Wastewater treatment always calls for sense of responsibilities towards the environment and public health. The PE Bio-Filter Wastewater Treatment System answer this call of the industry as well as building owners. Designed with the local conditions in mind, PE Bio-Filter suits all local environment, including coastal and high water-table areas. Manufactured under stringent quality control, strong, durable materials septic tanks operate efficiently even under harshest conditions.

#### Characteristics

PE Bio-Filter are leakproof and resistant to rust as well as most chemicals contained in soil and sewerage.

PE Bio-Filter Wastewater Treatment System features an effective anaerobic up-flow filtration system using Plastic as biomedia. Even fine particles and dissolved matter are strained and removed to give wastewater a total treatment. As a result, effluent from PE Bio-Filter is virtually harmless and fit for discharge into a public drain. Available in different models, the PE Bio-Filter Wasterwater Treatment System is economical and ideal for use in all types of housing units, shop houses, light industrial factories and other buildings.

#### Easy Handling, Transportation and Installation

Being a light and compact tank, the PE Bio-Filter Wastewater Treatment System is easy to handle, transport and install even with a limited working space. It facilitates easy inspection as well.

#### Easy De-Sludging

Easy de-sludging is made possible through an isolated, direct access to the settling zone of the PE Bio-Filter as well as a large outlet facilitating attachment of the desludging pipe.

#### Maintenance-free

Free of any moving parts or lift pump whatsoever, the PE Bio-Filter is a non-mechanical system requiring virtually zero maintenance. Besides, the up-flow filtration system by nature, non-clogging and thus trouble-free.

#### Special Features And Advantages:

FE Bio-Filter is designed for a high flexural strength capability to withstand a harsh environment:

- Wide range of types & models to suit various needs in the sewerage industry.
- (2) Cheaper treatment system and cost effectiveness.
- (3) High Quality due to stringent Quality Control & quality materials.

### Quality Standard and approval

All PE Bio-Filter manufacture to Malaysian Sewerage Industry Guidelines Volume V-Septic Tanks by :

- National Water Services Commission (SPAN)
- Manufactured accordance to MS 1228: 1991 Code of Practice for Design and Installation.
- Product Certification by SIRIM QAS (International) Sdn. Bhd. (Standard: MS 2441-1: 2012)

#### Product Warranty

All PE Bio-Filter are warranty strictly against manufacturing defects for a period of 5 years. Which covers only product workmanship and does not include damage due to improper usage and installation which not according to our installation which not according to our installation.



PROCESS FLOW











**BIO FILTER** 



SURUHANJAYA PERKHIDMATAN AIR NEGARA (SPAN) LISTINGS NO: SPAN/PPI/300-10/178/A/S-2 SIRIM License No: PC000881



Since 1983

MANUFACTURED ACCORDANCE TO:

MS 2441-1:2012 & MSIG Volume V 3<sup>rd</sup> Edition (Septic Tank)

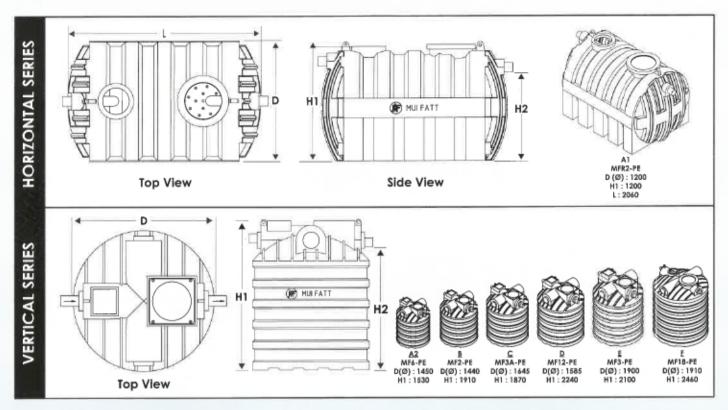
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Specifications and warranty conditions subject to change without prior notice.

