Global Operation

Global Operation

1. JMS North America Corporation
2. JMS Healthcare Thailand Co., Ltd.
3. BIONIC MEDIZINTECHNIK GmbH
4. JMS Dalian Medical Supply CO.,LTD.
5. JMS HIROSHIMA & TOKYO HEADQUARTERS
6. JMS (K) MEDICAL SUPPLY CO.,LTD.
7. JMS Singapore PTE.LTD
8. PT.JMS BATAM
9. JMS Healthcare PHL, Inc.
10. JMS Transfusion Technology CO., LTD.

Sales Contact Information

JMS Singapore Pte Ltd
440 Ang Mo Kio Industrial Park 1,
Singapore 569620
Tel: (+65) 6457-1144
Fax: (+65) 6549-9564
Email:sales@jmss.com.sg

Production Address

JMS Transfusion Technology CO., LTD.
No.8 Xiangshanhe Road, Shanbei Village,
Jingang Town, Zhangjiagang City,
Jiangsu Province, 215632, PRC.
Tel:+86 (0) 512-5839-5800 (Main)

Version: JMSTT-CAT-EN-02
Date of Printing: 2025/4

Comprehensive Leukoreduction Solutions

COMPANY OUTLINE

JMS Spirit

"We focus on the understanding and empathy with healthcare professionals.
We collect feedback from healthcare professionals to provide solutions."
"The hands-on approach of our founder as a physician is inherited."
"Identify detailed needs by visiting on-site and interviewing staff. "
"Add unique JMS value to safety and efficiency aspects based on our develop technologies."

JMS Transfusion Technology CO., LTD.

As a member of JMS Group, JMS Transfusion Technology CO., LTD.
("JMSTT") started since 2023.
JMSTT is the world's leading manufacturer of filters for leukocyte reduction from blood components for transfusion.
Established in 1999, we are a wholly owned subsidiary corporation of JMS Group.
By absorbing leukocytes in an ultrafine nonwoven fiber membrane, our filters help to prevent advserse reactions to transfusion such as headache, chills, or fever. Our filters have been widely used around the world, heightening the quality and safety of blood products for transfusion, and contributing to the progress of transfusion therapy.

"THE BRIDGE TO GOOD HEALTH CARE"

BUSINESS HISTORY

1999
Zhangjiagang Gaolite Medical Device Co., Ltd. established in China

2000
Leukocyte reduction filter for domestic use launched

2008
Adopted official supplier at Beijing Olympic Game

2012
A joint venture with Asahi Kasei Medical Co., Ltd. started

2013
P.R. China registration certificate for medical device obtained.

2014
ISO13485 and CE Marking certification obtained

2015
Company name changed from Zhangjiagang Gaolite Medical Co., Ltd to GLT Medical Co., Ltd.
Leucolite™ launched for overseas use

2016
Export business started

2019
Wholly owned by Asahi Kasei Medical Co., Ltd. and changed the name to Asahi Kasei Transfusion Technology Co., Ltd.

2022
Migrated to New Plant

2023
Wholly owned by JMS Singapore Pte. Ltd. and changed the name to JMS Transfusion Technology CO., LTD.

WHY IS LEUKOCYTE REDUCTION NEEDED?

The Clinical Benefits of the Leukocyte Reduction of Blood Products

Side effects can be avoided if residual leukocytes are reduced to around 10^6, which most researchers currently agree is the target.

How Many Leukocytes are found in Various Blood Products?

Blood products contained large number of leukocytes. This varies with the product.

Figure1 Approximate residual number of leukocytes in blood components (/unit)

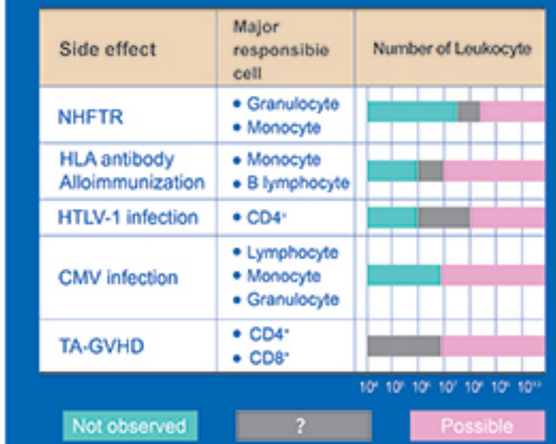
Fresh whole blood	10^9
Red cell concentrate	10^8-10^9
Buffy coat-depleted red cells	10^8
Washed red cell concentrate	10^7
Frozen deglycerolized red cells	10^6-10^7
Platelet concentrate	10^7-10^8
Apheresis platelets	10^5-10^8
Fresh frozen plasma	$<10^4$

Source: Leukoreduced blood components: Advantages and strategies for its implementation in developing countries, Asian Journal of Transfusion Science,2010 Jan; 4(1):3-8

How Many Leukocytes need to be Removed?

