

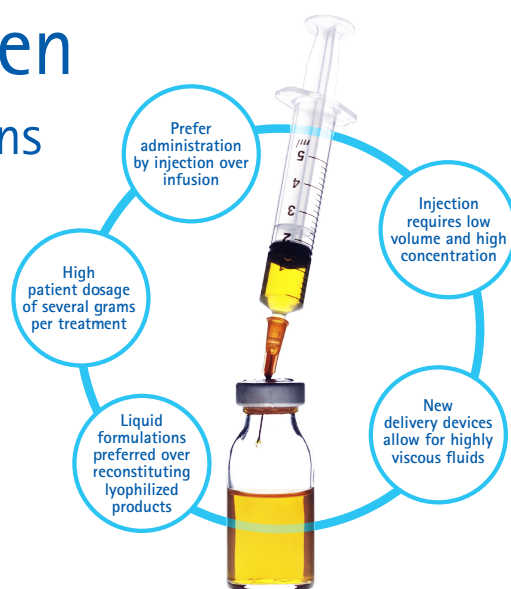
## Product Overview

# Pellicon® 3 Cassettes with High Viscosity Feed Screen

## Achieve higher targeted concentrations

The ability to process higher concentration therapeutic proteins is needed to develop therapies that can be administered by injection. Historically, these therapies have been administered by infusion. However, for patients, injections are much easier to administer and offer greater lifestyle convenience. For clinicians, high concentration injectables eliminate the need to reconstitute powder into liquid.

Higher concentration processes have more viscous feedstreams resulting in higher processing pressures. This pressure increase is the most important factor affecting the ability to achieve high final product concentrations.

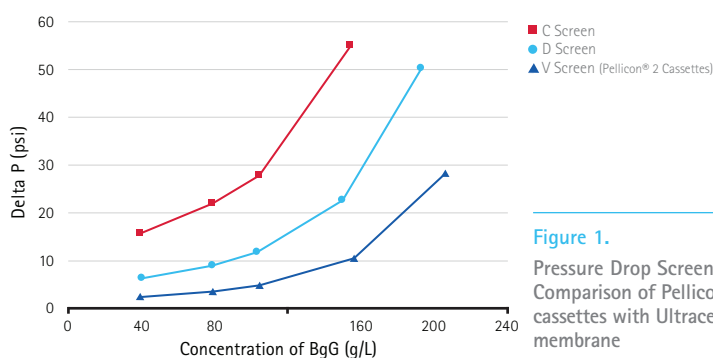


## MARKET TRENDS

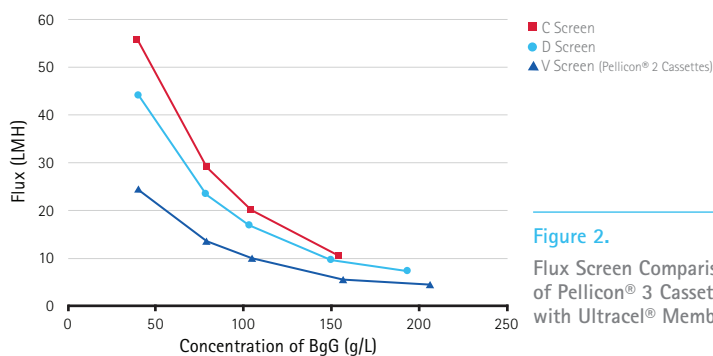
## High Viscosity TFF

Pellicon® 3 cassettes with Ultracel® and Biomax® 30kD membrane utilizing D screen geometry are engineered to efficiently process higher viscosity products. These cassettes can achieve higher concentration therapeutic proteins formulations by maximizing mass transfer and managing the pressure drop created by higher viscosity as shown in Figures 1 and 2. The Pellicon® 3 cassettes utilizing our D screen geometry are able to achieve higher viscosity and higher concentrations under existing processing limits and conditions.

- Pressure drop within operating specifications
- Higher flux than more open channel devices therefore reducing process time
- Engineered for use with current system design capabilities and existing equipment
- Reduces the feed channel pressure drop with minimal impact to mass transfer and flux



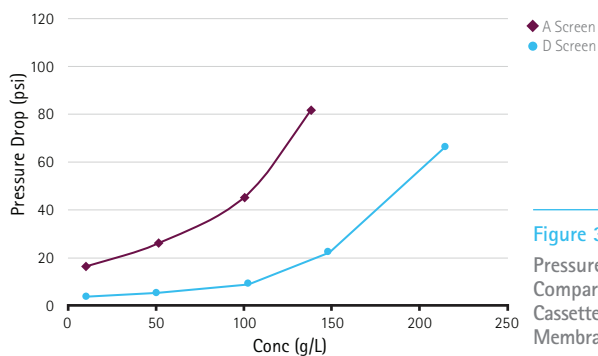
**Figure 1.**  
Pressure Drop Screen Comparison of Pellicon® 3 cassettes with Ultracel® membrane



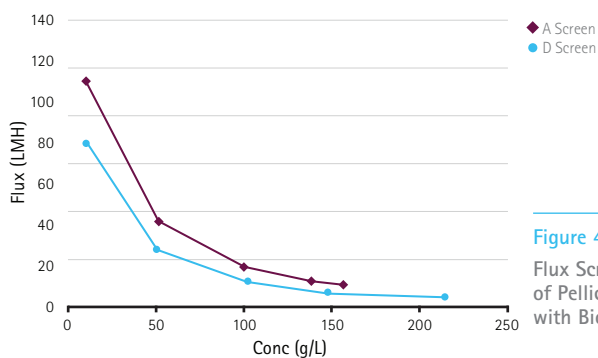
**Figure 2.**  
Flux Screen Comparison of Pellicon® 3 Cassettes with Ultracel® Membrane

## Conclusion

From small-scale to full-scale production, Pellicon® 3 cassettes with Ultracel® and Biomax® membrane utilizing D screen geometry are ideally suited to for applications with high fouling mAb, recombinant proteins, plasma, and vaccine process streams. The streamlined design allows operators to quickly and easily handle, install and remove Pellicon® 3 cassettes. The materials of construction are compatible with a broad range of chemical cleaning agents that many TFF systems require to ensure proper sanitization.



**Figure 3.**  
Pressure Drop Screen Comparison of Pellicon® 3 Cassettes with Biomax® Membrane



**Figure 4.**  
Flux Screen Comparison of Pellicon® 3 Cassettes with Biomax® Membrane



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