

Biophsep™ Hollow Fiber





Product Features

- High flux rates, high filtration capacity
- Modified hydrophilic PES hollow fiber membrane provides low protein binding, less membrane fouling and easy cleaning
- As a complete device without additional assembly or device holder, quick installation and operation
- Regenerated by chemical wash with 0.5M NaOH solution
- Simple and reliable linear amplified scale-up

Cobetter Biophsep™ hollow fiber with good filtration resolution and low blocking performance, help biopharmaceutical customers to improve product yield and filtration load, and reduce production costs.

Typical Use by Application

- Purification, concentration and diafiltration of vaccine
- Purification, concentration and diafiltration of viral vector
- Clarification of cells and bacterial in fermentation broth
- Recycling and washing of cells and bacteria
- Concentration and diafiltration of protein



Product Specification

Hollow Fiber Filter Module Part Numbers Key (0.5mm)

Module	Effective Length (cm)	Process Volume	MWCO	Fiber Inner Diameter (mm)	Effective Area (cm²/m²)	Fiber Number	Flow rate @2000s ⁻¹ (mL/min)	Flow rate @6000s ⁻¹ (mL/min)	Overall Dimension (mm*mm)	Inlet/Outlet	Side Port	
Mini	30	<300mL		0.5	28	6	9	27	10*346	Luer Connection Female	Luer Connection Female	
	60	<600mL		0.5	56	6	9	27	10*646			
Minilab	30	<1L		0.5	118	25	37	110	10*346			
	60	<2L		0.5	236	25	37	110	10*646			
Lab	30	<2L		0.5	236	50	74	221	13*348	0.5" TC (Disk Outer Diameter 25mm)	3/16" HB	
	60	<4L		0.5	471	50	74	221	13*648			
Lab+	30	<8L		0.5	0.08	180	265	794	18*355	0.5" TC (Disk Outer Diameter 25mm)	3/8" HB	
	60	<16L		0.5	0.16	180	265	794	18*620			
Pilot	30	<15L		50kD 100kD 300kD 500kD 750kD	0.5	0.15	320	471	1413	33*361	1.5" TC (Disk Outer Diameter 50.5mm)	0.5" TC (Disk Outer Diameter 25mm)
	60	<30L			0.5	0.30	320	471	1413	33*661		
	110	<50L	0.5		0.55	320	471	1413	33*1161			
Pilot+	30	<15L	0.5		0.24	500	736	2206	33*361			
	60	<50L	0.5		0.47	500	736	2206	33*661			
	110	<80L	0.5		0.86	500	736	2206	33*1161			
MiniProcess	30	<75L	0.5		0.68	1450	2132	6397	47*400			
	60	<150L	0.5		1.37	1450	2132	6397	47*400			
	110	<250L	0.5		2.50	1450	2132	6397	47*1150			
MidProcess	30	<120L	0.5	1.22	2600	3824	11471	65*440	1.5" TC (Disk Outer Diameter 50.5mm)	1.0" TC (Disk Outer Diameter 50.5mm)		
	60	<200L	0.5	2.45	2600	3824	11471	65*740				
	110	<400L	0.5	4.29	2600	3824	11471	65*1190				
Process	30	<200L	0.5	2.45	5200	7647	22941	89*477				
	60	<500L	0.5	4.90	5200	7647	22941	89*777				
	110	<800L	0.5	8.57	5200	7647	22941	89*1227				
Maxi	60	<800L	0.5	9.29	10200	15000	45000	117*760	2.0" TC (Disk Outer Diameter 64mm)	1.5" TC (Disk Outer Diameter 50.5mm)		
	110	<1500L	0.5	16.81	10200	15000	45000	117*1230				

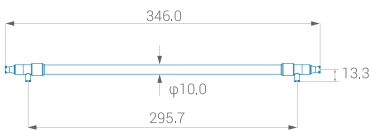
Hollow Fiber Filter Module Part Numbers Key (1.0mm)