The following graph shows the relationship between the amount of residual leukocytes and adverse reactions, if the number of the residual leukocytes are reduced to around 10^6, these side effects can be prevented.

Figure2 Relationship between the number of residual leukocytes and adverse reactions



Source:New leukocyte reduction filter for blood transfusion. Surgical diagnosis and treatment 1999: 33(3): 387(71) 395(79)

Putative Clinical Benefits of Leukocyte Reduction

A. Proven relevant clinically:

1. Reduced frequency and severity of NHFTRs;
2. Reduced risk of CMV transmission;
3. Reduced risk of HLA-alloimmunization and platelet refractoriness.

B. Likely clinically relevant:

4. Reduced infections risk associated with immunomodulation (TRIM);
5. Reduced organ-dysfunction and mortality;
6. Reduced direct risk of transfusion-transmission bacteria.

C. Unproven clinically:

7. Avoidance of vCJD transmission.
8. Avoidance of HTLV I/II, EBV etc.
9. Reduced risk of GVHD.
10. Reduced risk of TRALI.

Source: Leukoreduced blood components: Advantages and strategies for its implementation in developing countries, Asian Journal of Transfusion Science, 2010 Jan; 4(1):3-8

Some of the clinical conditions which benefit from leukocyte-reduced blood are:

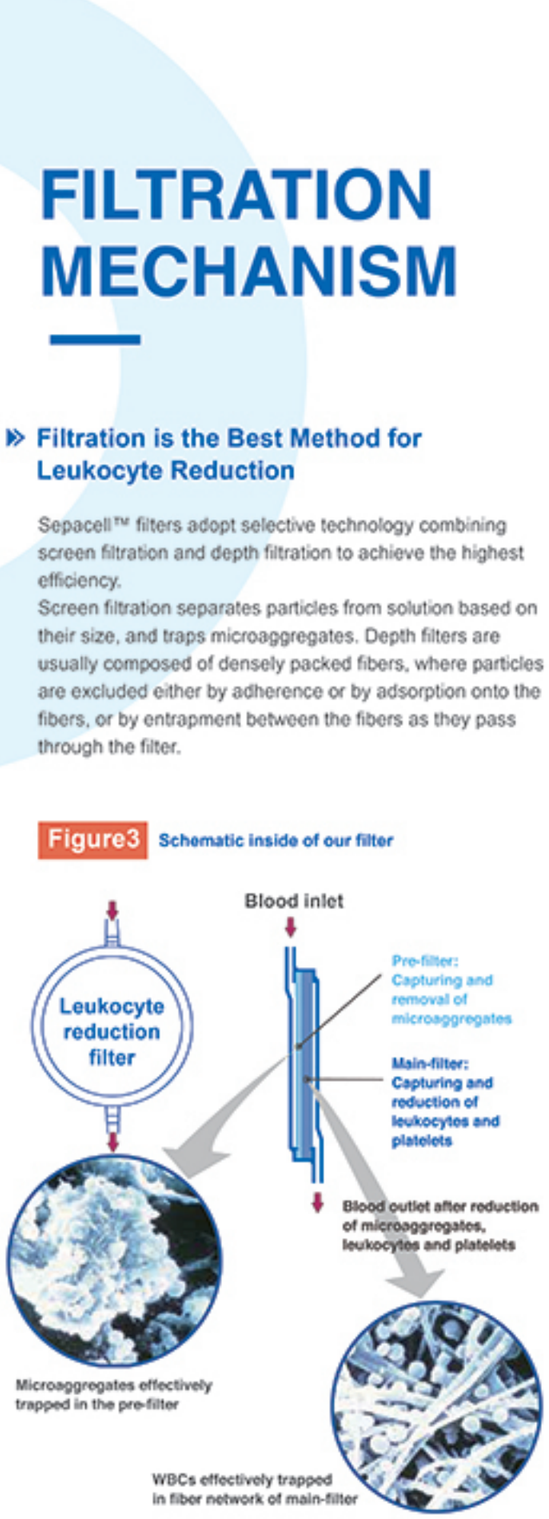
- **Multiply or chronically transfused patients such as;**
  - -Thalassemia major
  - -Aplastic anemia
  - -Sickle cell anemia
  - -Leukemia
- **Patients awaiting organ transplantation**
- **Patients of thrombocytopenia with platelet refractoriness**

FILTRATION MECHANISM

Filtration is the Best Method for Leukocyte Reduction

Sepacell™ filters adopt selective technology combining screen filtration and depth filtration to achieve the highest efficiency.
Screen filtration separates particles from solution based on their size, and traps microaggregates. Depth filters are usually composed of densely packed fibers, where particles are excluded either by adherence or by adsorption onto the fibers, or by entrapment between the fibers as they pass through the filter.

