

Whole Workflow
Walk-Away Automation



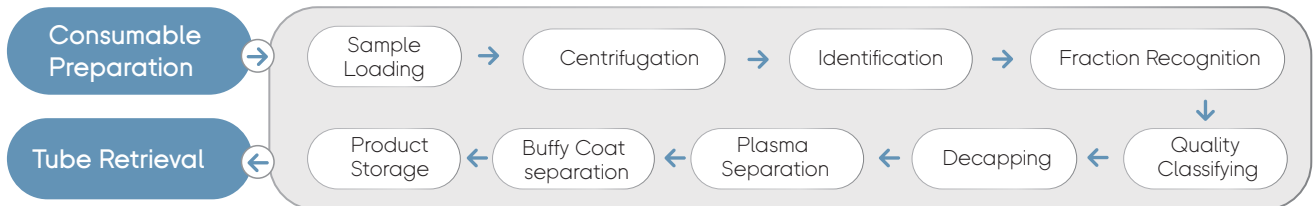
MGIGLab-S

Automated Blood Fractionation Production Line

Product Description

MGIGLab-S Automated Blood Fractionation Production Line, integrated Loading/Unloading, Centrifuge, Information Collection, Buffy Coat Separation, Plasma Separation and Product Storage Module as well as Consumable Stack Area, assembling a large number of manual steps and different individual instruments into a closed system, is used for the whole fractionation workflow and walk-away automation from blood to Plasma & Buffy Coat, making an annual production output of 500,000 blood samples possible.

- ① Loading/Unloading Module
- ② Centrifuge Module
- ③ Information Collection Module
- ④ Buffy Coat Separation Module
- ⑤ Plasma Separation Module
- ⑥ Product Storage Module
- ⑦ Consumable Stack Area



Product Features

Safe

Whole blood fractionation workflow in a closed system without cross contamination

Stable

Automated sample tracking, less manual errors

Efficient

1000 samples/8h, walk-away automation
10-1000µl Pipetting volume, automated plasma & buffy coat volume calculation



Intelligent

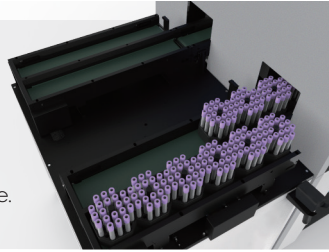
Intelligent and flexible sample scheduling, real-time uploading sample status and pipetting information

System Design

System Design

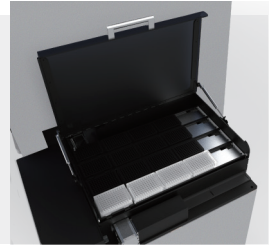
Sample Throughput:
0-240 tubes/time.

Blood Collection Tube:
5 ml EDTA & Geneseek tube.



Product Storage Module

Product Storage Throughput:
5 columns, each for 4 deep-well plates or frozen tube racks.



Information Collection Module

Sample Tracking: Tube image capture and barcode identification.

Sample Quality Check: Classifying sample quality into different categories - Normal/Hemolytic/Lipemic/Empty Tube.

Blood Fraction Recognition: Accuracy $\pm 1\text{mm}$, plasma volume calculation, buffy coat height calculation.

Tube Decapping: 360° rotation.



Buffy Coat Separation Module

Buffy Coat Separation Throughput:
1-2.

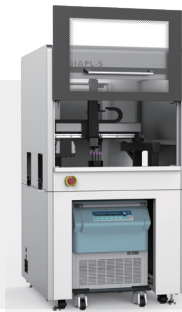
Buffy Coat Storage Labware:
Frozen tube with QR code on the bottom.



Centrifuge Module

Centrifuge Speed:
6200 RPM (5800 g RCF).

Tube Type Identification:
Sample & balancing tube identification by cap color.



Plasma Separation Module

Plasma Separation Throughput:
1-3.

Plasma Storage Labware:
Deep-well plate or frozen tube with QR code on the bottom.

