



# WPF-D

## Plasma and stem cells thawers

The most advanced patented thawer on the market

# the Company

KW is one of the most dynamic and innovative companies, leader in the design and production of controlled temperature devices down to  $-150^{\circ}\text{C}$ , which stands out for its high reliability, wide range and customization capabilities. The company has a strong experience in the scientific equipment segment, also with "medical devices" certification, and a large network of sales and after-sales service centers. Thanks to the continuous investments in organization and technologies, KW has achieved a significant improvement in positioning as a leader in the sector.



## Industry 4.0

The company adopts the principles of interconnection of resources to offer the highest quality of processes and products. The devices are equipped with monitoring and connection systems that allow remote support and maintenance. The "KW total assistance" service (thanks to our worldwide service network, where present) allows to delegate the management of the machines to ensure maximum safety of storage.

# mission

The Company aims at a continuous improvement of products and process performances to offer the best technological solutions to the medical field, technical-scientific research and industry sectors.

# WPFD

Plasma and stem cells thawers  
European patented



The line of Thawers has been developed thanks to the partnership between KW and different Key Opinion Leaders of clinical, industrial and research worlds. The product is the gold standard of thawers, granting a fast and safe experience to the final user. The product is covered by the European patent N. EP12425056 that protects the innovative involved technology and solutions.

## main features

- WPF2 2/4 for 2x 1.000ml or 4x 460ml bags
- WPF2 3/6 for 3x 1.000ml or 6x 460ml bags
- Antibacterial plastic material and AISI 316 for maximum hygiene
- Complete separation between the plasma bags and the heating water for maximum safety
- Independent pockets for dry thawing
- Washable pockets, sterilizable in case of leakage of the bags
- Dedicated temperature probe for each bag for a complete control of thawing cycle for maximum reliability of the system
- Different thawing cycle for each pocket
- Low noise (less than 35dB) and absence of vibrations
- Barcode reader and RF-ID detector for bags management with PC-based software for data analysis (Optional)
- 7" TFT touchscreen display for maximum parameter's visibility
- USB/LAN ports for data exchange

Medical device systems certified under international regulation  
**UE 2017/745 MDR Class I**  
for blood and its derivatives management.



The KW thawers line, which has several sensors in each pocket, continuously keeps the temperature of each bag under control, ensuring total traceability of the whole thawing process and the perfect homogeneity of the thawed plasma. Thanks to the new water pumps, the systems can subject the bag to a hydro massage treatment, so that the plasma, at the end of thawing, becomes homogeneous by achieving a better quality.



# main features

It's possible to define, for each of the pockets, the following operating parameters:

- End of cycle temperature
- End of cycle time
- Thermal vector's set point
- Bag's number
- Warming mode for heating blood components and solutions for infusions

The temperature of each cycle can be controlled during the whole process: when the temperature limit is reached, the cycle is automatically stopped.

## controller

- 7" TFT touch screen
- Data Logger capabilities for thawing cycles and alarms
- Internet connectivity
- 2x USB ports
- LAN port
- SD slot

