JORDAN ARMED FORCES

The DIRCETROATE OF ROYAL MEDICAL SERVICES

THE INSTITUE OF BIOMEDICAL TECHNOLOGY

Item 1	Cardiac Colour Doppler Ultrasound System, High End	Qty. (1)

IMPORTANT NOTE:

Vendors are required to fill out the product details, compliance information, and brochure reference page number in the columns below

TECHNICAL SPECIFICATIONS:

The unit must meet or exceed the requirements listed in the table below.

Product Details	
Name of Manufacturer	
Model/ catalogue number	
Country of Origin for the offered model	
Country where the manufacturer is based	
Delivery time	
Full warranty period	
FDA clearance OR CE Mark	

	Minimum Requirements	**Compliance (Y/N), Notes**	***Brochure Page No.***
*	This section describes the requirements for a **high end latest technology** mobility diagnostic ultrasound system that can be configured to meet a variety of specialized cardiac clinical demands. The system shall be based on a digital architecture that provides broad bandwidth digital beam-forming and all digital signal processing. The system must be upgradeable in hardware and software to any advanced medical application.		
A	**Applications**		
1	Adult echocardiography		
2	Pediatric echocardiography		
3	Stress echocardiography		

	Minimum Requirements	Compliance (Y/N) - Notes	*Brochure Page No.*
4	Trans Oesophageal echocardiography to support adult and pediatric application		
5	Complete measurements package for all mentioned applications to be quoted separately (i.e automated ejection fraction, Z score, AFI etc……)		
6	RV measurements		
B	**Imaging Technologies**		
1	The entire bandwidth of broadband transducer received frequencies should be in the range **2 – 15 MHz**		
2	Frame rate of not less than **≥ 900 fps.**		
3	Min. 200 dB dynamic range.		
4	A min. depth of up to 30 cm or better		
5	2D		
6	B-mode		
7	Tissue harmonic imaging (THI) and tissue doppler on all transducers		
8	M-mode and colour M-mode		
9	Dual imaging		
10	Doppler imaging		
11	Colour Doppler imaging		
12	Directional Colour Power Angio Imaging		
13	Pulsed Wave (PW) Doppler with auto trace		
14	Continuous Wave (CW) Doppler		
15	Simultaneous PW Doppler and 2D (Dual Mode)		
16	Simultaneous 2D, colour Doppler, and PW Doppler (Triple Mode)		
17	Stress-echo application.		
18	Other recent functions to be specified		
19	Speckle reduction (Noise reduction imaging)		

	Minimum Requirements	Compliance (Y/N), Notes	*Brochure Page No.*
20	Fully digital beam former with highest digitally processed for simultaneous formation, acquisition and delay processing of multiple ultrasound beams		
21	Number of digital processing channels: ≥ **500000**		
22	Auto Doppler analysis in Real Time		
C	**Real-Time 2D Imaging**		
1	Real-Time Zoom (magnification)		
2	Continuous zoom from 1x to 5x magnification		
3	A positioning device to freeze the zoomed (magnified) image		
4	Reversal of left/right and up/down image orientation		
5	Real-Time auto optimization of 2D gain, TGC, Dynamic Range and triple mode image with CW and PW		
6	Cineloop image for review and analysis of anatomical structures		
7	A min. of 800 frames cine loop		
8	Raw data processing capability		
D	**System Configuration**		
1	The system should be modular in design and consist of a main module, control module, keyboard, and a min. 19-inch high resolution flat LCD flicker free colour monitor with tilt and swivel.		
2	Adjustable control panel: **up/down & rotate**		
3	Built-in trolley type (mobile configuration)		
4	The system should have transducer cable holders to prevent cables from dragging or entangling on the ground.		
5	The system should have 4 independent swivel wheels to allow for positioning in tight spaces, yet allow the locking of 2 wheels for ease in transporting.		
6	Fast power-up capability, not to exceed 2 minutes.		
7	A min. of 4 active probe connectors.		

