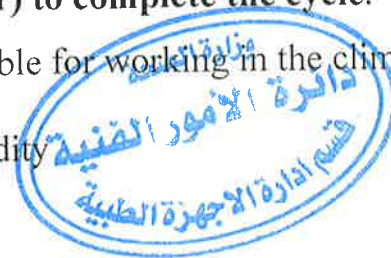


CODE NO:

Device Name : (Apheresis Units) blood donor

DATE:2025

- ❖ **Application:** automate the separation performed on blood from healthy donors include plasmapheresis, plateletapheresis (also called thrombocytophoresis), cryocytophoresis and leukophoresis.
- ❖ **FDA CLEARANCE CE MARK :** Yes
- ❖ **Type :** Automated
- ❖ **Separation method:** centrifugation.
- ❖ **Centrifuge, rpm:** ≥ 1500 .
- ❖ **Flow type:** continuous or Intermittent.
- ❖ **venous access :** single or double
- ❖ **Inlet rate, ml/min:** range $\geq (0 -90)$.
- ❖ **Anticoagulant ratio (ratio of the volume of anticoagulant to the volume of blood):** can be set automatic or manual.
- ❖ **Warmer:** according to manufacturers.
- ❖ **Extracorporeal priming volume, ml:** minimal volume preferred.
- ❖ **Programs:** The types of programmable procedures should be specified.
- ❖ **monitors/alarms :** yes , to be specified
- ❖ **data management:** yes
- ❖ **Power requirements:** 220-240v, 50-60 Hz, three pin G type plug.
- ❖ **Battery backup or UPS (include voltage stabilizer) to complete the cycle.**
- ❖ **Environmental requirements:** the equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity



CODE NO:

DEVICE NAME: Laboratory Balance

Laboratory Balance specifications

Purpose: For precisely weighting of ultra-low weight materials for laboratory uses

-Heavy duty and compatible design

-Digital scale

-Rang should read up to 1000g

-Sensitivity: 1ng (0.001g)

-Environmental requirements: the equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity

-Shock resistance and overload protection

-Summation of weighting results

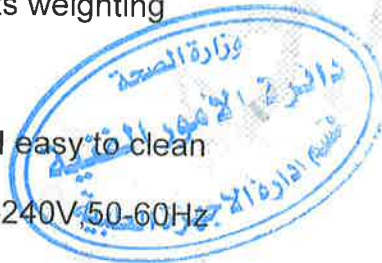
-Automatic calibration

-Capability of Different units weighting

-Balance pan : $\geq 30\text{cm}$

-Anticorrosion material and easy to clean

-Power requirements : 220-240V, 50-60Hz



CODE NO:

DEVICE NAME: blood bag tube sealer(single)

Blood bag tube sealer single

Purpose: to seal blood bags tubes

- Bench Top :Yes
- Heavy duty for continuous sealing
- Sealing Capacity: ≥ 200 / day
- High-quality sealing

Adjustable sealing time with range from 0.3ses to 6sec or less for permanent sealing

- Power: 50 Ohm maximum or better
- Frequency: ≥ 40.0 MHz
- Electric shock protections
- single segment sealing

-Input Power: 220-230V,50-60Hz

-**Environmental requirements:** the equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity



CODE NO:

DEVICE NAME: Refrigerator for central blood bank

Purpose	Used for safe storage of whole blood, blood components (blood cells)
FDA CLEARANCE or CE MARK	Yes (FDA Preferred)
CONFIGURATION	Upright
Temperature range	2° to 6°C
CAPACITY, L	≥ 600
❖ Number of bags	≥ 350 bags
SHELVES/DRAWERS	Each Drawer Bear ≥ 30 kg ,Suitable for Blood storage
• Number	≥ 6
• Type	Stainless steel drawers
DOORS, number	Single or Double
Description of door	self-closing , Glass
Locking mechanism	Key lock
CASTERS	Yes
INTERIOR LIGHT	Yes
FINISH	stainless steel exterior and interior
CONTROLS	Yes adjustable
Defrosting	Automatic (must be used by Heater)
TEMP-ALARM SYSTEM	Yes
• Alarm conditions	Audible and visual for high/low temperatures, power failure and temperature sensor failure and other
• Chart recorder time	7 days
• Temp indicator	LED or LCD , Refrigerator temp , interior blood bag temp .
• Sensor	2 sensor ,one for interior temperature of refrigerator the second sensor for interior blood bag temperature
BACKUP POWER SUPPLY	Yes
REFRIGERANT	Gas R134a OR 290 available in Iraqi market
COMPRESSOR,	Hermetic Type. It contains two compressors on top of the refrigerator preferred.
Training for 7 days for 2 Engineer in the country of origin.	
Origin :USA or Europe or JAPAN	
Power & Environmental Requirements	Power input to be 220-240VAC. 50Hz. The supplier should be confirmed that: The Equipment is suitable for working in climate conditions of Iraq in terms of temperature and humidity.