Figure3 Schematic inside of our filter



This shows the cross section of the present configuration of a red cell filter.
There is a pre-filter to remove microaggregates, followed by a main filter to reduce leukocytes and platelets.

Figure4 Conceptual diagram of depth filtration

What Affects Leukoreduction Performance?

◆ Types of Fibers

- Surface Hydrophobicity, chemical treatment of the fibers (hydrophilic, hydrophobic)
  Surface Charge
- Fiber Diameter, Density, Total Fiber Surface Area, and/or Mean Pore Diameter

◆ Properties of Blood

- Temperature
  Cold Filtration:
  Better WBC Reduction,
  Slow Flowrate and Filtration
  Room Temperature Filtration:
  Fast Flowrate and Filtration
- Age of the Blood
- Donor Dependent Factors

◆ Blood Processing Conditions

- Type of Components, Handling, Storage and Processing

Sepacell™ is a trademark of Asahi Kasei Life Science Corporation

PRODUCT RANGE INTRODUCTION

We are providing various leukocyte reduction related products

TYPICAL FILTER PRODUCT

» Whole blood filtration

Hard Housing

- GLT-H7
- GLT-H9

» RBC filtration

Hard Housing

- GLT-A8
- GLT-A9
- GLT-E9

Soft Housing

- Sepacell RS2

Hard Housing Product Features

- Designed for both inline systems and dry kit products
- High consistency and reliability
- High leukocyte reduction
  (meeting the EU standard and the AABB requirement)
- Ease of use and priming
- Minimum filter-housing dead volume
- High efficiency platelet (PLT) removal

» 3 filter sizes are available

- Filter size 7 (diameter size of filter housing is 75mm)
  for small volume filtration whole blood (WB) volume 200 – 350mL
- Filter size 8 (diameter size of filter housing is 80mm)
  for medium volume filtration whole blood (WB) volume 350 – 400mL
- Filter size 9 (diameter size of filter housing is 90mm)
  for large volume filtration whole blood (WB) volume 400 – 500mL

Soft Housing Product Features

- Designed for 1 unit of RBC inline systems
- High consistency and reliability
- High leukocyte reduction
  (meeting the EU standard and the AABB requirement)
- Short filtration time
- High RBC recovery
- DEHP-free PVC housing
- Ease of use and priming
- High chemical and biological safety
- Serial number printed for back tracking

» Examples of Filter Performance

Filtration Requirements		GLT-H9	GLT-E9	GLT-A9	Sepacell RS2
Referred Guidelines		EU Guideline			
Blood Product		Whole Blood	Red Blood Cell	Red Blood Cell	Red Blood Cell
WB Volume		450mL + CPD			
Residual Leukocyte (/unit)		<1 x 10^6 (90% Conformance)			
Storage	Time	<20 hours	<5 days	5 days to 14 days	<24 hours
	Temperature	Room Temperature	Cold Stored (4±2°C)	Cold Stored (4±2°C)	Room Temperature
RBC Recovery (%)		>85%	>85%	>85%	>85%
Optimal Condition		Fresh Blood	Cold Blood	Cold Blood	Fresh Blood