Module	Effective Length (cm)	Process Volume	MWCO	Fiber Inner Diameter (mm)	Effective Area (cm ² /m ²)	Fiber Number	Flow rate @2000s ⁻¹ (mL/min)	Flow rate @6000s ⁻¹ (mL/min)	Overall Dimension (mm*mm)	Inlet/Outlet	Side Port
Mini	30	<300ml		1.0	28	3	35.3	106	10*346	Luer Connection Female	Luer Connection Female
	60	<600ml		1.0	56	3	35.3	106	10*646		
Minilab	30	<1L		1.0	94	10	118	353	10*346		
	60	<2L		1.0	188	10	118	353	10*646		
Lab	30	<2L		1.0	170	18	212	636	13*348	0.5" TC (Disk Outer Diameter 25mm)	3/16" HB
	60	<4L		1.0	340	18	212	636	13*648		
Lab+	30	<6L		1.0	0.05	60	706	2118	18*355	0.5" TC (Disk Outer Diameter 25mm)	3/8" HB
	60	<12L		1.0	0.1	60	706	2118	18*620		
Pilot	30	<15L		50kD	1.0	0.15	160	1184	5652	33*361	1.5" TC (Disk Outer Diameter 50.5mm)
	60	<30L	1.0	0.3	160	1184	5652	33*661			
	110	<50L	1.0	0.55	160	1184	5652	33*1161			
Pilot+	30	<15L	300kD	1.0	0.23	240	2824	8471	33*361		
	60	<50L	500kD	1.0	0.45	240	2824	8471	33*661		
	110	<80L	750kD	1.0	0.83	240	2824	8471	33*1161		
MiniProcess	30	<75L	1.0	0.56	600	7059	21176	47*400	1.5" TC (Disk Outer Diameter 64mm)	1.0" TC (Disk Outer Diameter 50.5mm)	
	60	<150L	1.0	1.13	600	7059	21176	47*700			
	110	<250L	1.0	2.07	600	7059	21176	47*1150			
MidProcess	30	<120L	1.0	1.13	1200	14118	42353	65*440			
	60	<200L	1.0	2.26	1200	14118	42353	65*740			
	110	<400L	1.0	3.95	1200	14118	42353	65*1190			
Process	30	<200L	1.0	2.08	2200	25880	77650	89*477			
	60	<500L	1.0	4.16	2200	25880	77650	89*777			
	110	<800L	1.0	7.25	2200	25880	77650	89*1227			
Maxi	60	<800L	1.0	8.20	4500	52941	158824	117*760	2.0" TC (Disk Outer Diameter 64mm)	1.5" TC (Disk Outer Diameter 50.5mm)	
	110	<1500L	1.0	14.84	4500	52941	158824	117*1230			

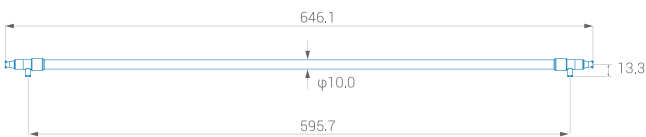
Material Construction

Module Component	Material	Advantages and Functions
Hollow Fiber Membrane	mPES	The modified hydrophilic PES hollow fiber membrane delivers low binding, less membrane fouling and continuous high flux rates for faster processing times, the membrane is approved to effectively retain virus particles so as to achieve the purpose of concentration and buffers exchange.
Potting Glue	Polyurethane/Epoxy	It wraps each hollow fiber to provide a support site for the hollow fiber membrane, at the same time, those material completely isolates the inlet flow channel and the permeate flow channel.
End Cap	White Polysulfone	Provide a flow channel connection for liquid in and out, with good chemical compatibility.
Shell	Transparent Polysulfone	Connect the inlet and outlet caps to form a complete assembly, while providing a cavity flow channel for the permeate, with good chemical compatibility.