# PE BIO-FILTER SERIES UP TO 18 PE



SPECIFICATIONS			MODEL						
			A1	A2	В	С	D	E	F
		UNITS	MFR2-PE	MF6-PE	MF2-PE	MF3A-PE	MF12-PE	MF3-PE	MF18-PE
SEPTIC TANK PROCESS PROPERTIES	Septic Tank Type		Horizontal	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical
	Process		Upflow Anaerobic Filtration (Bio-Media)						
	Type of Waste		Domestic						
	Population Equivalent	PE	6	6	8	10	12	15	18
PHYSICAL PROPERTIES	Diameter (D)	mm	Ø1200	Ø1450	Ø1440	Ø1645	Ø1585	Ø1900	Ø1910
	Length (L)	mm	2,060	N/A	N/A	N/A	N/A	N/A	N/A
	Height (H1)	mm	1,200	1.530	1.910	1.870	2.240	2,100	2.460
	Water Level (H2)	mm	950	1,240	1.610	1.535	1,950	1.800	2,120
	Inlet and Outlet Pipe	mm	100	100	100	100	100	100	100
	Desludging Frequency	yrs	Once in 2 years						

# REMARKS:

Standard limited warranty covers only on product workmanship and does not include damage due to improper usage and installation not according to installation manual and guideline.



All dimension is mm unless otherwise stated.

Specifications, terms and conditions subject to change without prior notice.

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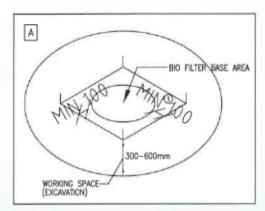


## Revision: 2014-1-B

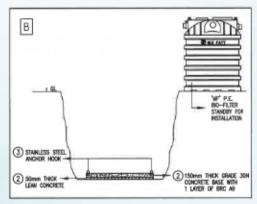


# Installation Instructions

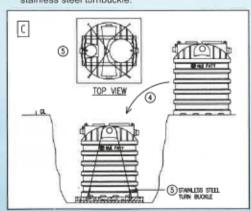
 Allow for working space of 300mm to 600mm all around the "MF" P.E. Bio-Filter when excavating the pit.



- Construct a 150mm thick grade 30 N concrete base reinforced with one (1) layer of BRC-A9, wire mesh on top of a 50mm thick lean concrete.
- Four (4) nos. of stainless steel anchor hook Ø12mm coasted in concrete base.
   ( Refer Standard Bio-Filter Standard Drawing )



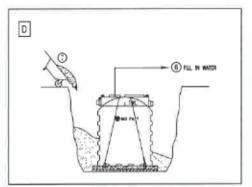
- Unload the Bio-Filter on a well leveled and cured 150mm thick Grade 30N Concrete base reinforced with one (1) layer of BRC-A9 wire mesh.
- Tie the Ø20mm stainless steel (SS 304) anchor strap over "MF" P.E. Bio-Filter and tighten using stainless steel turnbuckle.



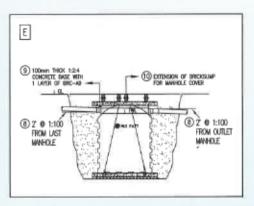
Specifications, terms and conditions subject to change without prior notice.

All dimension is mm unless otherwise stated.

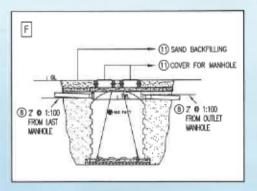
- 6. Fill in "MF" P.E. Bio-Filter with water up to top water level
- Back fill the space around the Bio-Filter with sand compacted in 150mm layers, up to the opening lid / rim.



- Make sure the backfills at the inlet and outlet are well compacted and allow for a drop gradient of two(2) degree @ 1:100 for both the inlet and outlet pipes
- Lay over the "MF" P.E. Bio-Filter with 100mm thick slab, with manhole openings of 1:2:4 concrete reinforced with one layer of BRC-A9 wire mesh.
- Construct the manhole neck connections with bricks sump up to the specified design platform level.



- Backfill with sand up to the designed platform level and install the manhole cover.
- 12. Fill the "MF" P.E. Bio-Filter with water to full capacity.
- Note: Also do so every time after desludging later on. Please refer to the relevent drawings for the proper way of installation.



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