Automatic blood components extractor
TOP sealing clamps

Flow regulator and sealer

TOP optical sensor (with lighting head status)

Active clamps panel

Vertical scale with adjustable height

Lateral press with scale

Main press with BC optical sensors group

Press 1 scale

Right hand scale

Bottom sealing clamp
**Automatic blood components extractor**

- It works with any conventional or T&B bags
- Two electronic presses fully controlled for speed, position and force
- Automatic air removal procedures
- Fine buffy-coat controls while using T&B bags
- Flow regulator with high precision optical sensor
- Five sealing clamps
- 16 pre-loaded Procedures
- Up to five scales
- RFID writer-reader and barcode
- LED dashboard for tubes positioning
- Wi-Fi, Ethernet or RS485 communication mode

You can download full specifications and the Technical Data Sheet from our website [www.delcon.it](http://www.delcon.it)

GIOTTO is an automatic extractor designed to prepare blood components from centrifuged blood in single use plastic bags manufactured upon the International Standard ISO 3826 and the European Directives no. 93/42 and 2007/47 MDD. It can prepare high quality blood components with any kind of commercially available bag, either conventional or TOP & BOTTOM type.

GIOTTO is available in two main versions, basic and with double press, each with different configuration for computer connection.

- Electronic main press with integrated scale fully controlled for speed, generated force and position.
- Secondary press with integrated scale and same controls of main press (only with GIOTTO code GIO.DB.00.P2X).
- Five programmable sealing clamps.
- External sealing handle available as option.
- Flow regulator with auto-zeroing optical sensor.
- Eight optical sensors on main press for fine control of BC volume and haematocrit.
- Three scales to read the net weights of all components (four with version GIO.DB.XXX.P2) plus one external as option.
- Communication mode available as RS485, Wi-Fi or Ethernet (see versions of GIOTTO available).
- Barcode reader or COMBO RFID Tags reader-writer with integrated barcode (options).
- Graphic LCD Display white-blue back lighted with guided menu and membrane keyboard.
- 16 pre-loaded Programs as standard. Up to fifty additional PROGRAMS can be generated and stored by using the dedicated SDM software.
- Automatic air removal and additive solution transfer available as standard routine.
- GIOTTO can read automatically all weights of components or, at the end of each extraction, can weight up to five different bags as net or gross weight and thus record all data (after or before tubing disconnection).
GIOTTO can deliver several information to SDM for each extraction procedure:

1. Serial number of GIOTTO
2. Description of the performed Program
3. Number of the performed Program
4. Net weight of Plasma extracted
5. Net weight of Buffy Coat
6. Net weight of whole blood
7. Net weight of Plasma transferred into BC bag
8. Net weight of transferred SAG-M
9. Net weight of PL transferred back into the main bag
10. Net weight of PL extracted into other satellite bags
11. Net weight of Platelets Concentrate
12. Net weight of packed RBC
13. Separation date
14. Time of separation
15. Duration of separation
16. Error codes if any
17. Tens of different and customizable codes, either as barcode labels or RFID Tags are available too

COMMUNICATION AND TRACEABILITY
Communication mode via RS485, Wi-Fi or Ethernet. Codes handling can be done either as barcode labels or RFID Tags. Cross-matching of each code by customized filters and/or fixed masks. Internal data base with automatic LOG saving for all operations and extraction procedures.

QUALITY AND SAFETY
All optical sensors perform automatically an auto-calibration to zero at any new separation. Dynamic LEDs indicators for correct tubes positioning showing the clamps to use, actives all separation long. Precise control of final buffy-coat volume with fine adjustment of haematocrit while using top and bottom bags.

• = active sensor to hold on the BC level
D* = distance to define precisely the desired final volume

DATA MANAGEMENT AND COMPUTER
SDM-Software Data Management is a specific application designed for remote controls of GIOTTO and for collection & handling of separation data. SDM should be installed on a computer with Windows® XP, VISTA or 7 (computer and Microsoft® software not included). To communicate with the available GIOTTO, SDM may use RS485, Wi-Fi or Ethernet connections. By using SDM you can do the following remote operations on all GIOTTO connected to the net:

• modify any Program available on each GIOTTO
• generate new Programs of separation
• download the data of each single extraction procedure performed by GIOTTO