	Minimum Requirements	Compliance (Y/N), Notes	*Brochure Page No.*
8	Automatic diagnostic system check during power-up and during use to verify correct system operation		
9	**Capacity of stored images** HDD: ≥ **130 GB (user usable space)**		
10	Image Storage on CD-RW, DVD, and USB.		
11	10" control touch screen		
E	**Quantification**		
1	Digital image filing and patient data management functions.		
2	Advanced zoom functions with high quality zoomed images.		
3	All kinds of measurement functions in cardiovascular examinations are needed; including the latest automatic measurements such as heart muscle tracing and thickness measurement.		
4	Tissue tracking and myocardium thickness tracking, left atrium wall tracking and Intimae-media thickness (to be priced separately)		
5	Stress-echo software and protocols with playback functions, saving functions and measurements.		
F	**Reporting and Management System**		
1	The system shall be capable to perform patient report which should include; patient data, measurements, analyses, to allow embedding of images into patient reports.		
2	The system must be DICOM compatible		
3	Black and White printer		
G	**Transducers:**		
1	Broadband phased array probe for adults with approximate 2-4 MHz bandwidth.		
2	Broadband phased array probe for pediatrics with approximate 3-8 MHz bandwidth.		
3	4D- Probe		
4	TEE adult probe to be priced separately		

	Minimum Requirements	Compliance (Y/N)	Notes	Brochure Page No.
J	**Accessories:**			
	a- UPS must be included with each unit (specifications of which shall meet the requirements of the manufacturer)			
	b- ECG cable			

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Item 2	Cardiac Colour Doppler Ultrasound System, Med-Range	Qty (2)

IMPORTANT NOTE:

Vendors are required to fill out the product details, compliance information, and brochure reference page number in the columns below

TECHNICAL SPECIFICATIONS:

The unit must meet or exceed the requirements listed in the table below.

Product Details	
Name of Manufacturer	
Model/ catalogue number	
Country of Origin for the offered model	
Country where the manufacturer is based	
Delivery time	
Full warranty period	
FDA clearance OR CE Mark	

	Minimum Requirements	**Compliance (Y/N); Notes**	***Brochure Page No.***
*	This section describes the requirements for a **Med-Range** mobility diagnostic ultrasound system that can be configured to meet a variety of specialized cardiac clinical demands. The system shall be based on a digital architecture that provides broad bandwidth digital beam-forming and all digital signal processing. The system must be upgradeable in hardware and software to any advanced medical application.		
A	**Applications**		
1	Adult echocardiography		
2	Pediatric echocardiography		
3	Stress echocardiography		

	Minimum Requirements	Compliance (Y/N), Notes	*Brochure Page No.*
4	Trans Esophageal echocardiography to support adult and pediatric application		
5	Complete measurements package for all mentioned applications to be quoted separately (i.e automated ejection fraction, Z score, AFI etc……)		
B	**Imaging Technologies**		
1	The entire bandwidth of broadband transducer received frequencies should be in the range **2 – 15 MHz**		
2	Frame rate of not less than **≥ 650 fps.**		
3	Min. 180 dB dynamic range.		
4	A min. depth of up to 30 cm or better		
5	2D		
6	B-mode		
7	Tissue harmonic imaging (THI) and tissue doppler on all transducers		
8	M-mode and colour M-mode		
9	Dual imaging		
10	Doppler imaging		
11	Colour Doppler imaging		
12	Directional Colour Power Angio Imaging		
13	Pulsed Wave (PW) Doppler with auto trace		
14	Continuous Wave (CW) Doppler		
15	Simultaneous PW Doppler and 2D (Dual Mode)		
16	Simultaneous 2D, colour Doppler, and PW Doppler (Triple Mode)		
17	Stress-echo application.		
18	Other recent functions to be specified		
19	Speckle reduction (Noise reduction imaging)		