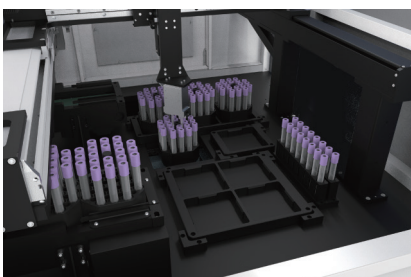


Consumable Stack Area

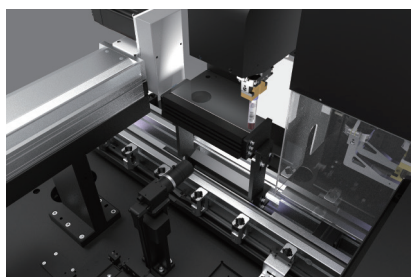
Consumable Storage Throughput:
Tip box, deep-well plate and frozen tube rack for 8x96 samples.



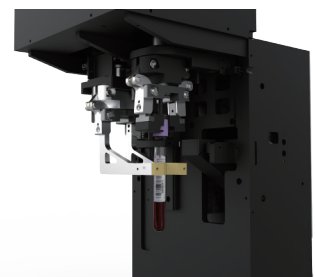
Sample Gasket Handling



Tube Image Capture



360° Rotation Decapping

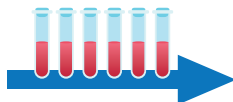


User Case

General semi-automated
Plasma Separation Process



5 Technicians 8 hours/day
8 semi-automated workstations
35 m²



Automated Blood Fractionation
Production Line



1 Technician 8 hours/day
1 production line
15 m²

Specifications

Sample Throughput	1000 samples/8 h
Blood Collection Tube	5 ml EDTA & GeneseeK Tube
Barcode Scanning	Barcode on blood collection tube, Code 128/Code 39/Codabar. QR code on the bottom of frozen tube.
Centrifuge Unit	Centrifuge Speed: 6200 RPM (5800 g RCF).
Image Capture Unit	Sample Tracking: Tube image capture and barcode identification. Sample Quality Check: Sample quality classifying into different categories - Normal/Hemolytic/Lipemic/Empty Tube. Blood Fraction Recognition: Accuracy ±1mm, plasma volume calculation, buffy coat height calculation. Tube Type Identification: Sample & balancing tube type identification by cap color.
Buffy Coat Separation	Buffy Coat Separation Throughput: 1-2. Buffy Coat Storage Labware: Frozen tube with QR code on the bottom.
Plasma Separation	Plasma Separation Throughput: 1-3. Plasma Storage Labware: Deep-well plate or frozen tube with QR code on the bottom.
Pipetting Unit	Pipetting volume: 10-1000 µl Automated liquid level detection: Accuracy ± 1.5 mm
Product Storage	5 columns, each for 4 deep-well plates or frozen tube racks.
General Specifications	Dimension: 6000 mm(W) x 1275 mm(D) x 1760 mm(H) Weight: 1500 kg Working Environment: 19 to 25 °C , 20 to 80% RH(Non-condensation), 80 to 106 kPa Power Requirement: 200-240 V, 50/60 Hz, 3300 VA

CONTACT US

MGI Tech Co., Ltd

Building 11, Beishan Industrial Zone, Yantian District, Shenzhen

✉ MGI-service@genomics.cn 🌐 www.mgitech.cn ☎ 4000-966-988

Copyright Disclaimer

The copyright of this brochure is solely owned by MGI Tech Co. Ltd.. The information included in this brochure or part of, including but not limited to interior design, cover design and icons, is strictly forbidden to be reproduced or transmitted in any form, by any means (e.g. electronic, photocopying, recording, translating or otherwise) without the prior written permission by MGI Tech Co., Ltd.. All the trademarks or icons in the brochure are the intellectual property of MGI Tech Co., Ltd. and their respective producers.

