

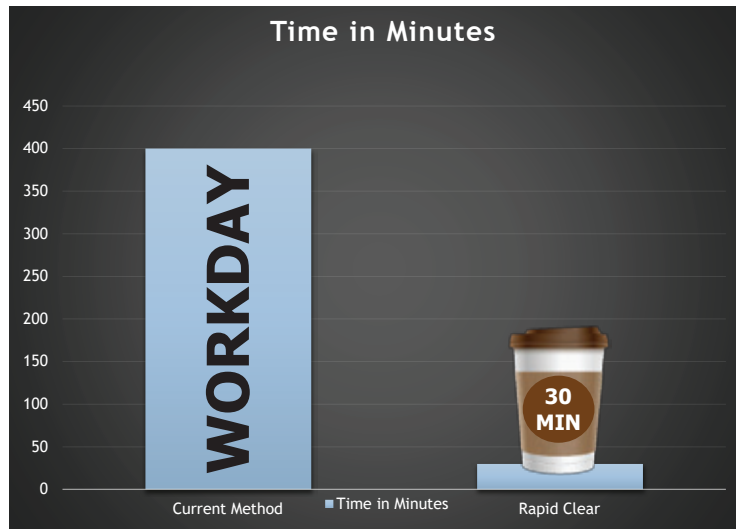


# RAPID CLEAR® CAP

HIGH-SPEED CLARIFICATION  
OF CELL CULTURE

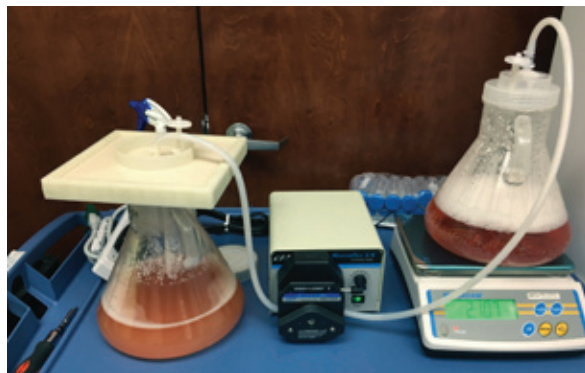


# Win Your Day Back!



## Key Features

- 0.2µm filter, eliminates multiple filtration steps and in some cases centrifugation
- Significant time savings versus classical spin down technique
- Cell clarification of low or high density cultures of CHO stable, CHO transient, HEK293, hybridoma, and other mammalian cell lines
- Eliminates transfer steps: The Rapid Clear® Cap screws directly onto the Optimum Growth™ Flask
- Secondary cap attaches to a new Optimum Growth™ Flask or to a storage container with a Luer lock



Faster  
CHO &  
HEK293  
Filtration

## Less Waste

### Components Needed



# Rapid Clear® Cap 3000 Protocol

When producing biologics, cell yield and viability, and effective clarification are critical. Thomson's patented Optimum Growth™ Flask design facilitates good mixing and high gas exchange rates to produce high density yields of viable cells. Thomson Instrument Company has used its expertise in filtration to develop the Rapid Clear® Cap 3000 to speed up the clarification process. This innovation reduces operating costs by increasing efficiency and minimizing the number of consumables used.

Using the Rapid Clear® Cap 3000 is quick and easy. Once the mammalian or insect cell culture is ready for clarification, simply remove the vent cap and replace it with the Rapid Clear® Cap 3000. The chart below provides the approximate time \*\*\* to clarify cell cultures based on cell type, viability and volume to be filtered. The higher the viability the faster the filtration.

- Grow cells in a 2.8L or 5L Optimum Growth™ Flask
- Transfer the flask to a hood to replace the Vent Cap with the Rapid Clear® Cap
- Replace the Vent Cap on the receiving 1.6L, 2.8L, or 5L Optimum Growth Flask with the receiving cap that comes with the Rapid Clear® Cap
- Remove from hood and place tubing in the pump head, see pump recommendation below\*\*\*
- Tilt the flask slightly and run the pump at maximum speed until only a few hundred mL remain
- Slow pump down, then ratchet clamp to maintain pressure, add 400mL of PBS to the Optimum Growth™ Flask to ensure all the culture has been filtered and transferred to the new flask

For additional information & FAQ's, please go to: [htslabs.com/og/rc/](https://htslabs.com/og/rc/)

Fig 1. Volume and time recommendations by cell type.

