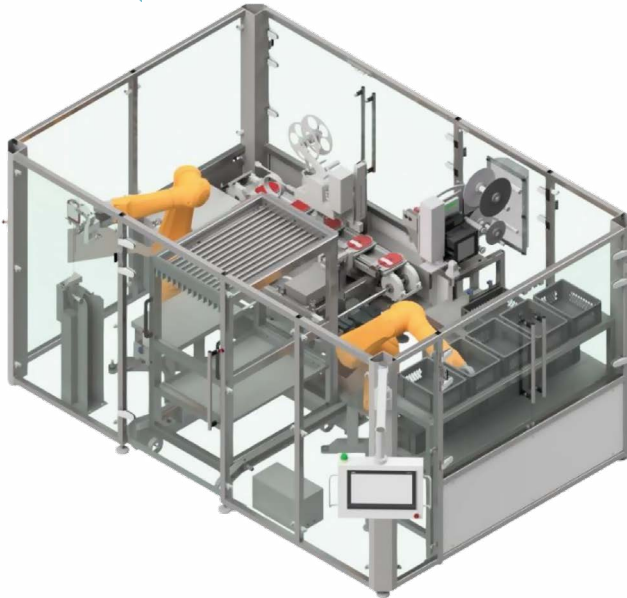
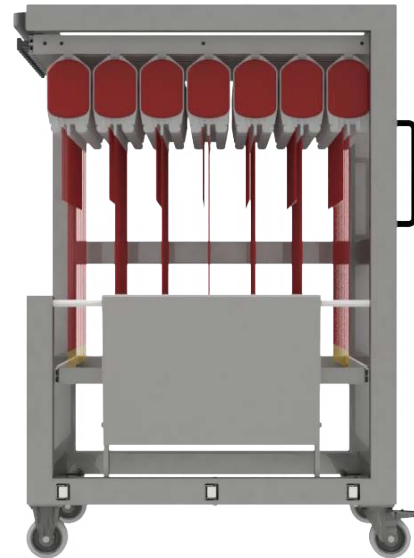


# ABBPS Automated Blood Bag Processing System



ABBPS line, general arrangement



Loading Trolley with blood bags

## Automated blood bag processing for blood banks and blood services

The ABBPS (Automated Blood Bag Processing System) is an automated line for processing blood bags, engineered to take over the manual, repetitive work of tube stripping, sealing, bundling, labeling and sorting.

Bags are loaded manually onto a mobile trolley and handled by robots from that point on. Each bag is identified by barcode at infeed; the tube is stripped, sealed in segments and bundled, and the bundle is attached to the bag. The bag is then verified against the customer lab database. A new label is printed and applied, the print is verified, and the bag is sorted by blood type to a release bin. Bags that fail identification or verification are directed to separate bins for manual handling, not to release bins.

Designed for traceability, with every bag identified at infeed and every printed label verified.

Ideal for blood services automating in stages, starting with a segmenting-only line.

### Typical Applications

- Automated labeling and verification of red blood bags
- Tube stripping, sealing and segment bundling
- Sorting by blood type to release bins



Touchscreen HMI



Robotic blood bag handling



Robotic sorting to bins

Unique technologies powered  
by advanced engineering



ABBPS

# Automated Blood Bag Processing System



## Key Features

- Automatic stripping, sealing and bundling of blood bag tubes
- Robotic infeed and sorting within hardened-glass guarding
- Mobile loading trolleys; standard trolley holds 91 blood bags
- Trolley size and number configurable to shorten processing time
- Tube sealed in seven segments; seventh segment separated to waste
- Barcode identification of each bag at infeed
- Thermal transfer label print, apply and verification
- Traceability with audit trail and electronic records

## Standards & Regulatory

- **Electrical:** IEC 60204-1 / NFPA 79, UL 508A, NEC
- **CE marked:** cGMP construction; Regulation (EU) 2023/1230
- **Documentation:** cGDP-based, version controlled, in English
- **FDA 510(k):** Dec Group supports US customers through the 510(k) regulatory process