CODE NO:

DEVICE NAME: **Blood Collection monitor**

(Blood mixer)

- Purpose: is a compact blood collection monitor to standardize and control the process of blood collection also mixing of blood with the anticoagulant in blood bag without clot formation of blood cells during collection of blood from a donor.
- Mixing (cycle) / min : more than 10 cycles/min
- Weight range ml. : up to 450 ml +/-50
- Audio visual alarms to provide alerts for
 - Volume completion
 - Low/High Flow rate
 - Pre-set Time completion
- Automatic cut blood flow when volume completed.
- Blood Collection can be paused / stopped in the middle for donor safety
- Accuracy : 2% of the programmed volume
- Auto control microprocessor system ensures accurate collection of blood volume to prevent blood clots formation
- Automatic Zero - Volume calibration of blood bags
- Display : Backlit LCD display of time and volume of collection, flow rate
- **Environmental requirements:** the equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity
- Battery backup (hours) : more than 1 hours
- power requirement : 220V 50/60Hz

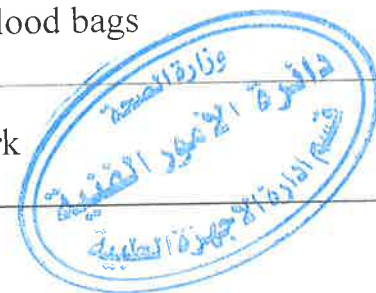


CODE NO:

Device Name: automated blood components
Extractor (separator)

DATE: 2025

APPLICATION	Used to process centrifuged whole blood to components(red blood cells , plasma and platelet)
FDA CLEARANCER OR CE MARK	YES
Type	Automated
Technology	Top &(Top &Bottom)
Built in scales	Yes
Where used	Main blood bank
Configuration	bench type
Through put capacity / bags	≥ 1 bag
Optical sensors	Yes , built in
Bags type	Different type of blood bags
Data management	Yes , LAN net work
Barcode scanner	Yes



CODE NO:

Device Name: automated blood components
Extractor (separator)

DATE: 2025

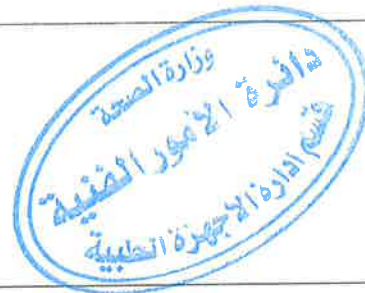
Sealing and stripping	Yes automatic
UPS	YES , ≥ 15 min
Display	Yes , color touch screen OR touch pad
Power supply	220/240VAC,50/60, three pin (G type) plug
Environmental requirements	the supplies confirmation the equipment suit for working in the climate conditions of Iraq in terms of temperature& humidity .



CODE NO:

DEVICE NAME: *centrifuge plain type*

APPLICATION	to separate suspended particles from a liquid or to separate liquids of different densities.
ROTATIONAL SPEED <ul style="list-style-type: none"> - Max rpm - RCF ,g - Speed adjustment 	between(3,000 – 6,000) between (2,000 - 4,000) Microprocessor control
Rotor available <ul style="list-style-type: none"> • Fixed angle • Horizontal (swinging bucket) 	User preference
- Tube type	Plain type
-CAPACITY (mL)	between (3– 15)
- Number of tubes	minimum 12 tube
TIMER <ul style="list-style-type: none"> - Range, min 	0 to ≥ 60
BRAKING, type	Electric , other to be specified
BRUSHLESS	Yes
SAFETY FEATURES <ul style="list-style-type: none"> - Lid interlock 	Yes
ALERT INDICATORS <ul style="list-style-type: none"> - Imbalance - End of run - Others 	Yes Yes should be specified



CODE NO:

DEVICE NAME: *centrifuge plain type*

Display ,type	Digital LED,LCD, other Should be specified
NOISE LEVEL, dB	<70
Environmental requirements	The equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity
Power Supply	<ul style="list-style-type: none"> - Medical Approved power supply board - 220/240VAC,50/60Hz, Three pin (G type) plug

