

# Automated, water-free vial thawing systems

SAFE THAWING FOR CRYOPRESERVED  
BIOLOGIC MATERIALS

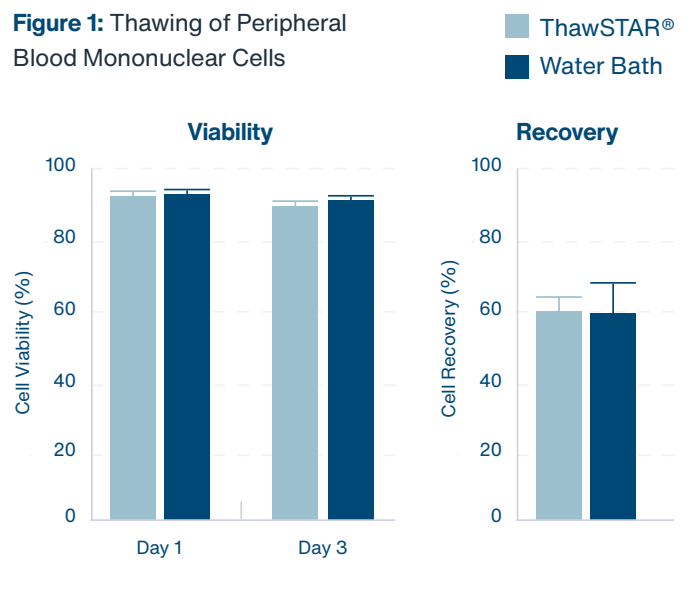


ThawSTAR<sup>®</sup> Automated Thawing Systems were designed to provide a water-free, uniform, and reproducible warming profile for frozen biologics suspended in various primary containers. The ThawSTAR technology provides sensor-based thawing algorithms designed to deliver consistent thawing outcomes.

## ADVANCED THAWING VALUE:

- ⦿ **Automation and standardization** – ThawSTAR products ensure consistent thawing results with reproducible algorithms designed to eliminate manual processing.
- ⦿ **Reduced contamination exposure** – ThawSTAR solutions are 100% water-free, eliminating sample contamination risks often associated with water baths and other thawing systems.
- ⦿ **Programmed precision** – For optimizable ThawSTAR models, thawing algorithms may be customized to the specific container and biologic. Qualified BioLife technicians will tailor the program to maximize thaw outcome.
- ⦿ **Qualifiable** – ThawSTAR Systems are qualifiable and can be scaled into end point of use facilities.

**Figure 1:** Thawing of Peripheral Blood Mononuclear Cells



**Figure 1:** Cell viability (left panel) and recovery (right panel) of PBMC were measured using trypan blue exclusion on a hemacytometer. Recovery is the number of viable cells post-thaw as a percentage of the pre-freeze viable cells. No statistical difference in viability (2-way ANOVA with post hoc Sidak test) or recovery (unpaired two-tailed t-test) at  $p < 0.05$  were found. Data courtesy of Dr. Mars Stone at the Blood Systems Research Institute.

