



Hemo M I X 3™

Blood collection monitor

HemoMix3™ is a modern blood collection monitor with bidirectional data communication, carefully designed to handle donations in a safe and efficient way.

HemoMix3™ accepts all kinds of blood bags and its 3D orbital mixing with programmable motion (patent pending), with pauses and inversion, guarantees the best mix possible.

HemoMix3™ is a Medical Device with Protection Classification Type CF.

The device handles up to 20 donation workflows fully PC customizable and the target volume can be easily modified during the donation.

HemoMix3™ also features an auto tare of the empty bag with automatic clamp closing at the beginning and at end of the donation procedure, with audio and visual warnings.

Its intuitive icon-based user interface redesigns the user-experience and with LinkMix software, Core level, you can configure the device and modify the procedure.

With LinkMix software upper levels (options) the users can receive data collected during donations from the devices and export them to the LIMS, Laboratory Instruments Managing Software (DM level) or they can import data related to donations from the LIMS and send the data to the devices during donations (BM level)

Data can be acquired using barcodes (the readers are optional) or RFID (embedded antenna is an option). With RFID the device

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can automatically read and write data without any operator action.

1. MAIN FEATURES:

- HemoMix3™ is AC powered or it can be powered with a dedicated rechargeable battery (option) with capacity up to 70 collections
- The membrane keyboard is simplified with feedback and bounce prevention
- It has a high-contrast graphic display with icon-based and multicolour visual status signalling
- It displays the current blood flow and the volume collected in ml or g with custom defined conversion rate in order to adapt to different population blood
- Collection volume can be adjusted between 10 and 990 units. Up to 5 volume preset allow 1-key selection of the target volume.
- It alerts the operator to insufficient or excessive flow
- It shows the time elapsed for the donation in minutes and seconds and emits an acoustic and a visual signal to mark the end of the cycle
- It is equipped with an alert for the maximum donation time, which can be set for up to 20 minutes
- It has optical pre-alerts and optical/audible warnings, self-resetting, with 3 levels of loudness or muting
- The target weight can be edited, also during collection, in steps of 1, 5 or 10 units
- During collection is possible to stop the process and with a maximum of total pause time of 60 secs. The residual countdown is shown on the display
- Every collection has 2 timeout levels: once the 50% of the 1st timeout has elapsed, the inner microcomputer starts a predictive evaluation of the time required for the total collection. If this time is exceeding the 1st threshold, a warning icon informs about the slow collection, allowing early countermeasures. At the 1st timeout, the collection can stop if 90% of the target volume is already achieved; otherwise, the timeout icon will be shown and the collection will continue until the 2nd timeout
- It has an automatic tare for the empty bag
- It has a semiautomatic calibration with an optional reference mass
- It has diagnostic codes and/or descriptions of warnings, errors or anomalies, also in graphic terms
- HemoMix3™ has safety clamp and tube detectors to control if the tube is well inserted into the clamp and check the clamp actual position
- It has CCD or laser barcode reader (optional)
- Flexible programming of barcode format check and the possibility to digit manually the unreadable codes
- It has a built in RFID antenna (optional) to read/write RFID tags
- It has a two-way wireless Wi-Fi encrypted communication protocol (optional)
- LinkMix software for data collection and management (optional). It offers also a real time monitoring dashboard for all the devices in the network
- It has the capability of read and write data through a memory card reader or an USB port (memory card and USB stick sold as optional)
- Its internal memory can hold up to 1800 donations.
- It has a 3D tray motion for optimal mixing of blood and anticoagulant with the possibility of reverse rotation with programmable pauses
- It handles up to 20 donation workflows including parameters for collection, sequencing, barcode reading RFID tagging and text messages on screen.
- It offers up to 5 languages for display messages
- It allows to check some information on a resume page such as: the final volume collected, the average flow, the donation time and the total pause time
- It has options for two-way RS485, LAN or Wi-Fi connectivity for networks connecting up to 250 devices
- The case with single mould top board prevents the liquid intrusion and has a smooth surface, for easy cleaning.