	Minimum Requirements	Compliance (Y/N) ; Notes	*Brochure Page No.*
20	Fully digital beam former with highest digitally processed for simultaneous formation, acquisition and delay processing of multiple ultrasound beams		
21	Number of digital processing channels: ≥ **500000**		
22	Auto Doppler analysis in Real Time		
C	**Real-Time 2D Imaging**		
1	Real-Time Zoom (magnification)		
2	Continuous zoom from 1x to 5x magnification		
3	A positioning device to freeze the zoomed (magnified) image		
4	Reversal of left/right and up/down image orientation		
5	Real-Time auto optimization of 2D gain, TGC, Dynamic Range and triple mode image with CW and PW		
6	Cineloop image for review and analysis of anatomical structures		
7	A min. of 800 frames cine loop		
8	Raw data processing capability		
D	**System Configuration**		
1	The system should be modular in design and consist of a main module, control module, keyboard, and a min. 19-inch high resolution flat LCD flicker free colour monitor with tilt and swivel.		
2	Adjustable control panel: **up/down & rotate**		
3	Built-in trolley type (mobile configuration)		
4	The system should have transducer cable holders to prevent cables from dragging or entangling on the ground.		
5	The system should have 4 independent swivel wheels to allow for positioning in tight spaces, yet allow the locking of 2 wheels for ease in transporting.		
6	Fast power-up capability, not to exceed 2 minutes.		
7	A min. of 4 active probe connectors.		

	Minimum Requirements	Compliance (Y/N) Notes	*Brochure Page No.*
8	Automatic diagnostic system check during power-up and during use to verify correct system operation		
9	**Capacity of stored images** HDD: **≥ 130 GB (user usable space)**		
10	Image Storage on CD-RW, DVD, and USB.		
11	10" control touch screen		
E	**Quantification**		
1	Digital image filing and patient data management functions.		
2	Advanced zoom functions with high quality zoomed images.		
3	All kinds of measurement functions in cardiovascular examinations are needed; including the latest automatic measurements such as heart muscle tracing and thickness measurement.		
4	Tissue tracking and myocardium thickness tracking, left atrium wall tracking and Intimae-media thickness (to be priced separately)		
5	Stress-echo software and protocols with playback functions, saving functions and measurements.		
F	**Reporting and Management System**		
1	The system shall be capable to perform patient report which should include; patient data, measurements, analyses, to allow embedding of images into patient reports.		
2	The system must be DICOM compatible		
3	Black and White printer		
G	**Transducers:**		
1	Broadband phased array probe for adults with approximate 2-4 MHz bandwidth.		
2	Broadband phased array probe for pediatrics with approximate 3-8 MHz bandwidth.		

	Minimum Requirements	Compliance (Y/N), Notes	*Brochure Page No.*
J	**Accessories:**		
	c- UPS must be included with each unit (specifications of which shall meet the requirements of the manufacturer)		
	d- ECG cable		

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Item-3	Portable Echo Ultrasound	Qty. (01)

IMPORTANT NOTE:

Vendors are required to fill out the product details, compliance information, and brochure reference page number in the columns below

TECHNICAL SPECIFICATIONS:

The unit must meet or exceed the requirements listed in the table below.

Product Details	
Name of Manufacturer	
Model/ catalogue number	
Country of Origin for the offered model	
Country where the manufacturer is based	
Delivery time	
Full warranty period	
FDA clearance OR CE Mark	

	Minimum Requirements	**Compliance Y/N) Notes (**	***Brochure Page No.***
*	Portable Echo ultrasound scanner. The unit must satisfy or surpass the following Specifications:		
A	**Application:**		
1	Adult echocardiography		
2	Pediatric echocardiography		
3	Complete measurements package for all mentioned applications to be quoted separately (i.e automated ejection fraction, Z score, AFI etc……)		
4	RV measurements		

	Minimum Requirements	Compliance Y/N Notes	Brochure Page No.
B	**Configuration**		
1	Portable design with original trolley		
2	Four full swivel castors with brakes		
3	High-resolution LCD: ≥ **15"**		
4	Storage for transducer cables		
6	Minimum of 2 active transducer connector on trolley		
7	User-adjustable presets		
8	Adjustable monitor position		
C	**General Features:**		
1	Grayscale levels: **256**		
2	Power up time: ≤ **2 minutes with shutdown confirmation capability**		
3	Self-diagnostic routine during power up		
4	Acquisition frame rate: ≥ **750 fp**		
5	Simultaneous processing bandwidth capability: **2-12 MHz**		
6	No. of digitally processed channels: ≥ **500000**		
7	Input dynamic range: : ≥ **200dB**		
8	Cine loop: ≥ **1000 frames**		
9	Automatic real-time Doppler trace capability including calculation and display of user-selected measurements		
10	Real-time Pan/Zoom		
11	Frozen image Pan/Zoom		
12	Automatic optimization of base line and scale		
13	Local HDD patient search through name and/or ID		
14	Full **DICOM 3.0, RIS, HIS, PACS Support**		