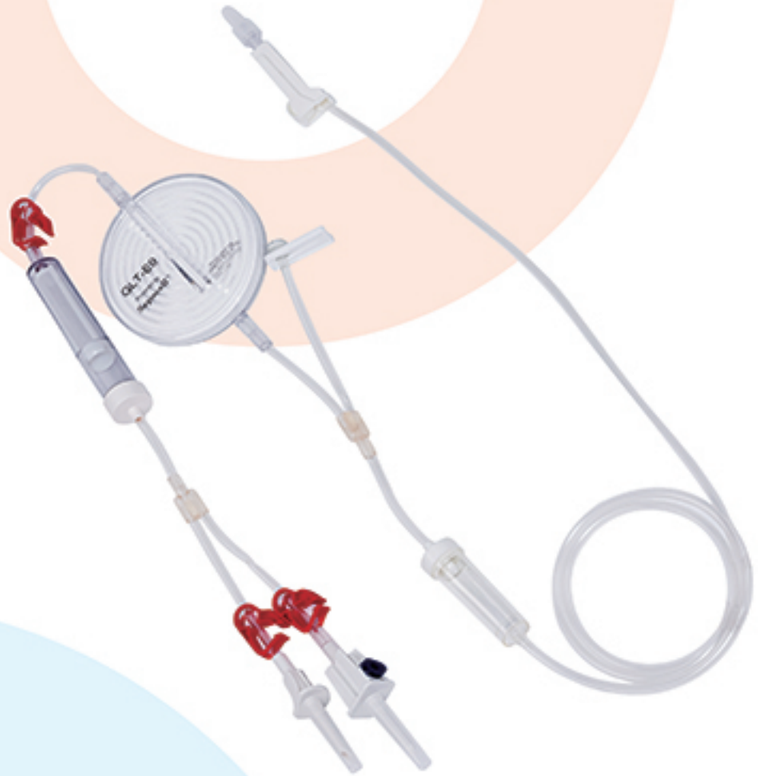
TYPICAL KIT PRODUCT

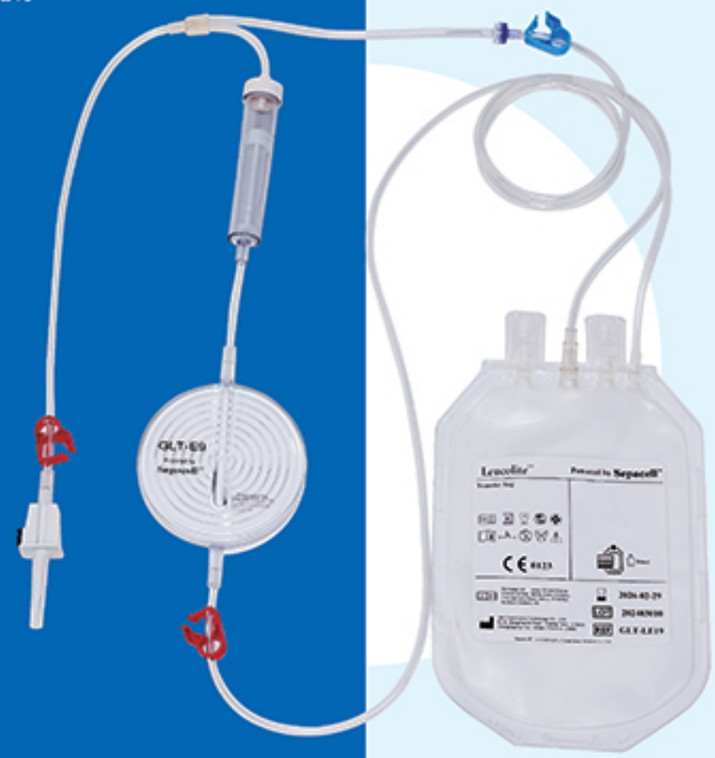
For bedside use

- GLT-BA18/GLT-BA19
- GLT-BE18/GLT-BE19

For laboratory use

- GLT-LA18/GLT-LA19
- GLT-LE18/GLT-LE19





Features and Benefits

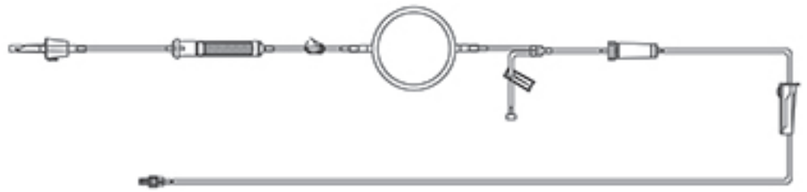
High WBC reduction
High RBC recovery
User friendliness (Ease of use)
Short filtration time
Minimal volume loss
2 filter types are available -A8/E8:Higher RBC recovery -A9/E9:Higher leukoreduction rate & shorter filtration time
Available for different RBC conditions -A8/A9: 5 days to 14 days of 4±2℃ stored RBC -E8/E9: <5 days of 4±2℃ stored RBC * 0 day = 2 hours to 8 hours after donation

Configurations

Maximum of filtration volume is one unit of RBCs concentrate (prepared from 500mL whole blood)

Typical Image for Bedside Use:

GLT-BA18/GLT-BA19/GLT-BE18/GLT-BE19



Typical Image for Laboratory Use:

GLT-LA18/GLT-LA19/GLT-LE18/GLT-LE19