Nucleus Biologics

Krakatoa® K500 Cost Analysis

Quantifying the Cost of Media & Buffer Manufacturing: On-Demand vs. Traditional vs. Outsourced

A comparison of three approaches to media and buffer supply demonstrates that on-demand manufacturing with the Krakatoa® K500 (pod-based) can significantly lower total acquisition cost by reducing transportation, storage, excess inventory, manual preparation, and associated labor requirements.

Krakatoa® K500

On-demand manufacturing at point-of-use with automated production, inline monitoring, and minimal operator involvement

Manual Preparation

Internal preparation using tanks, mixing systems, cleanroom space, operators, QA review

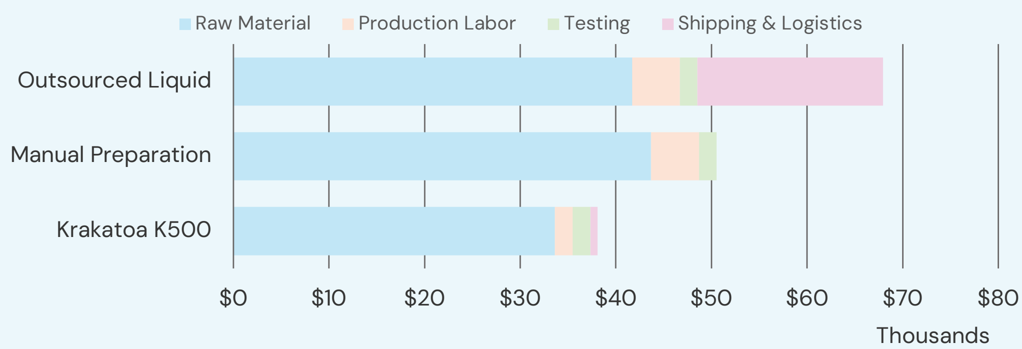
Outsourced Liquid

Purchase pre-made liquid media and buffers, ship to facility, store, inventory management

Example Scenario

Manufacture and receipt of 500 liters of supplemented IMDM in 20 liter bags vs. on-site production (Boston, MA)

Total Media Acquistion Cost Comparison



Savings Per Manufacturing Run

vs. Manual Preparation: up to **25%**

vs. Outsourced Liquid: up to **44%**

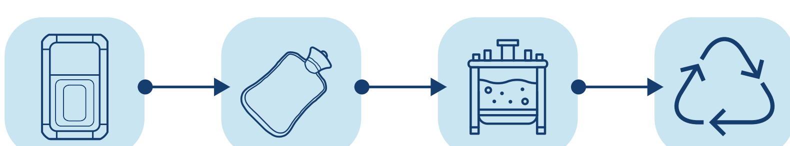
Total Price | Krakatoa® K500: **$38,091 ($76/L)** | Manual Preparation: **$50,544 ($101/L)** | Outsourced Liquid: **$67,921 ($136/L)**

A Complex Manufacturing Model, Simplified

Manual Preparation

Powder mixing → Tank & single-use mixing bag → 0.2 micron filter → Dispense into surge bag → Dispense into smaller bags → Use or store unused product → Disposal

Krakatoa® K500



Insert pod into Krakatoa® → Dispense into surge bag → Push to bioreactor → Recycle

Operational Benefits

- <25 minutes operator interaction
- <3 hour process time
- GMP-grade solutions at the point of use
- Automated digital batch records
- Shorter lead time
- Lower inventory risk
- Fresher media

Reduce costs by up to 44% with Krakatoa® K500

Nucleus Biologics
10929 Technology Place | San Diego, CA 92127
858.251.2010 | sales@nucleusbiologics.com | www.nucleusbiologics.com

bsi ISO 13485 Quality Management for Medical Devices CERTIFIED | CERTIFIED ISO 9001 GUARANTEE | EXCIPIENT EXCIPACT CERTIFIED

PN-K500-CA-1-061726