	Minimum Requirements	Compliance Y/N) , Notes (	*Brochure Page No.*
15	Raw data processing capability or equivalent		
D	**Image Storage:**		
1	**Capacity of stored images** HDD: ≥ **100 GB**		
2	Removable Storage: **CD/DVD, USB**		
E	**Multifrequency Transducers**		
1	Adult sector :**2-4 Hz**		
2	Pediatric sector: **3-8 MHz**		
F	**Imaging Modes:**		
1	2D		
2	B-mod		
3	Tissue harmonic imaging		
4	Colour Doppler imaging		
5	Zoom function with Movable zoom box.		
6	Speckle reduction (Noise reduction imaging)		
7	Anatomical M-mode		
8	CW Doppler		
9	PW Doppler		
G	Reporting and Management System		
1	The system shall be capable to perform patient report which should include; patient data, measurements, analyses, to allow embedding of images into patient reports.		
2	Thermal Black and White printer		
H	All available standard & optional features, packages, & accessories must be listed and priced separately		

SPECIAL TERMS

- *Offers not complying with any of the special terms or the technical specifications shall be considered non-conforming with tender requirements.*

- *Any vendor providing FORGED documents shall be disqualified from the current tender and banned from participating in any future RMS tenders.*

1. All equipment must be the most recently released model/version which is equal to or higher than the range of the specifications of the required system (low, mid or high) and equal to or higher than the level of technology and required options mentioned in the technical specifications.

2. Required certificates:

2.1 *For equipment of US origin, a copy of a certificate of FDA approval & the relevant 510K clearance for selling to US healthcare facilities for the offered model must be submitted with the technical offer.*

2.2 *For equipment of other origins, a copy of either a CE certificate with the relevant CE number (MDD)/TÜV/BSI/UL OR a certificate of FDA approval & the relevant 510K clearance for selling to US healthcare facilities for the offered model must be submitted with the technical offer.*

2.3 *Only for class I medical equipment, submission of a copy of Declaration of Conformity certificate (MDD) for the offered model shall be accepted.*

2.4 *With each offer, bidders must provide a formally endorsed document issued by the manufacturer stating that the bidder is the sole certified agent / distributor for the offered item.*

2.5 *In all of the above cases (except 2.4) certificates must be formally endorsed by JFDA.*

3. Country of origin:

3.1. The country of origin of the equipment must be one of the following:

USA, Canada, Japan, UK, Sweden, Finland, Denmark, Switzerland, Belgium, Germany, France, Netherlands, Spain, Norway, Italy, Ireland, Austria, New Zealand, Australia & Czech Republic.

3.2. Accessories and consumables may be manufactured in other countries and/or by different manufacturers.

3.3. All offered items must be approved for sale in the same country of origin. An original and officially endorsed free-sale certificate from an authorised body must be included in the offer.

3.4. Vendors must specify the country of origin of all offered items and accessories in the technical offer.

3.5. Except for equipment mentioned in (3.6) below, equipment manufactured by reputable companies based in any of the countries mentioned in (3.1) will be taken into consideration regardless of the manufacturing site only:

a. If they are approved for sale in the same county of origin (an original and officially endorsed free-sale certificate from an authorised body must be included in the offer.
OR

b. If they are approved for sale in at least three of the countries mentioned in (3.1) (an original and officially endorsed free-sale certificate from an authorised body in those countries must be included in the offer).

3.6. For X-ray based equipment, MRI, and nuclear medicine systems, the following parts must be manufactured in one of the countries mentioned in 3.1 above.

3.6.1. X-ray tubes

3.6.2. X-ray generators

3.6.3. Flat panel detectors

3.6.4. Gantries (including detectors).

3.6.5. Image intensifiers

3.6.6. MRI Magnets

3.6.7. Gamma camera heads

3.7. Bidders must submit their reservations/queries regarding tender specifications and/or special terms within the first third of the tender closing period starting from the tender

announcement date. Reservations/queries submitted after the end of this period shall be rejected.

