

Protein  
Fractionators

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# Protein Fractionators



The Protein Fractionation filtration removes suspended particulates, dissolved organics, proteins and tints. At the same time, protein fractionation lowers bacteria and pathogen concentrations, while saturating the water with oxygen. Traditional water filtration systems, (i.e. pressurized sand filters, bead filters and cartridge filters), remove particulates but are ineffective against dissolved wastes and act as breeding grounds for bacteria and pathogens.

The fractionation filtration process is simple and highly effective. Air, (in some cases ozone as well), are injected into the bottom of the reaction chamber via an ozone resistant venturi injector. The water to be filtered is introduced at the top of the chamber and exits at the bottom. This creates a mass mixing effect, with the water traveling cross current to the air, which is essential for the effective formation of foam.

The foam rises through the column and becomes more concentrated as it passes into the upper portion of the reaction chamber. The collection cup allows for the water to drain back into the reaction chamber via gravity, while the concentrated foam is ejected over the top of the riser tube and exported into a waste drain. The upper chamber is automatically washed down with rinse systems that keep the surfaces clean and prevent the foam from drying and inhibiting the ejection process.

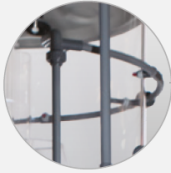
## Features

- Molded HDPE Reaction Chambers
- Counter Current Design
- \*Wash Down System
- \*Automated Venturi Cleaning (Optional)
- Tuned Mazzei® Venturi Pumps
- Kynar® Mazzei® Venturi Injectors
- Ozone Gas Connection Port
- Air Flow Meters
- Screw Top Lid
- Clear Sight Gauge
- Hayward® or Asahi® Ball Valves Standard
- Highest Quality MDM® Pumps Made in U.S.A.
- Spears® Piping and Fittings Made in U.S.A.



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### WASH DOWN SYSTEMS

Includes separate external and internal rinses with high pressure spray nozzles to clean inside and outside riser cones to allow for visual inspection of the fractionation process.



### SCREW TOP LID

Makes maintenance and accessing the inside of the collection cup simple.



### AIR FLOW METERS

Air Flow Meters are provided as standard equipment. We supply one meter per venturi. This allows for proper adjustments when dialing in the fractionator.



### \*AUTOMATED WASH DOWN AND VENTURI RINSE

Electronically controlled wash down system featuring touch screen HMI controls allowing for a simple programming of rinse cycles. An industry first! We've added a solenoid valve to the venturi manifold that allows for automated cleaning of the venturi injector.



### KYNAR® VENTURI INJECTORS

Our fractionators come standard with Kynar® Venturi Injectors from Mazzei®, the best venturi available. Using Kynar® allows for ozone gas injection into the fractionator via the Venturi.



### WATER LEVEL CONTROL

A gear operated butterfly valve allows for more precise water level control. Available in Asahi® or Hayward® configurations.



### TRUE UNION BALL VALVE

All models are come standard with only the finest Asahi® or Hayward® True Union Ball Valves depending on your system preference.



### TUNED VENTURI PUMPS

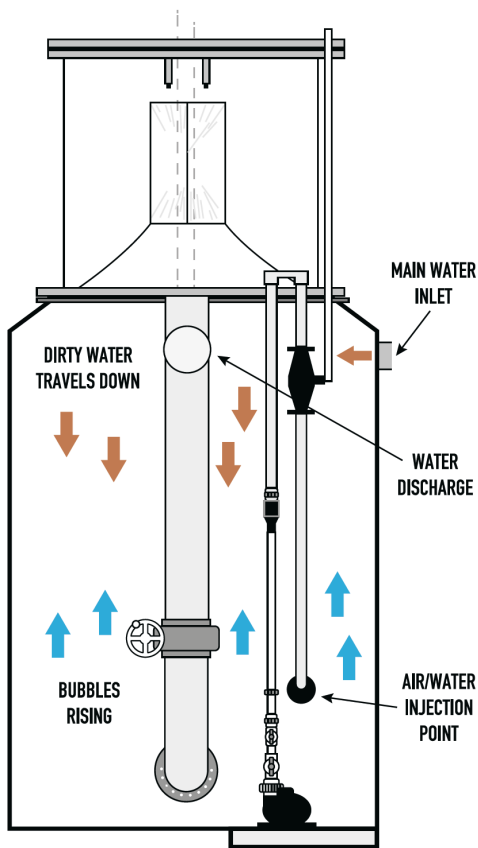
All Pumps are standard 115/230V 60HZ single phase. Optional power configurations in 115-575VAC, 50/60Hz, and 3 PH are all available upon request.



600PE Saltwater Protein Fractionator shown in photo.  
Components and materials are subject to change. \*Indicates optional equipment.



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## COUNTER CURRENT DESIGN

Allows for water entering the top of the fractionator to pass down through the rising air/water column. This creates a stripping effect and allows for better overall mass mixing. Competing manufacturers have their supply, injection, and discharge ports all located in the same area making for a far less efficient fractionation process.



