

Nanofront® Filter Cartridges

TEIJIN

Human Chemistry, Human Solutions

TNE Type (Ultrafine polyester nanofiber filter media)

Fulfilling high filtration efficiency, low pressure loss, excellent flow rates and long-life duration together and contributing to improvement of productivity.

Features

- **High accuracy**: Because of the uniform pore size, high filtration efficiency is achieved. In addition, surface filtration with extremely little internal blocking achieves ideal filtration.
- **Long-life duration**: Pressure is restrained by reducing internal blocking in filter media, so as to achieve extremely long life.
- **Low pressure loss**: Low pressure loss is attained due to ultrathin media and large number of pores per unit area.
- **Excellent flow rates**: Comparing to original filter, TNE type cartridge can attain excellent flow rate with low filtration pressure.
- **Hydrophilicity**: To use hydrophilic polyester filter media, high grade of filtration efficiency can start filtering without hydrophilic treatment in advance.

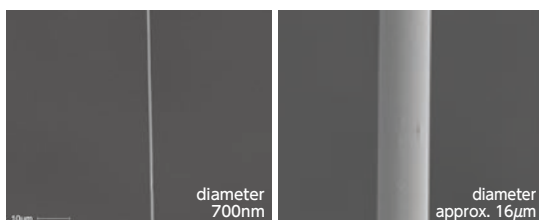
Applications

- Prefilter of deionizer
- General industrial water
- Mother water
- Various beverages
- Aqueous system
- Waterborne cleaning solution
- Machine cutting fluid
- Filtration such as acid

Filter media

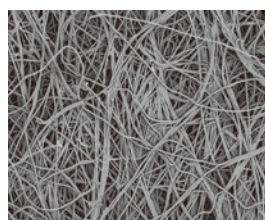
Teijin started commercial production of polyester nanofiber of 700nm in diameter with the brand name of "Nanofront®" for the first time in the world and sells various products such as sports apparel, healthcare and cosmetics applications.

By making paper after dispersing nanofiber with consistent fiber diameter uniformly in the water, this filter media attained fine uniform pore diameter and extremely thin than general nonwoven media. Each fiber is fixed by thermal adhesion and no glue and other substances are used.



Nanofront® (ultrafine nanofiber)

General fiber

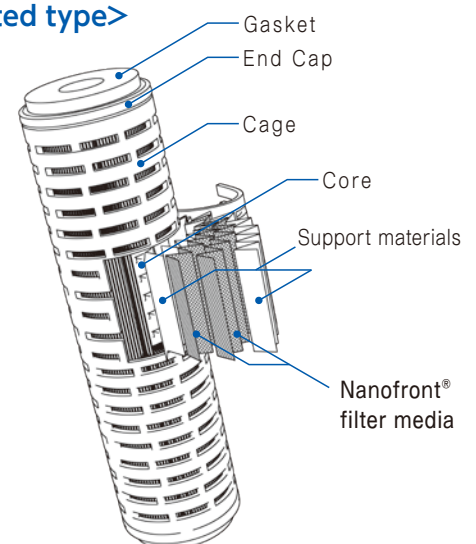


Surface of Nanofront® filter media



Filter structure

<Pleated type>



Fluid compatibility

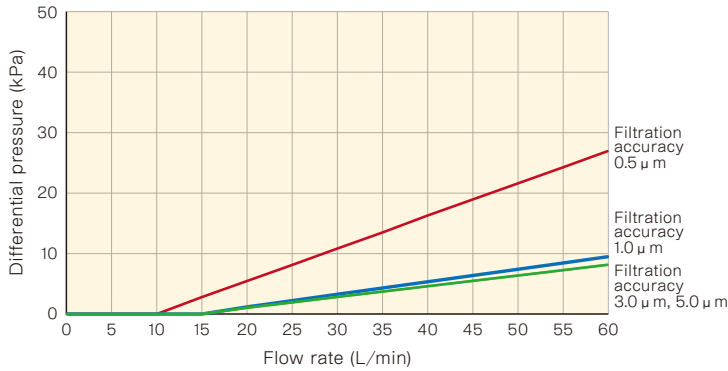
O: Proper Δ: Notice (swelling and shrinking with long hours) X: improper