4. *Warranty:*

4.1. Offers must include a full warranty including spare parts and labour for a period of a minimum of 24 months from the date of installation.

4.2. If at any time during the warranty period the item becomes inoperative due to a technical fault the item must then be repaired by the supplier /local agent within a period of fourteen days from written notification, otherwise the supplier must replace the item with a new identical functioning one and will endure a penalty determined by the Royal Medical Services for each day of the downtime of the system. In case the item was replaced by a new one, the warranty period mentioned in (4.1.) above will start from the installation and commissioning date of the new item.

5. *One set of operation manual(s) and one set of service manual(s) including schematics and a spare-part list must be delivered with each unit, CD/DVD is acceptable. For large tenders, a certain agreed percentage of manuals per item may be agreed upon.*

6. *Where applicable, pre-installation shall be the sole responsibility of the supplier. Pre-installation shall include removal of old system(s), any civil work, electrical work or site modification(s) necessary to accommodate the new system(s) according to manufacturers' specifications and safety standards in addition to the work required for bringing back the site to the same working conditions as before installing the new system(s).*

7. *Power requirements: where applicable either single phase 220V, 50Hz or 3-phase 380V. Systems with external transformers are considered conforming only if clearly stated in the technical specifications.*

8. *Technical offers must include clear original technical brochures/catalogues for all offered items.*

9. *Offers must include fully detailed technical offers and compliance sheets as a soft copy (either Microsoft office or Microsoft excel format) in addition to a hard copy, mentioning the exact model/catalogue number and country of origin of the offered item(s), full technical description/specifications and any accessories or options included in the offer.*

10. *Compliance sheets must be as per the tabular format of the technical specifications in the tender documents, listing the required specifications on one column and a Yes or*

NO response to each point in the adjacent column, with reference to page and line numbers in the relevant technical brochure. Offers not complying with this term shall be rejected.

11. *Accessories and consumables:*

11.1. Any accessories and consumable items necessary to operate the offered system must be clearly identified and priced separately.

11.2. Technical offers must include a priced list for accessories and consumables as a hard copy in addition to a soft copy (either Microsoft office or Microsoft excel format) with prices fixed for a period of five years from the date of installation and commissioning with a maximum annual increase of 2%, any essential item not listed will be considered free of charge.

11.3. Accessories and consumables must be priced according to their delivery destination either to Queen Alia International Airport or to RMS Main Medical Stores.

11.4. Where applicable, a start-up kit of accessories and consumable items must be provided with each system on a free-of-charge basis.

12. *Spare Parts:*

12.1. Technical offers must include a comprehensive and priced spare parts list as a hard copy in addition to a soft copy (either Microsoft office or Microsoft excel format) valid for a minimum period of five years with a maximum annual increase of 2%, commencing at the end date of the warranty period, any essential item not listed will be considered free of charge.

12.2. Spare parts must be priced according to their delivery destination either to Queen Alia International Airport or to RMS Main Medical Stores.

13. *Spare parts, consumables and accessories availability must be guaranteed for a minimum period of ten years starting from the date of installation and commissioning.*

14. *Tender Awards:*

14.1. For the final list of offers having a chance of winning the award, the awarding process shall be based on the accumulative value of both the offered item and its' running cost (Total Cost of Ownership) over a period of seven years from the date of installation and commissioning. Only offers with the lowest total cost of ownership over

a period of seven years from the date of installation and commissioning shall qualify for the award.

14.2. Running cost includes the value of consumables, accessories needed to operate the system over the same period as well as the cost of any service contract (where applicable).

15. *For PC/Laptop based systems:*

15.1. Complete restoration medium (CD/DVD/etc.) of the operating system and the application software must be supplied.

15.2. Where locally supplied computers or laptops are offered, only computers/laptops from Apple, hp/Compaq, Lenovo, Dell, fujtisu or Toshiba will be accepted, offered models must be the latest available version upon delivery.

15.3. Where locally supplied printers are offered only the following types and brands are accepted: HP, SAMSUNG, OKI, CANON, EPSON.