## Available in various models to support R&D, commercial manufacture, and end point of use.



| Product Family                 | ThawSTAR <sup>®</sup> CFT                   |   | ThawSTAR <sup>®</sup> CSV                   |   | ThawSTAR <sup>®</sup> AT                              |   |   |  |
|--------------------------------|---|---|---|---|---|---|---|--|
|                                | ThawSTAR CFT1.5                             | ThawSTAR CFT2                               | ThawSTAR CSV2                               | ThawSTAR CSV5                               | ThawSTAR AT1  | ThawSTAR AT2  | ThawSTAR AT6  | ThawSTAR AT10  |
| Product Name                   | ThawSTAR CFT1.5                             | ThawSTAR CFT2                               | ThawSTAR CSV2                               | ThawSTAR CSV5                               | ThawSTAR AT1  | ThawSTAR AT2  | ThawSTAR AT6  | ThawSTAR AT10  |
| Compatible Vials               | Nalgene <sup>®</sup> 5000 – 1020            | Most major vial manufacturers               | 2.0 mL CellSeal <sup>®</sup> Vials          | 5.0 mL CellSeal <sup>®</sup> Vials          | 1.0 mL Aseptic Technologies Closed Vials <sup>®</sup> | 2.0 mL Aseptic Technologies Closed Vials <sup>®</sup> | 6.0 mL Aseptic Technologies Closed Vials <sup>®</sup> | 10 mL Aseptic Technologies Closed Vials <sup>®</sup> |
| Recommended Fill Volume        | 0.8 – 1.5 mL                                | 1.0 – 2.0 mL                                | 1.0 – 2.0 mL                                | 2.5 – 5.0 mL                                | 1.0 mL  | 0.5 – 2.0 mL  | 2.0 – 5.0 mL  | 4.0 – 8.0 mL   |
| Thaw Time                      | <3 mins                                     | <3 mins                                     | <3 mins                                     | <3 mins                                     | 3 – 8 mins, varies by vial size                       | 3 – 8 mins, varies by vial size                       | 3 – 8 mins, varies by vial size                       | 3 – 8 mins, varies by vial size                      |
| Dimensions (Diameter x Height) | 11.0 x 14.5 cm (4.3 x 5.7 in)               | 11.0 x 14.5 cm (4.3 x 5.7 in)               | 10.9 x 14.5 cm (4.3 x 5.7 in)               | 10.9 x 14.5 cm (4.3 x 5.7 in)               | 11.0 x 14.5 cm (4.3 x 5.7 in)                         | 11.0 x 14.5 cm (4.3 x 5.7 in)                         | 11.0 x 14.5 cm (4.3 x 5.7 in)                         | 11.0 x 14.5 cm (4.3 x 5.7 in)                        |
| Compliance                     | CE mark (IEC61326 and IEC61010), RoHS, WEEE | CE mark (IEC61326 and IEC61010), RoHS, WEEE | CE mark (IEC61326 and IEC61010), RoHS, WEEE | CE mark (IEC61326 and IEC61010), RoHS, WEEE | CE mark (IEC61326 and IEC61010), RoHS, WEEE           | CE mark (IEC61326 and IEC61010), RoHS, WEEE           | CE mark (IEC61326 and IEC61010), RoHS, WEEE           | CE mark (IEC61326 and IEC61010), RoHS, WEEE          |
| Voltage                        | US, EU, UK                                  | US, EU, UK                                  | US, EU, UK                                  | US, EU, UK                                  | US, EU, UK  | US, EU, UK  | US, EU, UK  | US, EU, UK   |
| Input/Output Voltage           | AC 100 - 240V, 50 - 60 Hz<br>12V DC, 5.0A   | AC 100 - 240V, 50 - 60 Hz<br>12V DC, 5.0A   | AC 100 - 240V, 50 - 60 Hz<br>12V DC, 5.0A   | AC 100 - 240V, 50 - 60 Hz<br>12V DC, 5.0A   | AC 100 - 240V, 50 - 60 Hz<br>12V DC, 5.0A             | AC 100 - 240V, 50 - 60 Hz<br>12V DC, 5.0A             | AC 100 - 240V, 50 - 60 Hz<br>12V DC, 5.0A             | AC 100 - 240V, 50 - 60 Hz<br>12V DC, 5.0A            |
| Power Rating                   | 12V DC, 3.0A                                | 12V DC, 3.0A                                | 12V DC, 3.0A                                | 12V DC, 3.0A                                | 12V DC, 3.0A  | 12V DC, 3.0A  | 12V DC, 3.0A  | 12V DC, 3.0A   |



### Additional ThawSTAR<sup>®</sup> Transporters

ThawSTAR Transporters were designed specifically to move ultracold samples from their long-term storage freezers to the thawing system. Comprised of an insulative foam layer and lid with space for dry ice and various samples, ThawSTAR Transporters are an ideal temporary holding solution until all samples have been thawed and processed. **Not compatible with ThawSTAR CSV models and CellSeal<sup>®</sup> Vials.**



Contact [SalesOne@biolifesolutions.com](mailto:SalesOne@biolifesolutions.com) for more information or to place an order.