## SINGLE MOLDED BODY

Unlike competing manufacturers our bodies are a one piece, rotationally molded design. This eliminates potential leaking and failures from seams and weld points.



## COUNTER CURRENT DESIGN

### Freshwater applications available

We have spent years refining our protein fractionator designs to be used in freshwater applications. Freshwater fractionation has all of the same added benefits you'd see in a saltwater application. It removes suspended particulates, dissolved organics, proteins, and tints while also increasing dissolved oxygen levels.

If you plan on using ozone within your application our freshwater fractionators double their role to act as an ozone contact chamber, reducing the amount of equipment and floor space needed. Our Freshwater models feature a unique riser cone to overcome the challenges presented in freshwater fractionation.

### Our commitment to quality

Over the last 30 years in the industry, Mellifiq has put innovation and hard work before shortcuts and easy profits. Our like-minded partners continue to break new technological ground, raise the bar and invest in the future. Mellifiq's quality is in the sum of all its partners.



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OF25PE

OF50PE

OFF75PE

OF300PE

OF600PE

Model	Water flow rate @2 min. contact time	Water flow rate @1.5 min. contact time	Water flow rate @1 min. contact time	Reaction chamber diameter (cm)	Venturi pump model number and quality required	Total height from floor to top of fractionator (cm)	Dimensional footprint (cm, WxD)	Dry weight (kg)	Operational weight (kg)
OF25PE	4.5 m <sup>3</sup> /h	8 m <sup>3</sup> /h	-	36	45012.354 - 115/230V 60HZ 1 PH 45016.104 - 220V 50HZ. 1 PH (QTY.1)	196	61 x 91	46	200
OF50PE	9 m <sup>3</sup> /h	14 m <sup>3</sup> /h	-	50	45022.504 - 115/230V 60HZ 1 PH 45026.104 - 220V 50HZ. 1 PH (QTY.1)	251	81 x 112	100	476
OFF75PE	16 m <sup>3</sup> /h	24 m <sup>3</sup> /h	-	61	45052.304 - 115/230V 60HZ 1 PH 45056.104 - 220V 50HZ. 1 PH (QTY.1)	259	81 x 112	107	635
OFHF75PE	-	24 m <sup>3</sup> /h	32 m <sup>3</sup> /h	61	45072.304 - 115/230V 60HZ 1 PH 45076.104 - 220V 50HZ. 1 PH (QTY.1)	259	81 x 112	107	635
OFF150PE	35 m <sup>3</sup> /h	52 m <sup>3</sup> /h	-	91	45102.304 - 115/230V 60HZ 1 PH 45106.104 - 220V 50HZ. 1 PH (QTY.1)	257	104 x 137	166	1352
OFHFF150PE	-	52 m <sup>3</sup> /h	70 m <sup>3</sup> /h	91	451152.304 - 115/230V 60HZ 1 PH 45156.104 - 220V 50HZ. 1 PH (QTY.1)	257	104 x 137	166	1352
OF300PE	66 m <sup>3</sup> /h	99 m <sup>3</sup> /h	-	122	45152.304 - 115/230V 60HZ 1 PH 45156.104 - 220V 50HZ. 1 PH (QTY.1)	279	137 x 168	200	2304
OFHF300PE	-	99 m <sup>3</sup> /h	132 m <sup>3</sup> /h	122	45202.304 - 115/230V 60HZ 1 PH 45206.104 - 220V 50HZ. 1 PH (QTY.1)	279	137 x 168	200	2304
OFF600PE	133 m <sup>3</sup> /h	202 m <sup>3</sup> /h	-	152	45152.304 - 115/230V 60HZ 1 PH 45156.104 - 220V 50HZ. 1 PH (QTY.2)	366	175 x 198	340	4847
OF600PE	-	202 m <sup>3</sup> /h	270 m <sup>3</sup> /h	152	45202.304 - 115/230V 60HZ 1 PH 45206.104 - 220V 50HZ. 1 PH (QTY.2)	366	175 x 198	340	4847
OF1000PE	250 m <sup>3</sup> /h	375 m <sup>3</sup> /h	-	213	45152.304 - 115/230V 60HZ 1 PH 45156.104 - 220V 50HZ. 1 PH (QTY.4)	366	234 x 290	408	9242
OF2000PE	341 m <sup>3</sup> /h	454 m <sup>3</sup> /h	-	213	45202.304 - 115/230V 60HZ 1 PH 45206.104 - 220V 50HZ. 1 PH (QTY.4)	427	234 x 290	544	11585

## Freshwater or salt water configurations available

Pro series models available and include the following - schedule 80 PVC plumbing, electronic wash down assembles for internal and external rinse systems, ozone destruct air inlet vent and bulkhead fittings in place of flexible tank adapters

\*HF model flow rates reflect 1 - 1.5 minute contact times

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