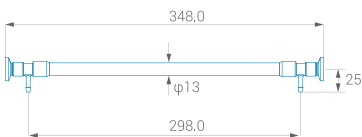
Overall Dimension



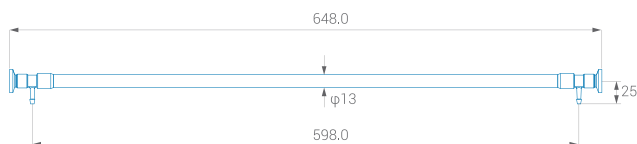
MI-Minilab -30cm



MI-Minilab -60cm

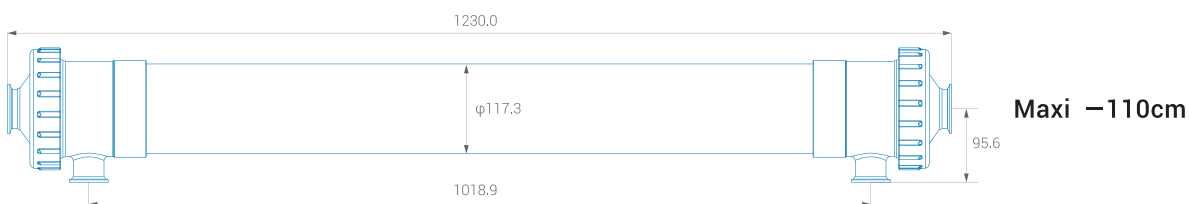
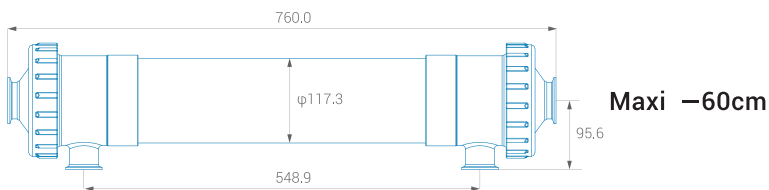
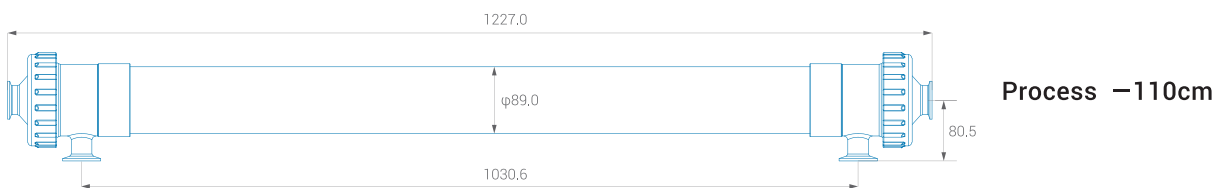
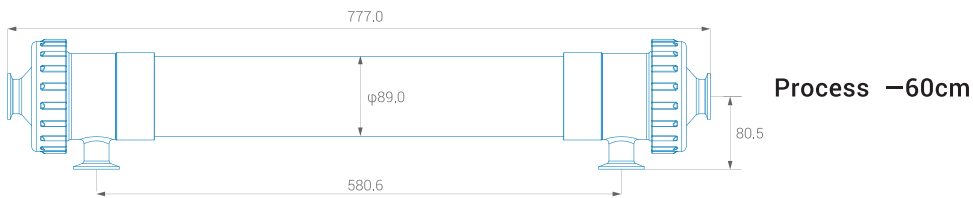
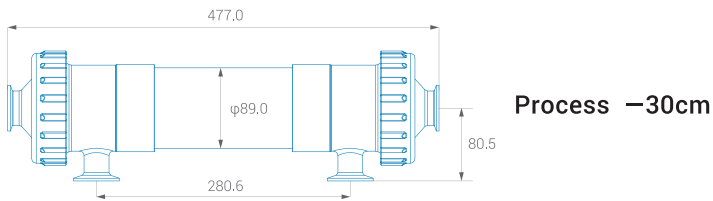
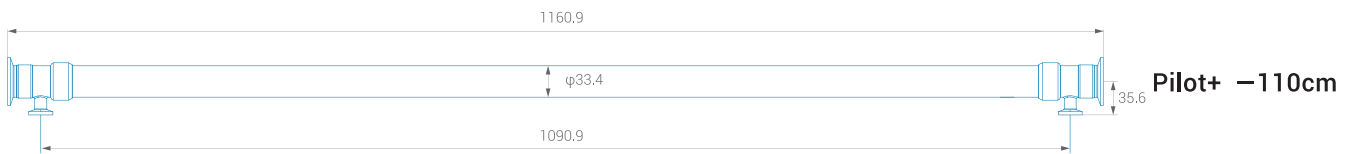
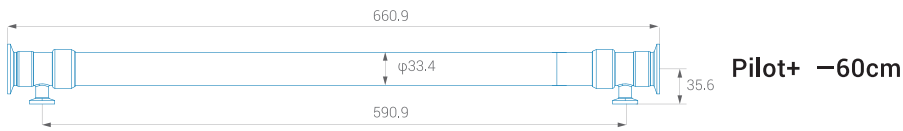
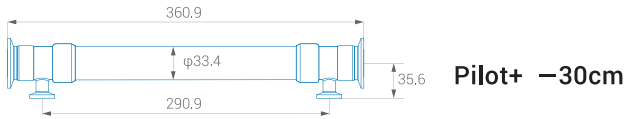


Lab -30cm



Lab -60cm

Overall Dimension



Key Figures

Shear Rate

The circulating flow rate of the hollow fiber depends on the product tolerance to the shear rate, in generally it will be set at 2000/s to 10000/s, which is much smaller than the shear rate generated by the turbulent flow on the surface of the cassette screen.

For general materials, we usually choose a shear rate of 4000/s to 6000/s;

If the product is sensitive to shear force (such as lentivirus, new coronavirus or macromolecular protein expressed by animal cells, large plasmids and LNP, etc.), the shear rate needs to be reduced to 2000/s;

If the product is with good resistant to shear force (such as small molecular proteins expressed by bacteria, etc.) shear rate could be increased to 8000/s to 10000/s correspondingly.

MWCO

It is necessary to take into account of sufficient separation selectivity to secure the selectivity and flux of process.

With above premise, we also suggest choosing relatively smaller pore size to reduce membrane block risk from processing particles. It will help to extend the service life effectively.

