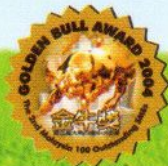




# FRP BIO-FILTER WASTEWATER TREATMENT SYSTEMS UP TO 30 PE



*Our Environment,  
Our Responsibility.*



Approved By :  
SURUHANJAYA PERKHIDMATAN AIR NEGARA (SPAN)  
APPROVAL : SPAN/PPI/300-10/593/A/S-1  
SIRIM LICENSE NO : PC001085



**MUI FATT**  
Since 1983

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

Specifications and warranty conditions subject to change without prior notice.

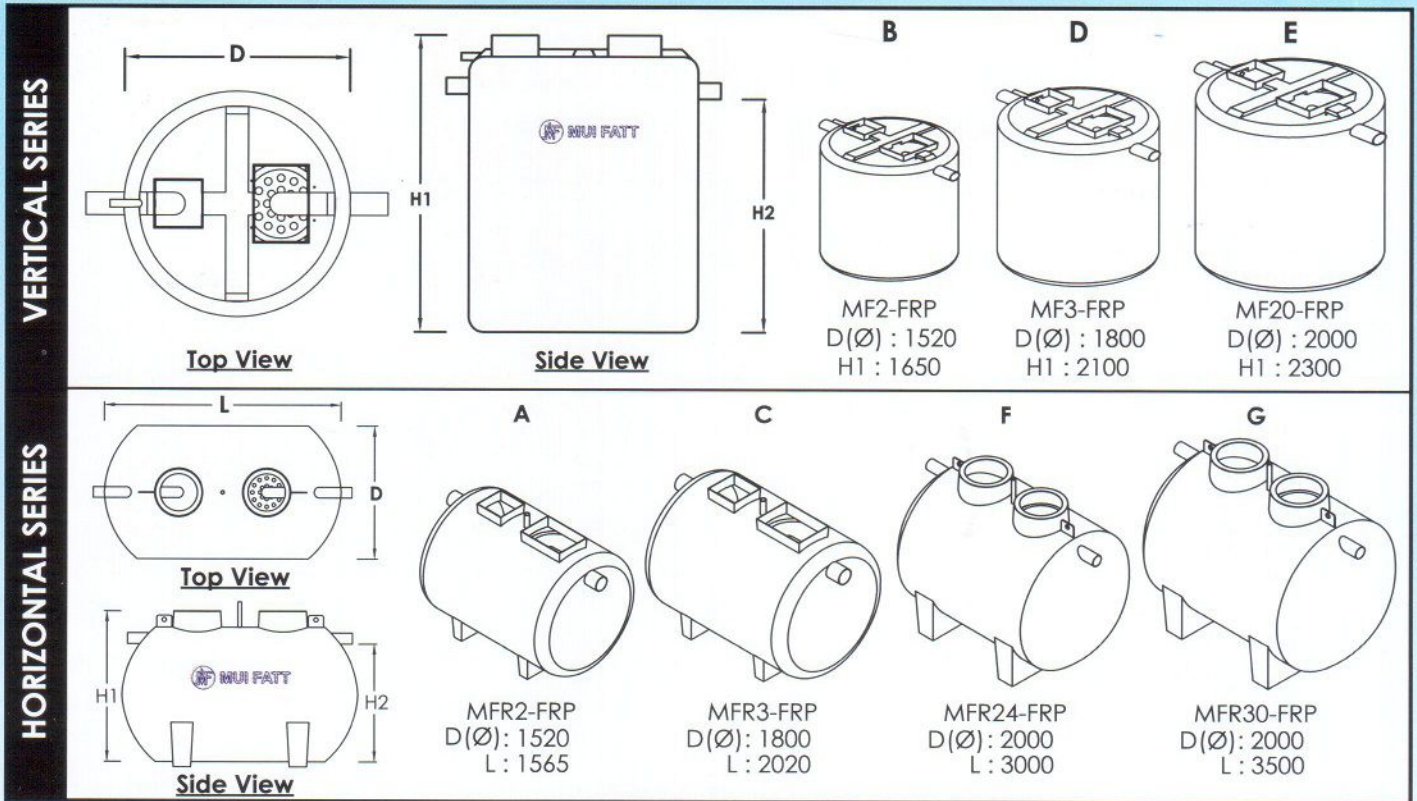


BUATAN MALAYSIA  
MADE IN MALAYSIA



# FRP BIO-FILTER

Series up to 30 PE



## SPECIFICATIONS

		MODEL							
		A	B	C	D	E	F	G	
	UNITS	MFR2-FRP	MF2-FRP	MFR3-FRP	MF3-FRP	MF20-FRP	MFR24-FRP	MFR30-FRP	
SEPTIC TANK PROPERTIES	Septic Tank Type	Horizontal	Vertical	Horizontal	Vertical	Vertical	Horizontal	Horizontal	