## optionals

- Wi-Fi connectivity
- Bar code reader
- RF-ID detector

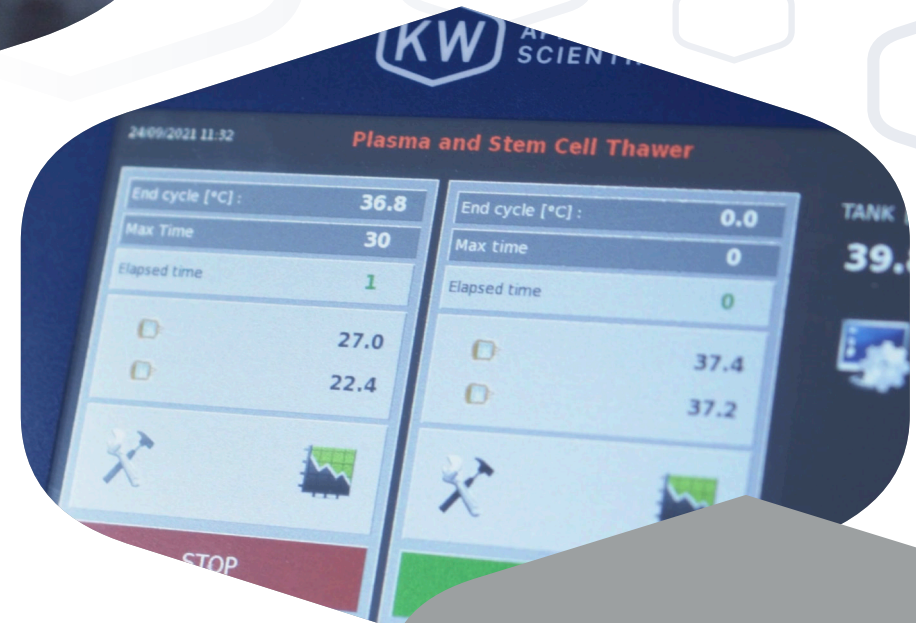


## Separated pockets

The separated pockets allow the activation of the thawing processes in totally independent ways.

## Asynchronous and uniform thawing

The WPFD line is a real novelty in the thawing market. Plasma and stem cells bags can be thawed in complete fast, safe and independent ways granting the easiest working experience for the user. Up to three different thawing cycles can be activated simultaneously granting the maximum flexibility of the use.



## Dry heating

Absence of contact between the thawing liquid and the bags. In case of bag leakage there is no need of complete water replacing while a simple cleaning of the pocket is enough.

## Massage

The heating is uniform thanks to a continuous water massage of the bags.

## total traceability and real time monitoring

During the use, it is possible to trace every phase of the thawing process: the system, by reading barcodes or RF-IDs, can recognize the operator, the type of bag and therefore from the bag trace the donor. All information is automatically stored in the internal memory of the device and can be transferred automatically on the local network, thanks to the ethernet connection and USB port.

### Bags identification

The machine can be equipped with an optional barcode reader which allows to recognize, store and record the identification data of the bag and the operator for each thawing cycle. Bags RF-ID tags can also be read with dedicated optional accessory, making the system ready for the introduction of this new management technology.

### Cycle recording/identification

The thawer stores the cycle operating data once a minute on an internal SD Card. Through an optional bar code reader, every cycle can be completely traced reducing the possibility of human errors and granting the maximum safety of the whole process. Thanks to the wide 7" TFT touchscreen display the whole process is under control: color graphics and visual/acoustic alarms guide the operator during the complete process.

### Access and safety control

Each user can be associated with a password that grants different levels of access and functions:

- Cycle start / stop
- Parameters management
- Modality selection
- Alarm shut off

### Network interfacing

Thanks to the LAN port, the system can be interfaced with the management system used by the blood bank, allowing the remote storage of all thawing process data.





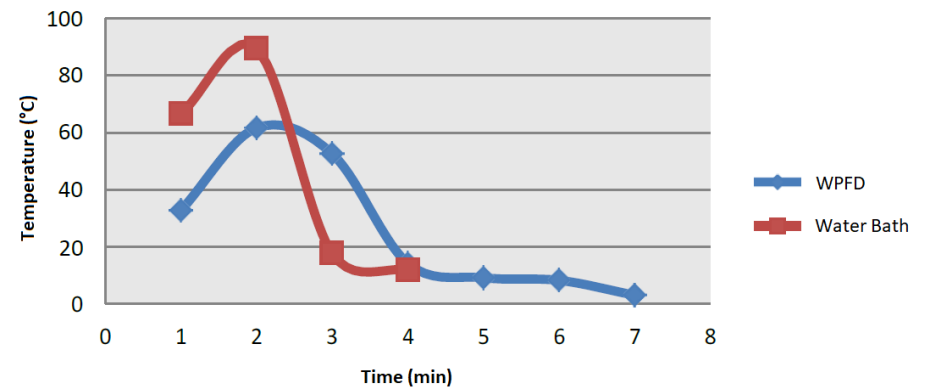
# stem cells thawing

(Clinically validated)

