

## General Handling

1. The Up-Flo™ Filter Internal components are manufactured utilising highly durable thermoplastics.

Improper handling can result in damage to the components and the precast concrete chamber. Failure to comply with the handling, storage and installation instructions voids warranties.

2. Upon delivery of the Up-Flo™ Filter components, inspect immediately for delivery damage. If any discrepancies or product problems are found notify the supplier prior to unloading to initiate corrective action.

Unloading of a damaged unit without notifying the supplier voids all warranties and releases liability of costs of repair or replacement from Hydro International or CPM Group.

3. At all times during unloading and installation, avoid any unnecessary and extreme impacts to the units. Do not allow components to be dropped, rolled or pushed.

All components shall be lifted and transported using the designated lifting holes where supplied giving firm and complete support to the unit. At no time shall anyone step, stand or otherwise place unnecessary load on the components.

5. The Up-Flo™ Filter shall be installed as soon as possible.
6. If necessary, cut the Up-Flo™ Filter outlet spigot to suit the required outlet size.

## Site Preparation

1. The chamber excavation shall be properly prepared in advance so that the unit may be installed as soon as practicable upon delivery.
2. The chamber excavation shall meet all minimum Health and Safety standards for construction.
3. The area of excavation should be carefully checked for any other services. The chamber should be positioned such that it is at least 800 mm away from any other services.
4. A sub-base of compacted stone or concrete (depending on site conditions and considering the weight of the unit and the contained water during usage) must be level and at the correct elevation prior to placing the Up-Flo™ Filter concrete chamber into the excavation.

## Lifting and Moving

1. There are two lifting arrangements for the Up-Flo™ Filter:
  - The Cover slab requires a three legged chain (to be supplied by the customer).
  - The main unit (base section and top section) require 3 lifting loops (Supplied by Hydro/ CPM)
2. CPM Group/Hydro International recommend that ALL lifting operations should comply with the Lifting Operations and Lifting Equipment Regulations (LOLER) 1998, and the Provision and Use of Work Equipment Regulations 1998 (PUWER).
3. The client/coordinator will assume ALL responsibility for site lifting operations involving CPM Group/Hydro International products.

### Chamber Installation

1. The Up-Flo™ Filter unit will be delivered to site in three main components, the base section, the top section containing the pre-fitted Up-Flo™ Filter components (filter module, outlet module, support frame and screen) and the cover slab.
2. Install the base section into the prepared excavation ensuring the check line and level. The unit has alignment marks along the direction of the flow to aid installation.
3. Insert the three dowels into the base unit and then place the butyl sealant in the joint groove
4. Carefully lower and guide the top section (which includes the Up-Flo™ Filter components) onto the three dowels in the base section.
5. Place the butyl sealant around the top surface of the chamber before installing the cover slab.
6. Setting-to-work – Fill the chamber with clean water until the discharge from the outlet commences.

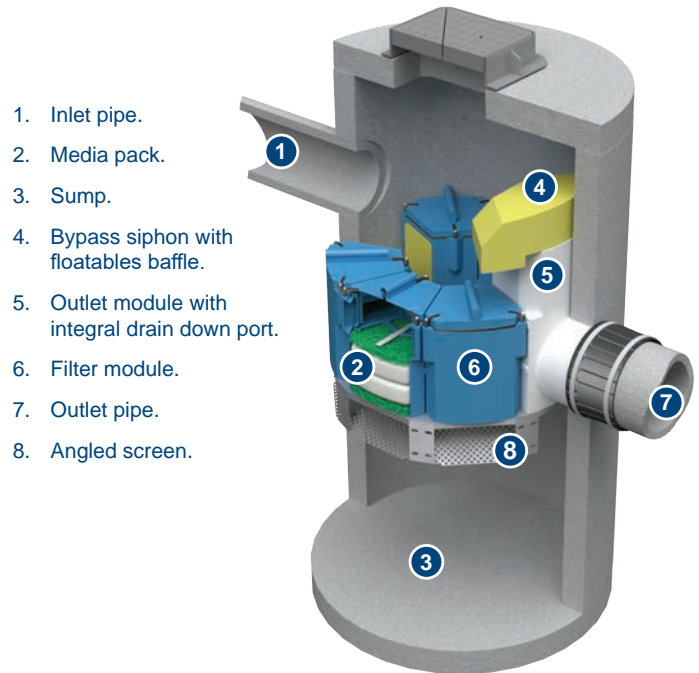


Figure 1 - Cutaway view of an Up-Flo™ Filter



Figure 2 - An Up-Flo™ Filter installation.