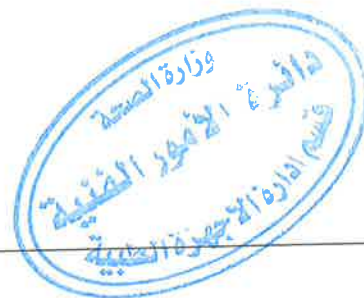


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CODE NO:

DEVICE NAME: *centrifuge ,khan type*

APPLICATION	to separate suspended particles from a liquid or to separate liquids of different densities.
ROTATIONAL SPEED <ul style="list-style-type: none"> - Max rpm - RCF ,g - Speed adjustment 	between(3,000 – 6,000) between (2,000 - 4,000) Microprocessor control
Rotor available <ul style="list-style-type: none"> • Fixed angle • Horizontal (swinging bucket) 	User preference
- Tube type	Khan type
-CAPACITY (mL)	between (3– 15)
- Number of tubes	minimum 12 tube
TIMER <ul style="list-style-type: none"> - Range, min 	0 to ≥ 60
BRAKING, type	Electric , other to be specified
BRUSHLESS	Yes
SAFETY FEATURES <ul style="list-style-type: none"> - Lid interlock 	Yes
ALERT INDICATORS <ul style="list-style-type: none"> - Imbalance - End of run - Others 	Yes Yes should be specified



CODE NO:

DEVICE NAME: *centrifuge ,khan type*

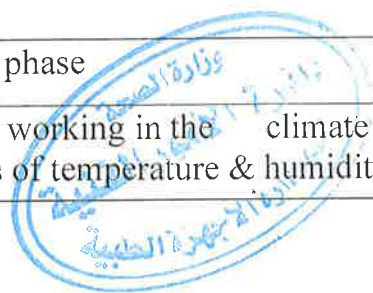
Display ,type	Digital LED,LCD, other Should be specified
NOISE LEVEL, dB	< 70
Environmental requirements	The equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity
Power Supply	- Medical Approved power supply board - 220/240VAC,50/60Hz, Three pin (G type) plug



CODE NO:

DEVICE NAME: Closed platelet agitator for
blood bank

Purpose	Used for safe storage of platelet with agitating mechanism.
CONFIGURATION	bench top or floor type
temperature range	$\geq (20 - 24) ^\circ\text{C}$
CAPACITY, L	≥ 350
SHELVES/DRAWERS	
• Number	≥ 3
• Type	Stainless steel drawers
• Labeling	Yes, according to blood group
• agitating	yes
DOORS, number	1
Stroke speed /per min	≥ 60 /per min
Amplitude of stroke (cm)	≥ 3.5
Locking mechanism	Key lock
CASTERS	Yes
INTERIOR LIGHT	Yes
FINISH	stainless steel exterior and interior
CONTROLS	Preset at 24°C , adjustable
TEMP-ALARM SYSTEM	Yes
• Alarm conditions	Audible and visual for high/low temperatures, power failure and temperature sensor failure and alarm door (other to be specified)
• Chart recorder time	7 days
• Temp indicator	LCD, refrigerator temp , interior blood bag temp
• Sensor	2 sensor ,one for interior temperature of refrigerator the second sensor for interior blood bag temperature
BACKUP POWER SUPPLY	Rechargeable battery
COMPRESSOR, hp	1/2 or more
LINE POWER, VAC	220-240, 50/60 Hz, single phase
Environmental requirements	the equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity.



CODE NO:


DEVICE NAME: Deep Freezer

Application	Used for freezing of plasma and related blood component.
CONFIGURATION	Upright type
FREEZANG CAPACITY , L	400 to 500 L
SHELVES / DRAWERS	YES
<ul style="list-style-type: none"> • Number • Type 	≥ 3 Stainless steel shelves or better, adjustable.
DOORS	<ul style="list-style-type: none"> • Single door or double • lockable
CASTERS	Moving casters with locks
CHAMBERS MATERIL	<ul style="list-style-type: none"> • inner chamber Stainless steel • outer chamber heavy duty material
INTERIOR LIGHT	Yes, high quality LED side lights
Defrost	YES
TEMPRETURE CONTROL , °C	Up to -80 °C , adjustable
AMBIENT CONDITION temp.	5°C to 40°C
COMPRESSOR	Yes
Micro control	Touch screen
Control – ALARMS SYSTEM	
<ul style="list-style-type: none"> • Alarms • Temp indicator • Chart Recorder 	Acoustic & visual alarms for High / low temperature, power failure, Ajar door , low battery or others. Digital LCD display.

