

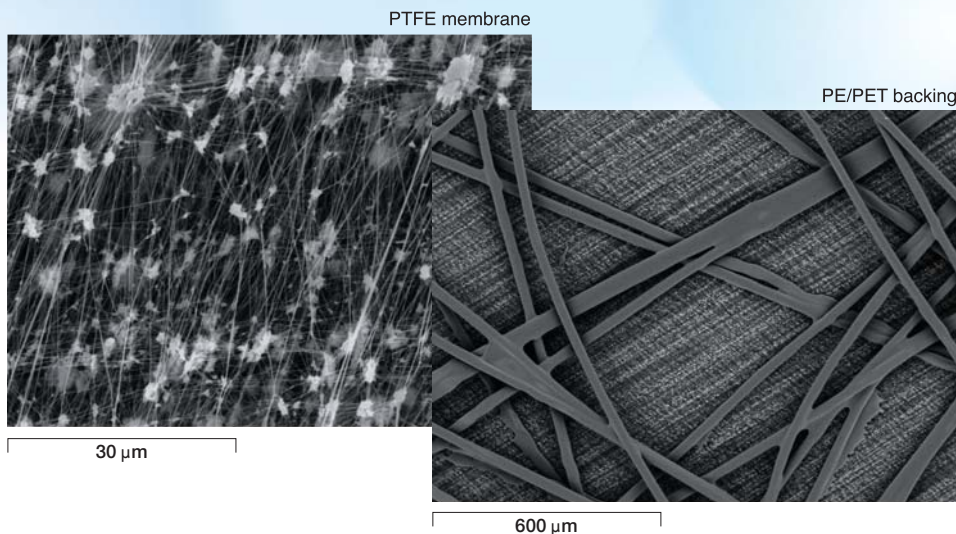
## PTFE Filter TFH membrane

**New construction resolves many of the problems associated with the demanding usage environment for PM sampling filters**

### ■ Features of new construction

- Combines the excellent collection ability of a PTFE filter with a breathable reinforcing layer of non-woven fabric.
- Reduces absorbency and conductivity and also prevents post-collection dispersal of samples.
- Ensures superior release performance of the PM after collection (effective in micro-chemical analysis of composition).
- Allows smaller filter unit weights than with the standard glass fiber paper used in automatic PM measurement devices ( $\beta$ -ray absorption method). This has improved detection sensitivity by approximately five times compared to previous Horiba units.
- Strengthens chemical resistance to acids, alkalis, and organic solvents.
- Decreases filter weight and also allows accurate weight measurement of low-concentration samples.
- Greatly lowers the chemical background, eliminating interference and allowing chemical analysis of composition (water-soluble components, organic compounds, metal components, etc).

[Scanning electron microscope photograph of PTFE membrane and PE/PET backing]



### Main applications

- **PM collection**  
( $\beta$ -ray absorption method automatic measurement devices, all sampling procedures)
- **PM composition analysis**
- **Weight measurement of low-concentration powders**

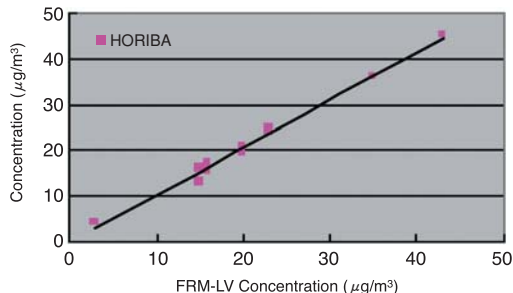
\*USA Patent No.8012231

\*CHINA Patent No. ZL 200410032415.3



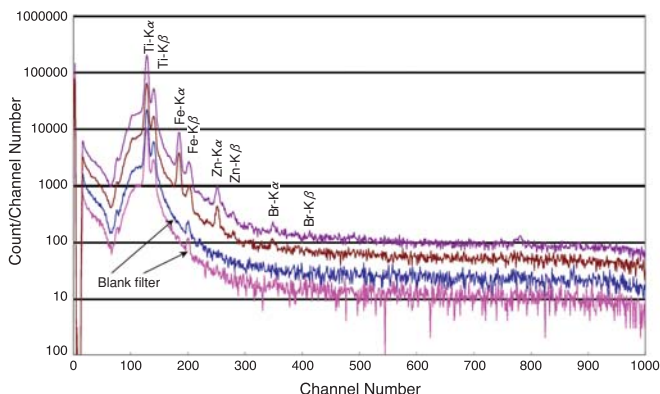
TFH technical data

[Distribution of FRM-LV and APDA-361 correlation in TFH application]



HORIBA (beta-Ray) :  $y=1.0493x-0.4178$   $R^2=0.99$   
 ; TFH-01  
 FRM-LV ; TFH-47

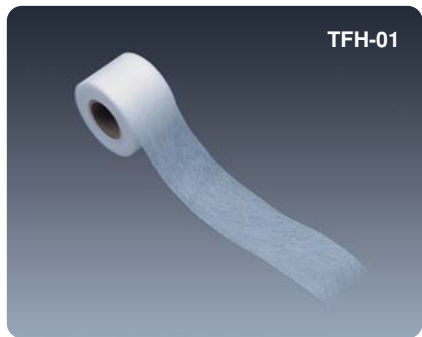
[TFH spectrum based on PIXE (Dummy and actual measurement)]



\* PIXE: Particle Induced X-ray  
 \* APDA-361: Beta gauge method monitor (Manufactured by Horiba Ltd.)  
 \* FRM-LV (Federal Reference Method-Low Volume Sampler): Low-volume sampler

TFH technical data

M. Shinohara, K. Saitoh, K. Sera and M. Fujiwara (2004). In Proc. European Aerosol Conf., Hungary, S347-348  
 K. Saitoh, M. Shinohara, K. Sera and M. Fujiwara (2005). In Proc. European Aerosol Conf., Belgium, 382



Specifications

Item	Unit	TFH-01	TFH-47
Filter materials	—	PTFE filter+non-woven fabric (PE+PET)	
Pore size	µ m	1	1
Thickness	µ m	140	140
Flowrate	L/min/cm <sup>2</sup>	80	80
Bubble point	Kg/cm <sup>2</sup>	Unavailable	Unavailable
Heat resistance	°C	135	135
Width	mm	40	—
Length	m (1 roll)	21	—
Diam.	mm	—	47
Mass	g/m <sup>2</sup>	14	14
Collection rate	%	99.97	99.97
Pressure loss	Pa	150	150
Tensile strength	N/25mm	>10	>10
Shape	—	Roll	Circular

Order quantities

	TFH-01	TFH-47
No./set	1 roll	10 pieces



Please read the operation manual before using this product to assure safe and proper handling of the product.

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