### Installation of Media Packs and Drain Down Filter

Unless the Up-Flo™ Filter has been installed as a very shallow unit or installation of the media takes place before the cover slab is fitted to the chamber, it is necessary to have a confined space entry trained person enter the chamber to install the media packs.

1. Open the Filter Module by turning the three cam latches on the front and sides of the module. Remove the lid to gain access to the Media Pack (see Figure 3).
2. First, insert a bottom layer of green Flow-Distributing Media. Be sure that the media sits snugly and level at the bottom of the Filter Module.
3. Next, insert the first of two (2) Media Bags. Smooth the bag out with your hands to make sure that it extends snugly to the walls and corners of the Filter Module.
4. Insert the second Media Bag, following the same procedure.
5. Insert the top layer of green Flow-Distributing Media. Be sure that the piece fits snugly against the walls and corners of the Filter Module.
6. Put the lid on and secure the three latches. Check to make sure that the latches are closed properly.
7. Screw the drain down filter onto the outlet module (see Figure 4).

Replacement Media Packs and drain down filters are available from Hydro International.

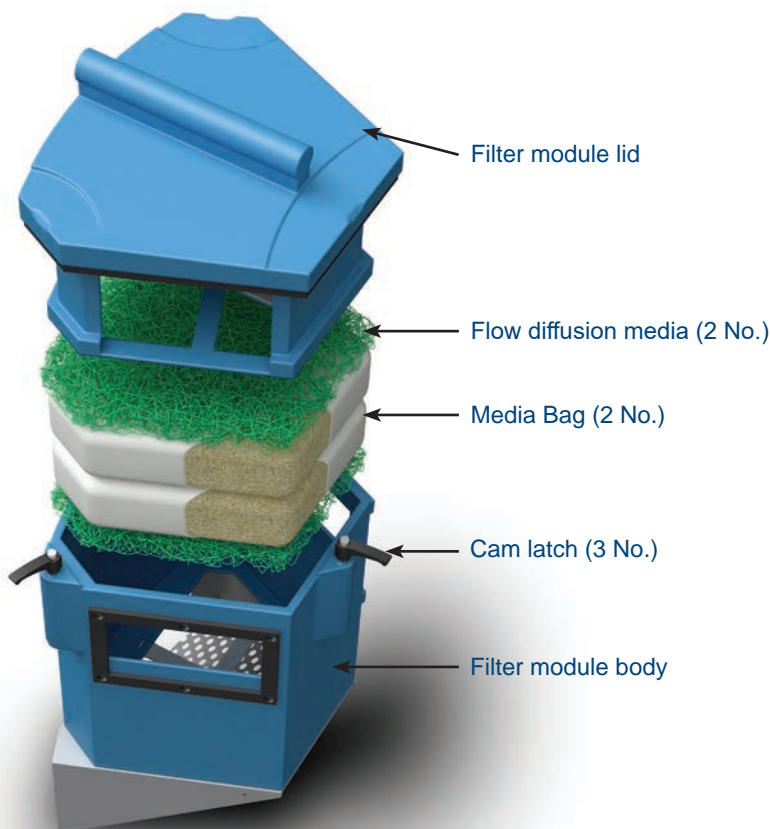


Figure 3 - Exploded view of an Up-Flo™ Filter Module.