Common processing scenarios are as following:

- Concentration, purification and removal of Virus : 100kD, 300kD, 500kD, 750kD
- Clarification of recombinant protein, antibody : 500kD, 750kD
- Concentration of bacterial: 500kD,750kD

Fiber Inner Lumen

Module with fiber of 1.0mm ID is idol for product with high cell density or high solid content or high viscosity.

Module with fiber of 0.5mm ID is widely used in most application scenarios to improve mass transfer efficiency.

Effective Length

The process scale-up feature of hollow fibers is that: direct process scale-up can be carried out as long as the effective length is kept the same. On the opposite, due to the significant pressure drop difference between inlet and outlet existed in different lengths, the internal pressure and flow velocity distribution of the flow channel also change correspondingly, so linear amplification can not be performed on devices with different length. When we process with more fouling and high viscosity product, it is preferred to choose components with shorter flow path length.

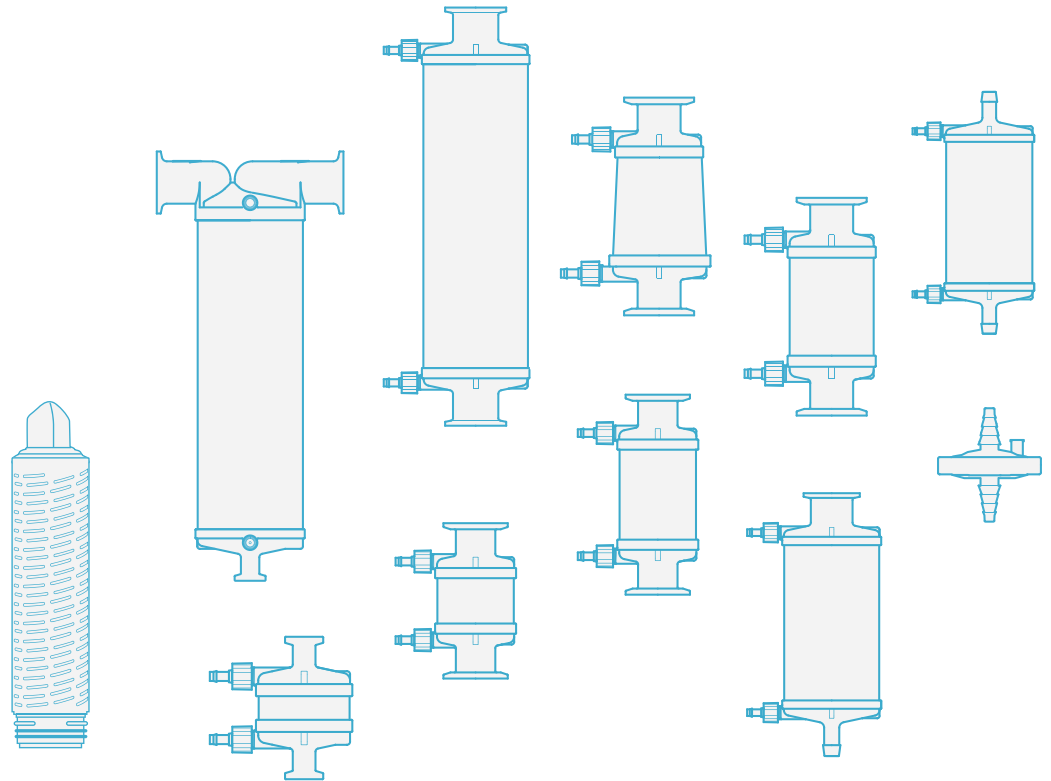
Ordering Information

HF-E-XX-XXXX-XX-XX-P e.g.: HFELA05000560P

						
Product type	Membrane	Module	MWCO	Fiber Inner Lumen	Effective Length	P Pharmaceutical
HF Hollow Fiber	E PES	MN Mini MI Minilab LA Lab LP Lab+ PI Pilot PP Pilot+ MP Miniprocess DP Midprocess PR Process MA Maxi	0050 50kD 0100 100kD 0300 300kD 0500 500kD 0750 750kD	05 0.5mm 10 1.0mm	30 30cm 60 60cm 11 110cm	

Our Mission

Committed to providing excellent products and continuous innovative solutions, we help customers optimise their process and improve product quality.



비투바이오(주) B2BIO, Inc.

국내 상담 · 견적

Tel 02-6409-9338

E-mail info@b2bio.co.kr

Web www.b2bio.co.kr

Please contact us for more information



Hangzhou Cobetter Filtration Equipment Co.,Ltd.

Sales Add 13-18 F, Building 1, Zicheng International Innovation Center, No.39
Jincheng Road, Xiaoshan District, Hangzhou 311215, China

Factory Cobetter Park, Heshang New Material Industrial Park,
Xiaoshan District, Hangzhou 311265, China

Tel +400-070-4266

Fax +86 571-87704256

www.cobetterfiltration.com