CODE NO:

DEVICE NAME: Deep Freezer

	Yes.
DATA PORTS	USB/SD card
Battery backup	Yes .
POWER REQUIRMENTS	220-240V, 50-60Hz.
ENVIROMENTAL REQUIRMENTS	The equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity



CODE NO:

DEVICE NAME: Electric Blood Donation Chair

Type	Electrical ≥ 2 motors
Chair segments	3 or more
Movements	Up/down , back section , leg section
Dimensions	
Seat segment width	50 cm or more
Total length	180 cm or more
Height	Adjustable
MAX. Carrying capacity:	180 kg or more
Adjustments	
Back segment angle	(70° – 0°) or wider range
Leg segment angle	(0° – 25°) or wider range
Arm rest	Right & left
Swing out	0 to $\geq 45^\circ$
Height adjustment	≥ 70 mm
Dimension (L*W)	$\geq (400\text{mm}*140\text{mm})$
Steel construction	galvanized and electrostatic painting
upholstery Cover	Anti-bacterial ,fireproof and waterproof
Accessories	IV pole, Handset control
Castors	4 with brakes

CODE NO:

DEVICE NAME: Automatic Plasma Expressor
(PLASMA Extractor)

- **Purpose:** separation of plasma from blood components of the blood bag
- **Inner & Outer Body :** Complete in Stainless Steel
- **Pressure Plate :** Acrylic
- **Clamping :** motor activated
- Tube sealer with sensor
- **Type Sensor :** infra-red
- **Operation :** Automatic Controlled by PID (Programmable) microprocessor based controlled .
- Highly sensitive sensor for instant sensing between transfers of blood components.
- **Alarm :** audio visual & stop separation if other components transferred.
- Should be compatible with different types/designs of bags
- **power requirement :** 220/240 VAC, 50/60 HZ



CODE NO:

DEVICE NAME : gel card incubator

DATE:2024

- **Purpose :** used in blood bank laboratory that matched with our gel card centrifuge
- **Configuration:** tabletop
- **Inner chamber stainless-steel and out chamber heavy duty material.**
- **FDA or CE Clearance :** yes
- **2 independent incubation zones with a capacity for 10 Gel cards**
- **Capacity:** ≥ 10 cards
- **Temperature Range :** 37°C
- **Temperature Accuracy :** $\leq \pm 1^{\circ}\text{C}^{\circ}\text{C}$
- **Temperature control:** yes ,programmable time temperature
- **Time Range:** 0-99min59s
- **Alarm :**yes , emergency stop
- **LCD INDICATOR :** Temperature &time
- **Display:** yes
- **Power requirements:** 220 – 240 VAC, 50- 60 HZ
- **Environmental requirements:** the equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity



CODE NO:

Device Name: Gel card reader

Data 2025

- Application : used for read and interpret gel card employed in blood groups type test ,RH blood group antigen test , irregular antibody screening test and cross matching test it ensure accurate and standardized result in blood bank.

where used	Blood bank
FDA or CE clearance	Yes
Configuration	Bench
Capacity	≥1 ID-Card
Card reading	photo image of agglutination reactions in the Gel cards <u>or</u> high – resolution CCD camera <u>or</u> front and back image capture or other
Result time	≤4 sec.
Card Barcode Reader	Yes

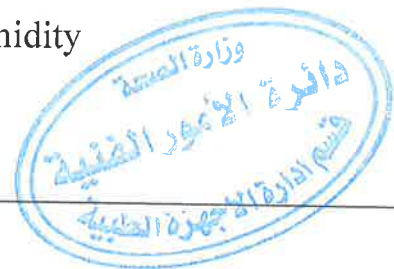


CODE NO:

Device Name: Gel card reader

Data 2025

Card types	Open system Compatible with Different types
Computer	Yes External PC or laptop or integrated computer
Software	Yes, digitalize and process card images.
Data management	Yes, storage, print
Interface	Yes , printer , USB, LIS
<ul style="list-style-type: none"> - Power requirements: 220 – 240 VAC, 50- 60 HZ - Environmental requirements: the equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity 	



CODE NO:

