



Model Number

Job Number

SPEL Filter

INSTALLATION MANUAL

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Introduction

Understanding how to correctly and safely install the SPEL Filter is essential for the preservation of the filter's condition and its operational effectiveness.

The SPEL Filter is a highly engineered Stormwater filtration device designed to remove fine sediments, heavy metals, nitrogen and phosphorus from stormwater runoff.

The SPEL Filter relies on a spiral wound media filter cartridge. The Filters can be housed in either a concrete or fiberglass structure that evenly distributes the flow between cartridges. Flow through the filter cartridges is gravity driven and self-regulating, which makes the SPEL Filter system a low maintenance, high performance stormwater treatment device.

This manual will provide the necessary steps that are to be taken to correctly and efficiently install the SPEL Filter product.



Figure 1. SPEL Filter Specifications

SPEL Filter Vault Types

There are three vault types, which the SPEL Filter can be installed into:

1. Precast Vault: Monolithically poured concrete vault (Base and walls)
2. Cast in place vault: Custom designed for site.
3. Fiberglass Vault: Must be made by an approved supplier.

Spel Filter Install Prerequisites:

- Vault must be clean from all debris, etc.
- Vault must be easily accessible.
- 900 x 900mm Lid must be installed correctly and operational.
- Structure of the tank must be safe and hazard free.



Figure 2. SPEL Filter install

Materials Required To Install Spel Filters

When installing the SPEL Filter, having the necessary tools and equipment is vital to efficiently and effectively installing the SPEL Filters.

Tools that will be required include:

- PVC Pipe Primer
- PVC Pipe Cement
- Hammer Drill
- Hammer
- Hole saw
- Battery / Power Drill
- Hack Saw
- Ratchet Kit
- Shovel
- Tripod
- Winch/Chain block for lowering Filters into vault
- Ladder
- Sikaflex Gun

Items/products that will be included:

- SPEL Filter/s
- Weir wall & Fixings
- Energy Dissipater (if required)
- Pipework & Fittings
- Fixings
- Anti - Floatation brackets



Figure 4. SPEL Filter install set-up

SPEL Filter Installation

SPEL Filter installation procedures may vary depending on the configuration of the SPEL Filters, the type of vault and engineers specs. Installation instructions for manhole SPEL Filter systems and precast vault SPEL Filter systems are contained in this section.

Custom SPEL Filter systems may have particular installation issues that will be addressed during the design.

INSTALLATION OF A SPEL FILTER SYSTEM PROCEEDURE

1. Implement Pre-start safety measures.

Ensure that the area in which operational works are to be carried out is cordoned off, to prevent unauthorised access. Adequate safety barriers must be erected. Area in which work is to be carried out must be clean, safe and hazard free. (Refer to figure 4.)

2. Set-up Gantry Tri-pod above Manhole.

Assemble and position the gantry above the manhole safely and as practically as possible. Attach the winch or chain block to the gantry for lifting the SPEL Filters. Perform safety procedures ie. Attach harnesses etc. (if confined space).

3. Open manhole lid.

Once you have sent up the Gantry and ensured that the area is safe to operate in, you can proceed to open the manhole lid, using lid lifters.

4. Conduct Gas tests. (If tank is classed confined space)

Once the lids have been removed to a safe distance to prevent tripping, you must then proceed to conduct gas tests. Perform necessary gas tests according to the confined space regulations.

5. Once confined space has been deemed safe to operate in, enter tank safely.

Once you have carried out the required gas test and the work area is deemed safe, you may then enter the pit via a ladder or winch system to assess the work area you will be operating in. Ensure all confined space procedures are followed.

6. Set up weir wall over outlet pipe and energy dissipater over inlet pipe (if required).

When installing the weir wall you must ensure that it is securely bolted to the tank wall and completely sealed. Centre the aluminium weir over the outlet pipe and fix weir to tank wall with the supplied fixings. Then use Sikaflex to seal around the edge of the weir and filter outlet pipework.

7. Install pipework and SPEL Filters.

Please refer to the below standard install diagrams for the SPEL Filters. Then refer to your site specific drawings, as site requirements may require something different to the standard layout. Lower filters into tank, position into place, connect filter outlet pipework with the supplied fittings.

8. Install anti – floatation bars.

Please refer refer to the detailed drawings showing how the Anti – Floatation (Anchor) bars are to be installed.