• generate Reports based on the executed extraction procedures
• generate Reports based on the executed extraction procedures applying for customizable filters to fit the minimal quality standards of the blood bank. The Reports can be printed directly through the pre-defined printer of computer or saved as .csv or Word file (may requires Microsoft Office® on computer)
• by using the optional printer label (see options) it is possible to prepare customizable adhesive labels to be populated with net or gross weights, ID bags, ID Operator and some more

FLEXIBILITY
16 pre-loaded extraction Programs with most common applications for double, triple, quadruple and quintuple conventional and Top & Bottom bags. Possibility to expand the list up to 50 Programs. Up to five integrated scales for automatic weighting and recording of all blood preparations. Five programmable welding clamps for manual or automatic operation: available as option a sixth portable tube sealer.

Air removal routine available as standard. Secondary press available to perform most complex procedures rapidly and precisely: filter priming, air removal from plasma bag, fast SAG-M transferring (only with versions GIOT.DB.XXX.P2).

MAIN PRESS
Electronically controlled. Wide controls on whole stroke. Possibility to generate up to five independent speed-pressure profiles with controls on pressures, speeds, position, feedback with optical sensors for best handling of BC layer and phase time out for each Program.
ORDERING INFORMATION – Available versions of GIOTTO

GIOTTO - Automatic blood components extractor: versions with MAIN press only.

GIO.DB.485
Automatic blood components extractor, SINGLE press, three scales. Supplied complete of SDM software, with standard RS485 communication. It may request a network adapter (cod. ADAP-485-USB)

GIO.DB.LAN
Automatic blood components extractor, SINGLE press, three scales. Supplied complete of SDM software with RS485 and Ethernet module. It may request an Ethernet switch (cod. GIO.DB.HUB_PC)

GIO.DB.WIFI
Automatic blood components extractor, SINGLE press, three scales. Supplied complete of SDM software with RS485 and Wi-Fi module. It may request an WiFi access point (cod. GIO.DB.WIFI_AP)

GIOTTO - Automatic blood components extractor: versions with TWO presses.

GIO.DB.485.P2
Automatic blood components extractor, DOUBLE press, four scales. Supplied complete of SDM software with standard RS485 communication. It may request a network adapter (cod. ADAP-485-USB)

GIO.DB.LAN.P2
Automatic blood components extractor, DOUBLE press, four scales. Supplied complete of SDM software with RS485 and Ethernet module. It may request an Ethernet switch (cod. GIO.DB.HUB_PC)

GIO.DB.WIFI.P2
Automatic blood components extractor, DOUBLE press, four scales. Supplied complete of SDM software with RS485 and Wi-Fi module. It may request an WiFi access point (cod. GIO.DB.WIFI_AP)

SEPARATE OPTIONAL ACCESSORIES

GIO.DB.40
External balance with tray. To be connected directly to GIOTTO with a cable. It can be used to read the weight of any bag, before, during or after the separation.

SEAL-HAND1
Standard sealing handle equipped with 2 coaxial cables. It can be connected directly to the auxiliary RF port of Giotto. It permits the manual sealing of any standard PVC tubing of bags. It can be purchased and added at any time

CCD-BARCD1
CCD barcode reader. It can be purchased and added at any time (buy one for each GIOTTO).

OR

LSR-BARCD1
LASER barcode reader. It can be purchased and added at any time (buy one for each GIOTTO).

GIO.DB.90
Printer for adhesive labels. To be used to report on the bags some data such as the product type, the net or gross weight, the ID of the bag.

ACCESSORIES FOR PC COMMUNICATION

GIO.DB.WIFI_AP
WIFI access point (buy one per Computer if Wifi communication is in use).

CAB-LAN.5
LAN Ethernet cable (5m, buy one per each GIOTTO if Ethernet communication is in use).

HUB-PC
HUB Ethernet 16 entries (for LAN version, buy one per Computer if Ethernet connection is in use).

CAB-485.5
RS485 network cable (5m) to connect devices together (buy one per each GIOTTO if RS232-485 communication is in use).

ADAP-485-USB
RS485 network adapter for USB computer connection (1 for each serial network - buy one per computer if USB-RS485 communication is in use).
Delcon reserves the right to modify, add, and remove the functional and visual features of the devices, at its sole discretion, at any time, and without prior notice.