Cell Line Viability	99%-70%		69%-50%		49%-40%		39%-0% Spin for 7min @ 4000g*	
Cell Type	Volume (L)	Time (min)	Volume (L)	Time (min)	Volume (L)	Time (min)	Volume (L)	Time (min)
CHO Stable without Feed	3.0	18	2.5	18	2.0	20	3.5****	35****
CHO Stable, 1 to 2 Feeds	2.0	18	2.0	18	1.5	35		
CHO Stable, 2+ Feeds	Spin for 15 min @ 3000g; ≤3L volume ****							
HEK293 (FreeStyle™ & Expi293)	3.0	18	3.0	23	3.0	25	3.5****	35****
CHO Transient	3.0	18	2.5	18	1.5	35		
ExpiCHO	3.0	18	2.5	18	1.0	18		

\* For low viability cultures, (< 39%), centrifuge for 7 minutes prior to clarifying with the Rapid Clear® Cap 3000.

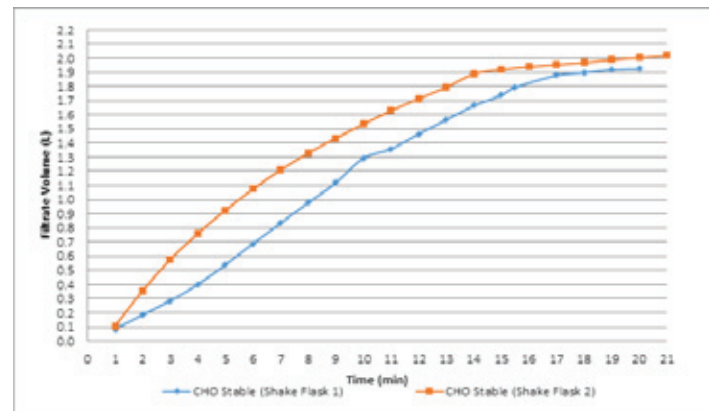
\*\* This chart was created from results generated in customer labs.

\*\*\* All data was generated using a Cole-Parmer pump (pump drive p/n EW-07554-90, pump head p/n EW-77200-62)

\*\*\*\* Cell cultures that received 2+ feeds will require spinning to minimize potential clogging

Thomson Instrument Company is not affiliated with Cole-Parmer or ThermoFisher Scientific or their products

## Filtrate Volume vs Time



### Rapid Clear® Cap 3000

High-speed clarification of 2L–4L of cell culture | Sterile.

Use with 2.8 & 5L Optimum Growth™ Flasks

Part #: 788116 | 4/Case

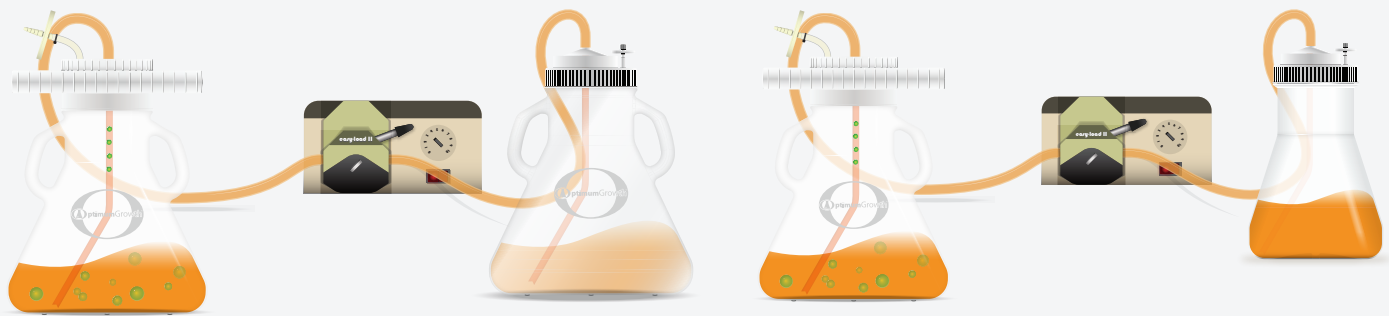


# Rapid Clear.®

## Rapid Clear® Cap 3000

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Filter using Rapid Clear® Cap 3000 from one Optimum Growth™ 5L Flask to another 5L Flask

Filter using Rapid Clear® Cap 3000 from one Optimum Growth™ 5L Flask to a 2.8L Optimum Growth™ Flask for storage