	Fluid name	PET		Fluid name	PET		Fluid name	PET
Acid	1N hydrochloric acid	○	Alkali	10% Sodium hydroxide	X	Organic solvent	Acetone	Δ
	Hydrochloric acid (37%)	○		50% Sodium hydroxide	X		Toluene	○
	Sulfuric acid (50%)	○		27% Ammonia water	X		Ethyl acetate	○
	Concentrated sulfuric acid (98%)	X		10% Sodium hypochlorite	Δ		Ethanol	○
	Acetic acid (80%)	○					NMP	Δ
							DMAc	Δ

The numbers in the charts above are at room temperature. In the actual filtration, use conditions are varied, so please use them as reference and we recommend having the material test before you use.

Flow Characteristics

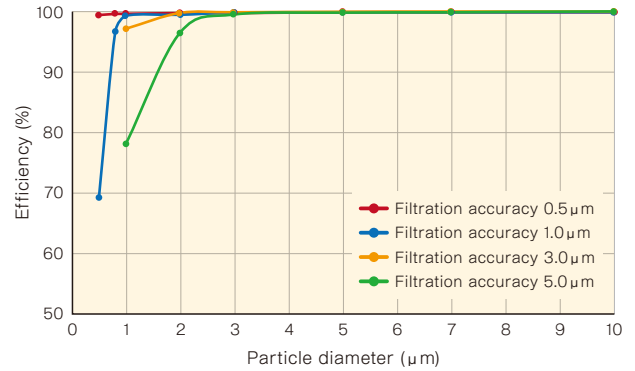
Fluid: Refined water Filter cartridge length: 250mm



The data above don't include piping pressure drop.

Filtration efficiency

Fluid: Refined water Filter cartridge length: 250mm
Flow rate: 10L/min Particle: ACFTD



Model number display method

Product type	Material	Filtration accuracy	End cap code	Nominal length	Gasket/ O-ring	
TN	E polyester	005 0.5 μm	F DOE	1 250mm	E EPDM	
		010 1.0 μm	O 222-O-ring + Flat	2 500mm	S Silicone	
		030 3.0 μm	7 226-O-ring + Fin	3 750mm	V FKM	
		050 5.0 μm	8 222-O-ring + Fin	4 1000mm	T FEP Encapsulated O-ring	
e.g.	TN	polyester	0.5 μm	DOE	250mm	EPDM
	TN	E	005	F	1	E

Specifications

Product type		TNE			
Displayed filtration accuracy		005	010	030	050
Filtration accuracy (μm)		0.5	1.0	3.0	5.0
Filtration area (m ² /Filter cartridge length 250mm)		0.9	0.8	1.0	0.7
Forms		F: DOE O: 222-O-ring + Flat 7: 226-O-ring + Fin 8: 222-O-ring + Fin			
Dimension	Length (mm)	250 / 500 / 750 / 1000			
	O.D. (mm)	φ69			
	I.D. (mm)	26 (Forms F) /27 (Forms O·8) /38 (Forms 7 : with reinforcement)			
Materials	Filter Media	polyester			
	Support	polypropylene			
	Core	polypropylene			
	Cage	polypropylene			
	End cap	polypropylene			
Gasket/O-ring		EPDM/Silicone/FKM/FEP Encapsulated O-ring (Forms O·7·8)			
Pressure capacity (MPa) at 20°C		0.5			
Maximum operating temperature (°C)		70°C			
Suitable food sanitation standard		The Ministry of Health and Welfare announcement No 370 in 1959. *For gasket/O ring Material: silicon			

●The data in this catalog is the representative values under the special conditions by our company test, not guaranteed values. ●The results obtained by the information written in this catalog and the safety of this product are not guaranteed. ●In using this product, please check the appropriateness and safety for the purpose of use. ●The contents in this catalog are subject to change without notice.

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