 m; max. cover: per project design & soil conditions
<b>Base &amp; backfill</b>	Compacted granular sub-base with clean, angular stone (e.g. 20–40 mm); geotextile as specified
<b>Side wall configuration</b>	Perforated / mesh sidewalls to promote lateral infiltration into the stone bed
<b>End plates</b>	Injection-moulded end plates with pipe interfaces;
<b>Pipe connections</b>	Knock-out or moulded sockets for DN110–DN300 pipes (inlet/outlet/inspection)
<b>Installation layout</b>	Single or multiple rows in level trenches; header pipes or manholes for distribution
<b>Typical applications</b>	Car parks, access roads, logistics yards, industrial sites, residential soakaways, SuDS / LID schemes
<b>Design life</b>	≥ 50 years under normal conditions (project-specific verification required)

## Notes:

*The information and values given in this Technical Specification are based on current test data and typical installation practice. They are intended as a general guide only and do not replace a project-specific design. Actual performance depends on site conditions, loading, soil parameters and local regulations. The system layout, cover depth and backfill must be verified by a qualified engineer for each project. ARW reserves the right to change product design and specifications without prior notice.*

# Typical Installation of Stormwater Chamber System

Subsurface detention and infiltration system for rapid runoff capture, peak flow reduction, flood mitigation, groundwater recharge and more effective use of developed surface space.



## ARW Stormwater Chamber System Layout

This schematic shows a typical underground installation of ARW stormwater chambers beneath a paved area. Surface runoff is collected into an inspection chamber and conveyed by the main stormwater pipe to distribution pipes above the chambers. Rows of ARW stormwater chambers are placed on a gravel base, wrapped with geotextile and surrounded by crushed stone backfill to form a high-void storage volume. The system temporarily stores stormwater, allows gradual infiltration into the surrounding soil and supports the traffic load from the pavement above.

### Design Note:

*The layout shown is schematic and not to scale. It is intended to illustrate the typical arrangement of ARW stormwater chambers, pipes, gravel base and geotextile only. Final chamber spacing, pipe diameters, cover depth, side slopes, base preparation and any liners must be designed and verified by a qualified engineer in accordance with local codes, soil conditions and project requirements. Where infiltration is not permitted, an impermeable liner should be used to create a closed detention system.*

## How the Stormwater Chamber System Works On Site

From roof and driveway to soil – a complete underground solution to keep paved areas dry and take pressure off public sewers.

When rainfall hits roofs, courtyards and driveways, it is quickly collected by gutters, yard and channel drains and conveyed through the green stormwater pipes into pre-treatment chambers. These units remove leaves, grit and floating debris so that relatively clean water enters the underground storage field. From the pre-treatment stage, the flow is directed into a distribution pipe running along the chamber row. Water is delivered evenly to each ARW StormChamber module, filling the internal voids and the surrounding stone bed. As the water level rises, it seeps out through the sides and base into the natural subsoil, using the ground itself as a large infiltration zone.



Vent and inspection risers at the downstream end provide air exchange and easy access for periodic checks or flushing. Where required by local regulations, the system can also be connected to an overflow line so that extreme storm events are safely routed to a ditch, swale or sewer without flooding the paved surface. This layout is ideal for residential properties, small car parks, courtyards and landscaped areas where space is limited but reliable drainage is essential. All major components are buried, leaving the surface fully usable for parking, access or planting while the chamber system quietly manages stormwater below ground.