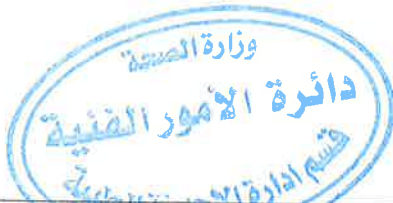
DEVICE NAME: **gel card Centrifuges**

Application	used in : <ul style="list-style-type: none"> • ABO blood type test • Rh blood group antigen test • Irregular antibody screening • Cross match and other tests.
Configuration	Bench top
ROTATIONAL SPEED	
Max rpm	Range 1000 to 6000 rpm
Speed adjustment	Microprocessor control
CAPACITY	≥ 10 card
ROTORS AVAILABLE	according to the manufacture
Cycle time	variable
BRAKING, type	Electric or dynamic
BRUSH/BRUSHLESS	Brushless
SAFETY FEATURES	
Lid interlock	Yes
ALERT INDICATORS	Imbalance, Over speed and other
DISPLAY, type	Digital ,LCD
Parameters displayed	Speed , time , RCF and other
PROGRAMMABLE	yes



CODE NO:

DEVICE NAME: gel card Centrifuges

NOISE LEVEL, dB	≤ 50
POWER REQUIREMENTS	220-240V, 50-60Hz
Environmental conditions	<p>The equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity</p> 

CODE NO:

DEVICE NAME: Plasma / low Hb system

Application: can used in quantitatively determine low levels of hemoglobin in plasma, serum and aqueous solutions, can also measure stored or banked erythrocytes.

Principle: dual wavelengths for compensation of turbidity

Methology: Photometric

Sample type: blood, Plasma, serum specimens, and aqueous solutions, as well as stored or Banked erythrocytes

Sample Volume: $\leq 20 \mu\text{L}$

Results time: ≤ 90 seconds

Calibration: yes

Measurement Range : between 0–30 mg/dL

Microcuvettes : yes or other should be specified

Power: AC Adapter or 5 AA batteries

Environmental requirements: The supplier confirms that the equipment suitable for working in the climate conditions in Iraq in terms of temperature & humidity.



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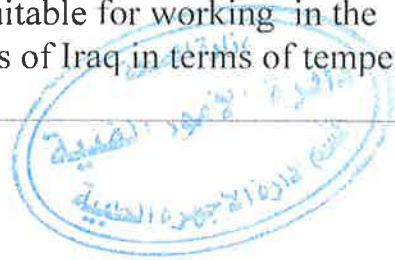
DEVICE NAME: Plasma Shock Freezer

Application	Used for shocking freeze of plasma & cryo (cryo. precipitate) and related blood component.
CONFIGURATION	vertical type
FREEZANG CAPACITY , bags	50 – 100 bags , Double layer
SHELVES / DRAWERS	YES
<ul style="list-style-type: none"> • Number • Type 	≥ 4 Stainless steel shelves or better.
DOORS	<ul style="list-style-type: none"> • Single door • lockable
CASTERS	Moving casters with locks
CHAMBERS MATERIL	<ul style="list-style-type: none"> • inner chamber Stainless steel • outer chamber heavy duty material
INTERIOR LIGHT	Yes, high quality LED side lights
FREEZING TIME, min	30 – 60 min
TEMPRETURE CONTROL , °C	-40 to -80 °C , adjustable
AMBIENT CONDITION temp.	5°C to 40°C
COMPRESSOR	Heavy duty, Danfoss or better
Control – ALARMS SYSTEM	
<ul style="list-style-type: none"> • Alarms • Temp indicator • Chart Recorder 	Acoustic & visual alarms for High / low temperature, power failure, Ajar door or others. Digital LCD display. Yes.

CODE NO:

DEVICE NAME: Plasma Shock Freezer

TEMPERATURE PRESERVATION PERIOD TIME	8 – 12 hrs.
POWER REQUIRMENTS	220-240V, 50-60Hz.
ENVIROMENTAL REQUIRMENTS	The equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity



CODE NO:

DEVICE NAME : plasma thawing

DATE:

Applications	used safe thawing and warming blood components such as frozen plasma packed in plastic bags.
Configuration	Bench top
bags	≥ 4 pcs
bags capacity , ml	≥ 50 ml
Chamber volume	≥ 18 liter
Chamber material	Stainless steel non corrosions easily washed without painting
Chamber cover	Yes
Temperature range, c°	≥ 36 c° to ≤ 41 c°
Temperature accuracy	± 0.1 °C
Microprocessor controller	Yes
Thawing time	< 15 min
Cycle interrupted	Yes
Setting time	yes
Display, type	LED or LCD, digital lene
Alarm	Yes ,high temperature or low temperature, water level and bag crack
Power supply	220-240V , 50-60Hz
Environments conditions	The equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity