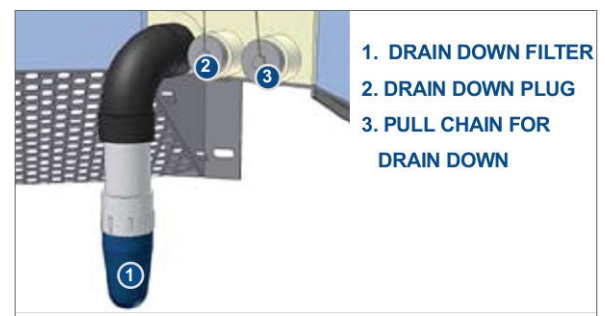


Figure 4 - Drain down filter fittings.

### Dimensions and Weights

The dimensions in Table 1 are given as a guide for standard manhole configurations. Vault configurations are site specific.

Detailed general arrangement drawings are available for download from: [hydro-int.com/upflo](http://hydro-int.com/upflo)

Unit	External Diameter of Unit (mm) (A)	Inlet Pipe Diameter (mm) <sup>c)</sup> (B)	Outlet Pipe Diameter (mm) <sup>c)</sup> (C)	Depth (m)			Lift Weight (t)
				Depth to Outlet Invert (m BGL) (D)	Sump Depth (m) (E)	Component Depth <sup>a)</sup> (m) (F)	
1.2 m Sealed Manhole System with HD Cover Slab	1460	300	225-375	1.150	1.100	2.560	N/A
HD Cover Slab <sup>b)</sup>						0.230	0.60
Base Section						1.145	1.85
Top Section						1.330	1.60

Notes:

- Base and Top Section component depths are shown as the total height during transportation / before assembly on site. The total depth is the depth of the assembled unit.
- Cover slabs are heavy duty, suited for highways loading and are supplied with one or two access openings for maintenance.
- Stub pipes are provided.

Table 1 - Up-Flo™ Filter dimensions and weights.

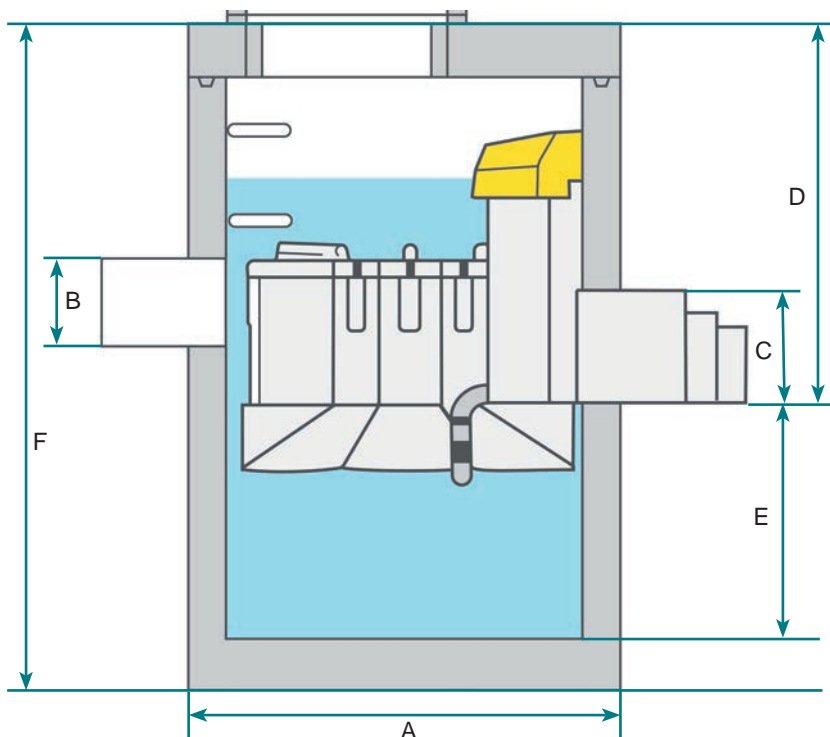


Figure 5

#### Important Note:

- All units supplied with Ductile Cover and Frame Class D400 (BS124).

#### Contact:

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