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2. COMMERICAL AND REGULATORY DATA

• Tradename:	HemoMix 3™	• Manufacturer:	Delcon S.r.l.
• Sales code:	HMIX3.vers. (as per following list)		
• Class of protection:	1 (According to IEC 60601-1)	• Applied part:	Type CF (According to IEC 60601-1)
• Classification – MDD 93/42:	Class 1 Medical device	• Reference standards:	Safety: IEC 60601-1, EMC: IEC 60601-1-2

3. TECHNICAL DATA

• Dimensions:	351D x 235H x 273W mm (13,8D x 9,3H x 10,7W inch)	• Weighing range:	10÷990 units (ml or g) (0,02 ÷ 2,18 lbs)
• Weight:	3,4 Kg (without battery) 7,5 lbs (without battery)	• Accuracy:	±2 units within 10÷199 units; ±1% within 200÷600 units (ml or g)
• Power supply:	115/230 VAC or through an (optional) 12VDC battery pack	• Battery capacity:	up to 70 donations with full charged battery
• Line frequency:	50÷60 Hz	• Maximum load:	1400g
• Power consumption:	45 VA max	• Max collection time:	20 min
• Internal memory:	More than 1000 records	• N. of programs:	20 plus basic default
• Export memory:	MMC / SD cartridges and USB memory stick	• N. of devices in network:	Up to 250
• Display and user interface:	High contrast backlighted graphic 3.2" display; icon UI; membrane keyboard	• Data communication:	Serial RS485 or LAN Ethernet or WLAN Wi-Fi
• Mixing type:	3D with central pivot, with programmable motion, with programmable pauses and rotation inversion clockwise/counterclockwise Speed up to 20 RPM		
• Environmental conditions for use:	Temperature: +10° ÷ +40°C (50° ~ 104° F) Humidity: 30 ÷ 75% non-condensing Altitude: -380 ÷ 3000 m (-1246 ÷ 9842 ft)		
• Environmental conditions for storage:	Temperature: +0° ÷ +40°C (32° ~ 104° F) Humidity: 10 ÷ 90% non-condensing Altitude: -380 ÷ 3000 m (-1246 ÷ 9842 ft)		

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4. VERSIONS

HMIX3.LAN
LAN version
HMIX3.WIFI
Wi-Fi version

HMIX3.LAN.RFID
LAN version with RFID
HMIX3.WIFI.RFID
Wi-Fi version with RFID

5. ACCESSORIES

CAL-MASS.500
500g calibration mass (+ 0,01%)

BAT-PK.12V
Ni-MH battery pack 12V

BAT-CH.12V
External battery charger 100-240 V for mixers

CAL-MASS.500C
500g calibrated weight (+ 0,01%) with SIT certificate

CCD-BARCD1
CCD barcode reader

LSR-BARCD1
Laser barcode reader

HMIX3.DB.20: USB memory stick

ADAP-485-USB
RS485 network adapter for USB computer connection (1/each serial network)

CAB-485.5
RS485 network cable (5 m) to connect devices together

ACC-POINT
Wi-Fi access point (1/each wireless network)

HUB-PC
HUB Ethernet (for LAN version)
(1/each wireless network)

CAB-LAN.5
LAN Ethernet cable (5 m)

TROLLEY-1.DLC
Trolley transport case (can be used as support)

6. SOFTWARE

LMIX_CORE
LinkMix software (Data Collection System for Windows) free license for configuration and monitoring (1/each network)

LMIX_DM
LinkMix software extension license for one-direction data management (requires LMIX_CORE)

LMIX_BC
LinkMix software extension license for bi-directional communication (requires LMIX_DM)

LMIX_FULL
LinkMix software license package for data management and bi-directional communication

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