

TORAY

Innovation by Chemistry

TORAY ETRF

TE-12R



TORAY Endotoxin-Retentive Filter “TE-12R”

High fractional performance

High fractional performance is obtained by reducing the pore size of hollow fiber membranes.

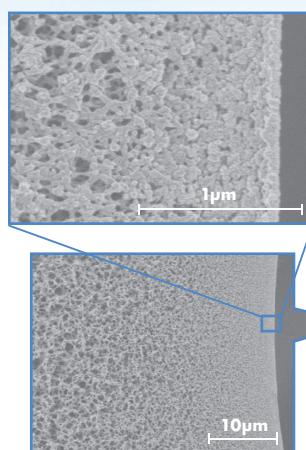
High water permeability

High fractional performance and high water permeability of TE-12R is obtained by Toray nanotechnology.

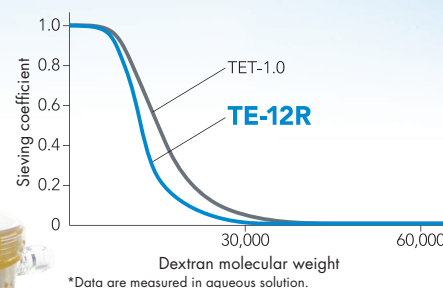
Excellent chemical proof & excellent durability

Excellent chemical-proof-type polysulfone is used as a hollow fiber. In addition, this device exhibits improved durability because its membrane is thicker than the previous model and polycarbonate is used for the housing material.

Enlarged picture of a hollow fiber membrane



Data for dextran fractional performance



Specifications and performance

Hollow Fiber	Material	Polysulfone
	Inside Diameter (µm)	200
	Membrane Thickness (µm)	60
	Effective Surface Area (m ²)	1.2
Spacer Yarn	Polyethylene terephthalate	
Housing Material	Polycarbonate	
O-ring Material	Silicone rubber	
Potting Material	Polyurethane	
Sterilization	γ-ray irradiation	
Max. TMP (Transmembrane pressure) (kPa(mmHg))	66 (500)	
Endotoxin Retentive Performance ^{\$, #1}	LRV* ≥ 3	
Bacterial Retentive Performance ^{\$, #2}	LRV* ≥ 8	

Disinfectants and period of use

Disinfectants	Concentrations (%)	Duration (min.)	Period of Use
Sodium hypochlorite	0.05 - 0.1	20 - 60	100 treatments ^{#3} or 3 months
Acetic acid	≤ 1	20 - 60	
Peracetic acid	0.02 - 0.04	20 - 60	
Hot water (≤ 85°C)**	–	20 - 60	80 treatments ^{#3} or 3 months

\$: in accordance with the voluntary standard of the Japan Medical Devices Manufacturers Association

* : LRV: Logarithmic reduction value

** : the citric acid (concentration: less than 2 %) can be used in the hot water

#1: defined as log₁₀ [concentration of endotoxin (ET) in challenge solution/ concentration of ET in filtrate]

#2: defined as log₁₀ [number of organisms in challenge suspension/number of organisms in filtrate]

#3: whichever comes first

TORAY

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