### **Reciprocating Tangential Flow Filter**

Perfusion system, compared with the classical fed-batch system, could competent higher cell density culture and dramatically improve yield productions. A small-scale bioreactor with a perfusion system can yield equal or even more products than a large-scale bioreactor, achieving more flexibility and lower cost. It has been deeply applied to drive higher yield biopharmaceutical products, including antibodies, recombinant proteins, viral vaccines, VLPs, viral vectors, and bioprocesses of N-1 perfusion system and expansion of stem cells, or CAR-T cells. GVS have developed hollow fiber filters to resolve the requirements of sterility and long-term work used in the perfusion system. The hollow fiber silk is made of hydrophilic polyether sulfone (mPES) with 0.2 µm pore size. It has many good characteristics, such as very low protein adsorption, high resistance to contamination, tolerance to humid heat sterilization and steam in place, and standard connection type, making it a great potential alternative consumable for various perfusion systems.

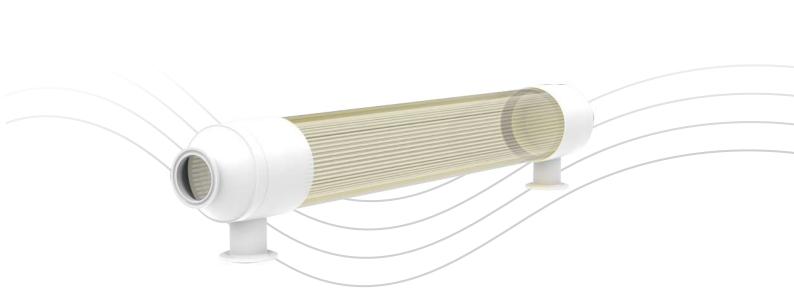
#### **Features**

- Asymmetric membrane structure, better resistance
- mPES, better hydrophilia
- Normalized pore size, more stable

- Open flow path, lower shear force
- Reusable

## $\begin{array}{c} \text{TFFS } \underset{\textbf{O}}{\textbf{R}} & \underbrace{\textbf{O2OM}}_{\textbf{O}} & \underbrace{\textbf{CRT}}_{\textbf{O}} & \underbrace{\textbf{O3O}}_{\textbf{O}} & \underbrace{\textbf{O4}}_{\textbf{O}} & \underbrace{\textbf{A}}_{\textbf{O}} \end{array}$

Filter series brand ①	Rating ②	Filter style ③	Flowpath length ④	Housing specification (Length*Diameter) ⑤	Туре 🌀
R	020M=0.2µm	X=CRT	030=30cm	04=362mm*58mm	A=Autoclavable
			060=60cm	06=637mm*75.2mm	
				10=515mm*175.5mm	



### **Features**

- Asymmetric membrane structure, better resistance
- mPES, better hydrophilia
- Normalized pore size, more stable

- Open flow path, lower shear force
- Single-use

# $\begin{array}{c} \text{TFFS} \underbrace{\mathsf{R}}_{\textbf{0}} \underbrace{\texttt{020M}}_{\textbf{0}} \underbrace{\mathsf{FLT}}_{\textbf{0}} \underbrace{\texttt{030}}_{\textbf{0}} \underbrace{\texttt{02}}_{\textbf{0}} \underbrace{\mathsf{SU}}_{\textbf{0}} \end{array}$

Filter series brand ①	Rating ②	Filter style ③	Flowpath length ④	Housing specification (Length*Diameter) ⑤	Туре 🌀
R	020M=0.2µm	FLT=Filter	030=30cm	02=633mm*23mm	A=Autoclavable
			060=60cm	04=362mm*58mm	SU=Single-use, irradiated
			110=110cm	06=637mm*75.2mm	
				10=515mm*175.5mm	