CODE NO:

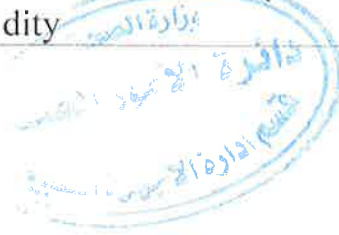
DEVICE NAME: Portable fridge cooler box
(blood bags)

Application	Used for transportation of blood & blood component bags.
CONFIGURATION	Chest type
CAPACITY	50 bags of 450ml
TEMPRETURE CONTROL , °C	4°C,+ 2 °C , adjustable
DOORS	<ul style="list-style-type: none"> • Single door • lockable
CASTERS	Moving casters with locks
CHAMBERS MATERIL	<ul style="list-style-type: none"> • inner chamber Stainless steel • outer chamber polyurethane
INTERIOR LIGHT	Yes
Display	Digital display
COMPRESSOR	Yes
Control	Microprocessor
Control – ALARMS SYSTEM	
<ul style="list-style-type: none"> • Alarms 	Acoustic & visual alarms for High / low temperature, power failure.
<ul style="list-style-type: none"> • Temp indicator 	Digital LCD display.
<ul style="list-style-type: none"> • Chart Recorder 	Yes.
DATA PORTS	USB/SD card
Battery backup	Yes .
POWER REQUIRMENTS	220-240V, 50-60Hz.

CODE NO:

**DEVICE NAME: Portable fridge cooler box
(blood bags)****ENVIROMENTAL
REQUIRMENTS**

The equipment suitable for working in the
climate conditions of Iraq in terms of temperature
& humidity



CODE NO:

**Device Name: Rapid portable Hemoglobin
Meter**

- PURPOSE: For hemoglobin estimation with preferred with PCV
- Reading Time: less than 10 sec.
- Light source: LED, adjusted to specified wavelength, bandwidth: $\pm 2\text{nm}$
- Measuring: photometric , others to be specified
- Accuracy : ± 0.005 or less
- Cuvette types: Micro , according to manufacturer
- Data: 1000 or more determinations including date and time
- Display : LCD or LED
- Measuring range: $0 - \geq 30\text{g/dl Hb}$, (accepted for criteria of blood donor selection)
- Sample volume: minimum sample volume should be stated
- Calibration: yes
- Quality control: yes, with control cuvette
- Power supply: AA battery or USB with charging adapter.
- Environmental requirements: the equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity

CODE NO:

DEVICE NAME: (Automatic Tube Stripper)

- ❖ Purpose : Preventing coagulation of blood in tubing prior to preparing segments
- ❖ Easy handling (designed for right and left hand use)
- ❖ Low weight for easy handling
- ❖ Pair of rollers
- ❖ Can be used for all kinds of blood bag systems
- ❖ Power supply with stabilized output, low ripple & low interference ,short circuit & overload protection.
- ❖ Max stripping speed (mm/sec): ≥ 400
- ❖ High efficiency and low energy consumption
- ❖ Forward and reverse operation : yes
- ❖ Input Power: 220-230V,50-60Hz or battery operation
- ❖ **Environmental requirements:** the equipment suitable for working in the climate conditions of Iraq in terms of temperature & humidity

CODE NO:

DEVICE NAME: **Floor Centrifuges**

- ❖ Application: separate suspended particles of blood bags different densities separated blood components.
- ❖ CE or FDA : YES , FDA is preferred
- ❖ Rotational speed:
 - Max rpm: ≥ 4000
 - Max rcf, g: ≥ 6000 .
 - No.of blood bag for each cycle: ≥ 12 bags
 - Speed adjustment: microprocessor controlled.
- ❖ Height: ≥ 90 cm
- ❖ Tachometer accuracy (rpm) : (≥ 1).
- ❖ Rotors available: horizontal .
- ❖ Temperature range: (-20~+40).
- ❖ Timer: yes.
- ❖ Braking (electric type): yes.
- ❖ Brush/brushless: brushless.
- ❖ Safety feature:
 - Lid interlock: yes.
 - Biohazard containment: yes
- ❖ Alert indicator: imbalance, end of run, & others.
- ❖ Display type: digital LCD or better .
- ❖ Programmable: yes.
- ❖ Noise level: (≤ 70 db).
- ❖ Input power: 220/240 VAC, 50/60 Hz single phase.