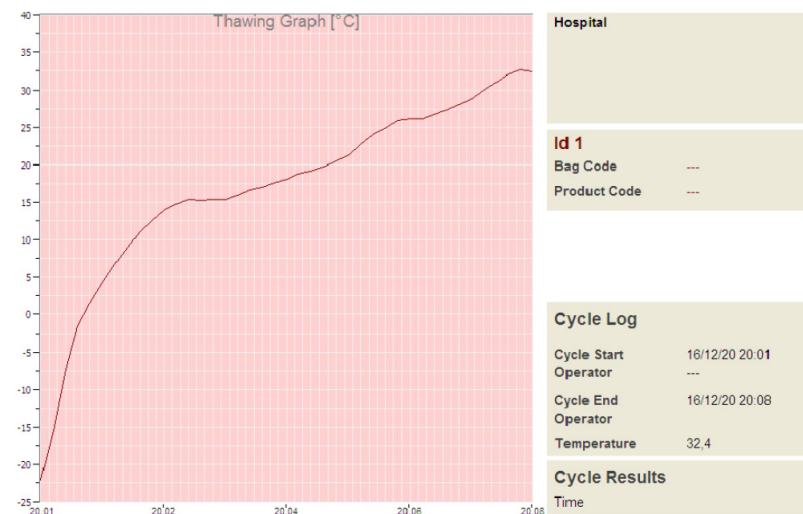
Several clinical experiences of hematopoietic stem cells thawing conducted in Italian laboratories (\*) validated the WPFDF line of KW for the use with stem cells.

- The graphs of thawing and subsequent heating of the stem cells are perfectly superposable to those made with the classic method of thawing in use (water bath @ +37°C).
- Thanks to the water massage, **there is an average temperature increase of the stem cells more linear compared to classic water bath, ensuring a lower thermal shock to the cells.**
- The post thawing recovery for CD34+ cells and leukocytes is similar or even better with KW's thawer, compared to traditional processes.
- The process of stem cells handling is safer and supported by a documented traceability, extremely useful for the evolution of the laboratories in terms of processes' quality management.

## Average temperature increment



## Thawing cycle WPFDF



\* V.Becherucci, L.Piccini, V.Gori, S.Bisin, B.Bindi, R.Ceccantini, P.Pavan, V.Cunial, S.Ermini, F.Brugnolo, F.Bambi, Leukapheresis for autologous stem cell transplantation: comparative study of two different thawing methods WSCFD® Stem Cell Fast Thawer KW versus 37°C thermostatic bath. Transfusion and Apheresis Science, Volume 53, Issue 3, December 2015, Pages 342-347.





**technical specifications**



		WPFD 2/4	WPFD 3/6
<b>TECHNICAL CHARACTERISTICS</b>			
THERMAL FLYWHEEL		25lt	38 lt
TEMPERATURE RANGE		Tamb+5°C/+50°C	Tamb+5°C/+50°C
POWER SUPPLY		230V/50Hz	230V/50Hz
NOMINAL POWER		685W	750W
NOISE LEVEL (SOUND PRESSURE LEVEL, 1M)		< 35dB(A)	< 35dB(A)
<b>STRUCTURE</b>			
INTERNAL SURFACE		Antibacterial HDPE	Antibacterial HDPE
EXTERNAL SURFACE		Antibacterial HDPE	Antibacterial HDPE
DOORS SURFACE		Antibacterial ABS	Antibacterial ABS
EXTERNAL SIZES LXPXH MM		390 x 640 x 420	550 x 640 x 420
WEIGHT		25Kg	40Kg
INSULATION		-	-
INTERNAL CHARACTERISTICS	POUCHES	2	3
	MAX BAGS (600ml FFP)	2	3
	MAX BAGS (260ml FFP)	4	6
	MAX BAGS (100ml STEM. CELLS)	2	3
CONTROLLERS	HPL	X	X
CONNECTIVITY	TCP/IP Board (Modbus Protocol)	X	X
	USB 2.0 Slot (File Management with Tracer SW)	X	X

**NOTE:** In emergency situation, the maximum capacity is 6 bags (3x2) of 260ml for WPFD 2/4 and 9 bags (3x3) of 260ml for WPFD 3/6.

**kwwk.it**

*Technologies for life sciences*



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