	Process	Upflow Anaerobic Filtration (Bio-Media)							
	Type of Waste	Domestic							
	Population Equivalent	PE	8	8	15	15	20	28	30
PHYSICAL PROPERTIES	Diameter (D)	mm	1,520	Ø1520	1,800	Ø1,800	Ø2,000	2,000	2,000
	Length (L)	mm	1,565	N/A	2,020	N/A	N/A	3,000	3,500
	Height (H1)	mm	1,620	1,650	1,900	2,100	2,300	2,100	2,100
	Water Level (H2)	mm	1,220	1,350	1,500	1,800	2,000	1,700	1,700
	Inlet and Outlet Pipe	mm	150	150	150	150	150	150	150
	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 if not according to installation manual and guideline.



Specifications, terms and conditions subject to change without prior notice.  
All dimension is mm unless otherwise stated.

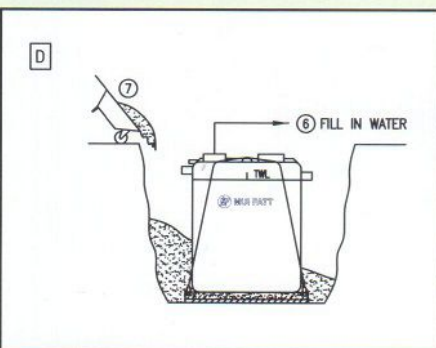
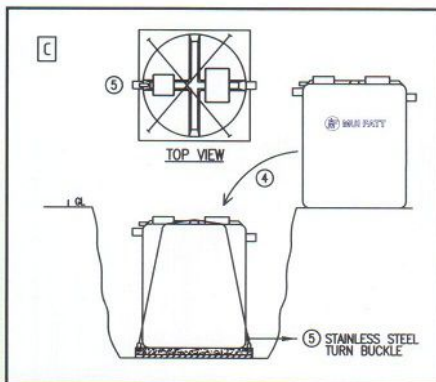
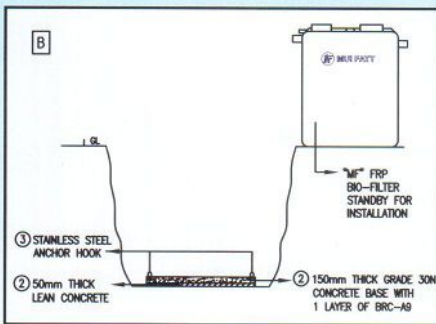
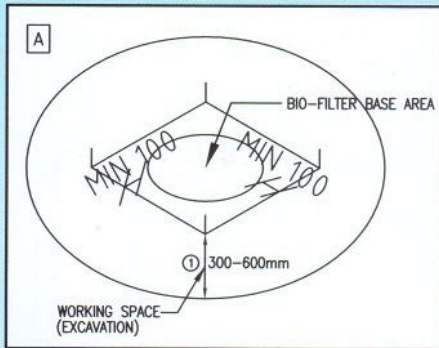