16. *Pricing must include services of sale, shipment, transportation, delivery from port to site or to Main Medical Stores, installation, pre-installation (if needed), training, commissioning, warranty and bringing the equipment into service.*

17. *Custom clearance of goods shall be the responsibility of the Jordanian Armed Forces (JAF), however, suppliers shall bear all costs incurred by handling charges and any demurrage charges or extra expenses incurred by the port's corporation (including expenses caused by delay in presenting the necessary shipment documents for either clearing or transporting the goods to the required location mentioned in the final order, delivery note issuing charges, unloading charges, local shipping charges etc.). The supplier is also responsible for providing of all relevant shipping documents, together with the delivery order(s).*

18. *DRMS has the right to increase or decrease the awarded quantities by a percentage not exceeding 30% after the final order notification with the same prices, terms and conditions of the original contract upon DRMS request and approval of the awarded party.*

19. *The supplier must furnish DRMS with a guarantee stamped and legalized by the Notary Public equals to (115%) of the total value of the awarded equipment valid for twelvemonths from the date of final acceptance of the equipment by DRMS.*

20. *Training: offers must include a certified on-site user and service training.*

بسم الله الرحمن الرحيم

محضر اجتماع

الموضوع : العطاء رقم ش٥٠٠/٢٠١٧/١٠٧ لشراء اجهزة (Cardiac Ultrasound)

اجتمعت لجنة مواصفات العطاء اعلاه و المشكلة بموجب كتاب عطوفة مدير عام الخدمات الطبية الملكية رقم ش٥٠٠/٢٠١٧/١٠٧/٢٥٨٧٧ تاريخ ٢٠١٧/١٢/١٤ و رقم ش٥٠٠/٢٠١٧/١٠٧/٦٩٠٠ تاريخ ٢٠١٨/٣/٢٩ و ذلك لدراسة الاستفسارات التالية :

١. استفسار السادة شركة الفيصلية للانظمة الطبية بموجب كتابهم رقم (FHS/L/010488/SFA) تاريخ ٢٠١٩/٣/٢٤ مرفق مذكرة شعبة المشتريات المركزية رقم ش٥٠٠/٢٠١٧/١٠٧/١٧٠٠ تاريخ ٢٠١٩/٣/٢٥.
٢. استفسار السادة شركة الوطنية الاولى لتجارة الاجهزة الطبية بموجب كتابهم رقم (6287065-L1) تاريخ ٢٠١٩/٣/٢٤ مرفق مذكرة شعبة المشتريات المركزية رقم ش٥٠٠/٢٠١٧/١٠٧/١٧١٦ تاريخ ٢٠١٩/٣/٢٥.
٣. استفسار السادة الكفاية للحلول الطبية بموجب كتابهم (100/EHCS/019/L) تاريخ ٢٠١٩/٣/٢٧ مرفق مذكرة شعبة المشتريات المركزية رقم ش٥٠٠/٢٠١٧/١٠٧/١١٥٦ تاريخ ٢٠١٩/٣/٢٨.

بعد دراسة الاستفسارات اعلاه اوصت اللجنة:

١. المادة الاولى (Cardiac Coulor Doppler Ultrasound System, High End):

- المقصود بـ(Minimum Requirements, High End latest technology):
Top of the line with the latest technology available.
- المواصفة رقم (B.1) تبقى كما هي.
- المواصفة رقم (B.3) تبقى كما هي.
- المواصفة رقم (D.11) تبقى كما هي.
- المقصود بالمواصفة رقم (G.3) :
4D Transthoracic-probe with full 4D application.

بسم الله الرحمن الرحيم

٢. المادة الثانية (Cardiac Colour Doppler Ultrasound System, Med-Range):

- المواصفة رقم (B.2) تبقى كما هي.
- تعدل المواصفة رقم (G.2) لتصبح:

Broadband phased array probe for pediatrics with approximate 2-8 MHz bandwidth.

بدلا من :

Broadband phased array probe for pediatrics with approximate 3-8 MHz bandwidth.

٣. المادة الثالثة (Portable Echo Ultrasound):

- المواصفة رقم (C.6) تبقى كما هي.
- تعدل المواصفة رقم (E.2) لتصبح:

Pediatric sector: approximate 2-8 MHz

بدلا من :

Pediatric sector: 3-8 MHz

٤. لا تعديل على باقي المواصفات.