## Control & Monitoring

- Siemens or Allen-Bradley PLC and touch-panel HMI, with industrial PC
- Real-time status, alarms and process data on the HMI
- User access levels; time-stamped alarms in a secured database
- FDA 21 CFR Part 11 compliant control system
- UPS saves batch data on power loss
- Secure remote connection according to ISO/IEC 27002

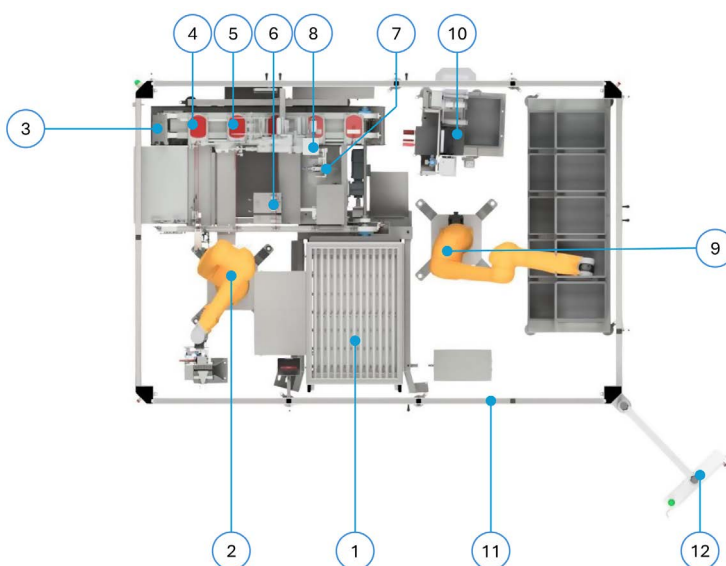
## Options & Services

- Batch reporting
- Lab-database interface and integration services
- Design documentation and qualification set (FS/SDS/HDS/DQ)
- FAT, installation, commissioning and SAT by Dec Group engineers
- Segmenting-only line as a first step to automation, without labeling and sorting
- Service Level Agreements

## Technical Data

- **Capacity:** up to 1150 blood bags per 8 hours\*
- **Blood bag formats:** validated for Terumo and Fresenius bag sets; change parts per bag type; reference format 235–325 mL, cross tube 650–710 mm, pigtail 250 ±5 mm
- **Line dimensions:** L 3.85 / W 2.6 / H 2.0 m (HMI excluded); electrical cabinet L 1.6 / W 0.6 / H 2.2 m\*
- **Blood bag contact parts:** AISI 316 ( $R_a \leq 1.6 \mu\text{m}$ ), UHMWPE 1000 or POM-C; frame AISI 304; hardened-glass guarding
- **Power supply:** 380 - 500 VAC, 3-phase 3+N, 50/60 Hz
- **Compressed air:** 6 barg, instrument quality, dry, unlubricated
- **Environment:** 18 - 25 °C, 20 - 65 % RH

*\*Capacity and dimensions are indicative. Throughput depends on the blood bag type and on the response time of the customer lab database.*



Plan view of the ABBPS line

## Functional units of the ABBPS line

- |                      |                                                 |
|----------------------|-------------------------------------------------|
| 1. Loading Trolley   | 9. Sorting Robot                                |
| 2. Infeed Robot      | 10. Label Print, Apply and Verification Station |
| 3. Main Transport    | 11. Guarding                                    |
| 4. Infeed Station    | 12. HMI                                         |
| 5. Stripping Station |                                                 |
| 6. Sealing Station   |                                                 |
| 7. Bundling Station  |                                                 |
| 8. Attaching Station |                                                 |

## A standardized, scalable platform

Originally developed for the Dutch blood bank, ABBPS combines proven blood processing workflows with advanced pharmaceutical process integration expertise into a standardized, scalable platform.