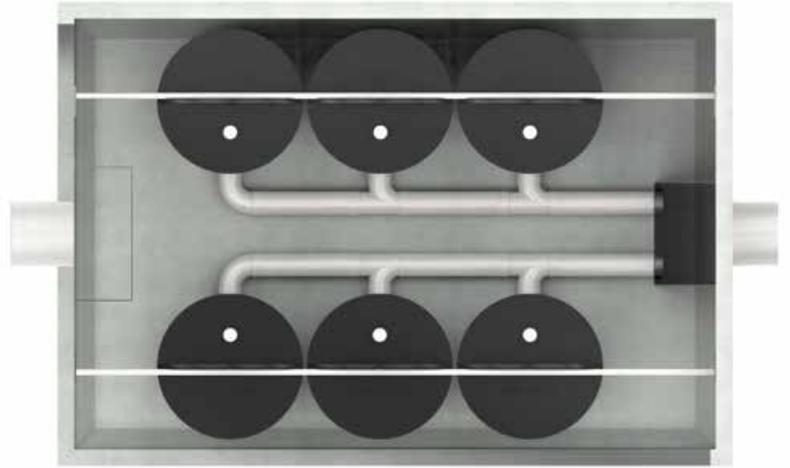


Figure 5. Standard install with PVC Outlet pipework

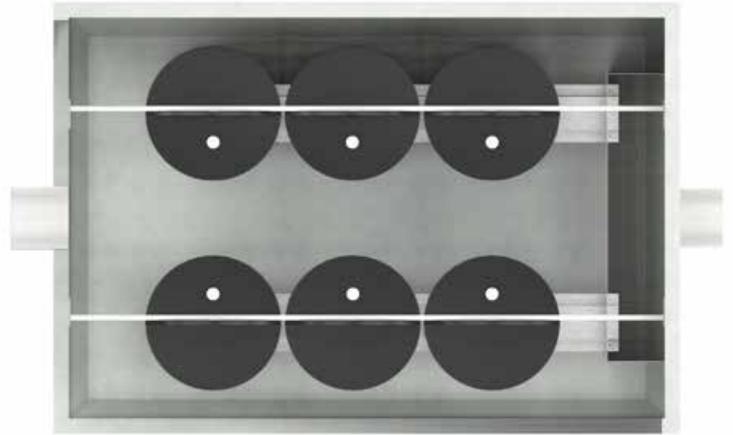


Figure 6. Standard install with Channel system Outlet pipework

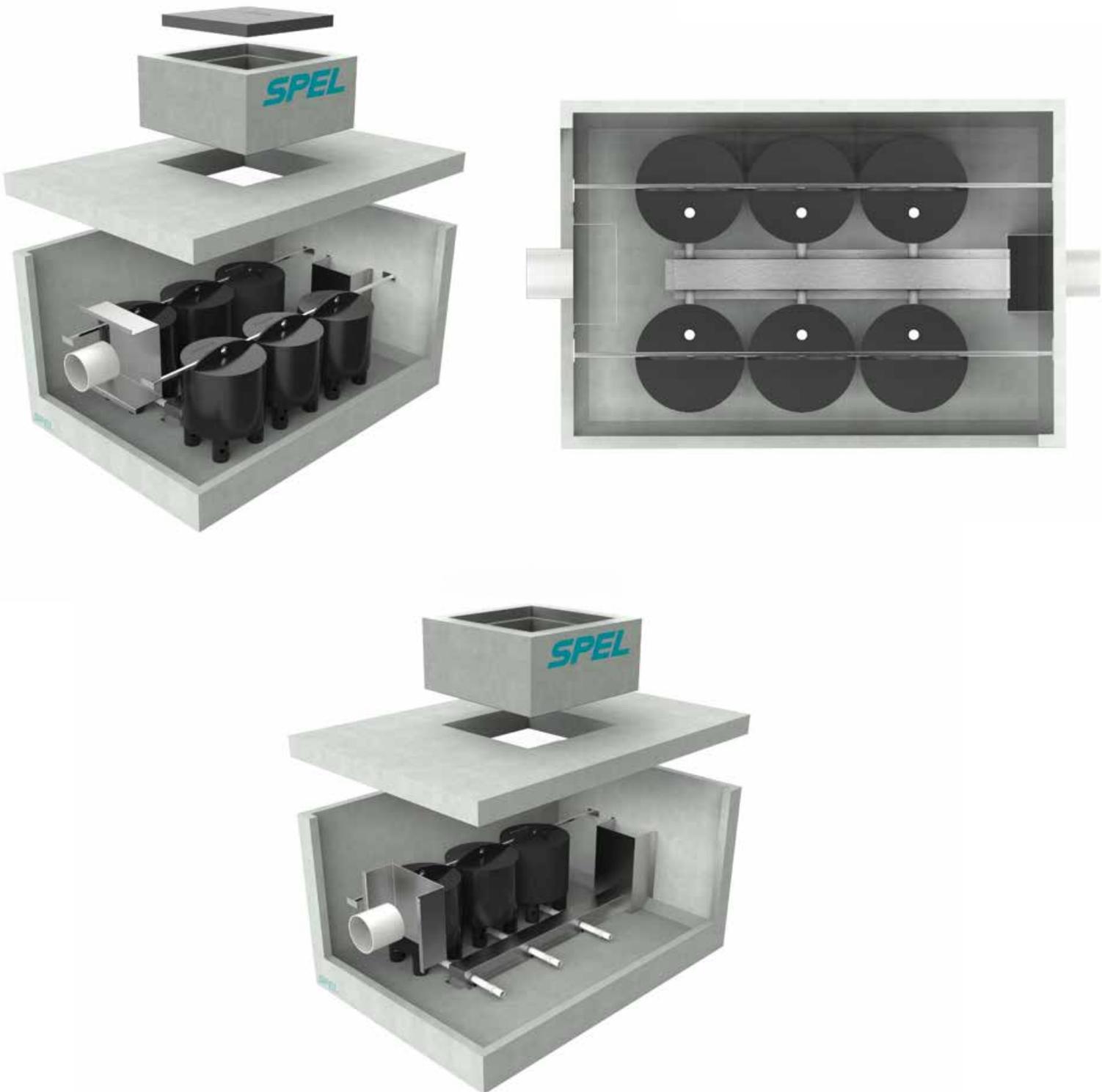


Figure 7. Standard install with Channel system Outlet pipework



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