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Revision: 2015-04-D

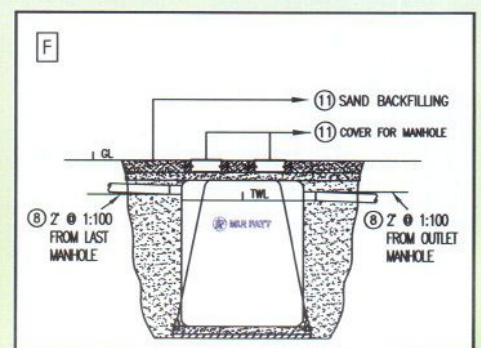
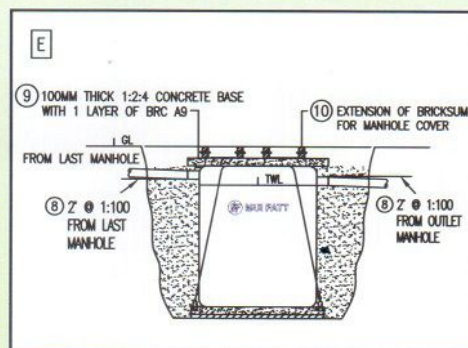


## Installation Instructions



1. Allow for working space of 300mm to 600mm all around the "MF" FRP Bio-Filter when excavating the pit.
2. 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.
3. Four (4) nos. of stainless steel anchor hook  $\varnothing$ 12mm coated in concrete base. (Refer Standard "MF" FRP Bio-Filter Standard Drawing)
4. Unload the "MF" FRP Bio-Filter on a well leveled and cured 150mm thick Grade 30N Concrete base reinforce with one (1) layer of BRC-A9 wire mesh.
5. Tie the  $\varnothing$ 20mm stainless steel (SS 304) anchor strap over "MF" FRP Bio-Filter and tighten using stainless steel turnbuckle.
6. Fill in "MF" FRP Bio-Filter with water up top water level.
7. Back fill the space around the "MF" FRP Bio-Filter with sand compacted in 150mm layers, up to the opening lid/rim.
8. 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.
9. Lay over the "MF" FRP Bio-Filter a 100mm thick slab, with manhole openings of 1:2:4 concrete reinforced with one layer of BRC-A9 wire mesh.
10. Construct the manhole neck connections with bricks sump up to the specified design platform level.
11. Backfill with sand up to the designed platform level and install the manhole cover.
12. Fill the "MF" Fibre Septic Tank with water to full capacity

NOTE : Also do so every time after desludging later on  
Please refer to the relevant drawings  
for the proper way of installation



Wastewater treatment always calls for sense of responsibilities towards the environment and public health. The MF FRP Bio-Filter Wastewater Treatment System answer this call of the industry as well as building owners. Designed with the local conditions in mind, MF FRP 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

MF FRP Bio-Filter are leakproof and resistant to rush as well as most chemicals contained in soil and sewerage. MF FRP Bio-Filter Wastewater Treatment System features an effective anaerobic up-flow filtration system using Plastic as biomedica. Even fine particles and dissolved matter are strained and removed to give wastewater a total treatment. As a result, effluent from MF FRP Bio-Filter is virtually harmless and fit for discharge into a public drain. Available in different models, the MF FRP Bio-Filter Wastewater Treatment System is economical and ideal for use in all types of housing units, shop house, light industrial factories and other buildings.

### Easy Handling, Transportation and Installation

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

### East De-Sludging

Easy de-sludging is made possible through an isolated, direct access to the setting zone of the MF FRP 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 MF FRP 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 :

- MF FRP Bio-Filter is designed for a high flexural strength capability to withstand a harsh environment :
- (1) 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 MF FRP Bio-Filter manufacture to Malaysian Sewerage Industry Guidelines Volume V-Spetic 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 MF FRP 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. Any installation without following the installation manual and guidelines will result as null and void in the product warranty immediately.

