

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, NEW DELHI-29.
STORES SECTION (DO)

Ref. No. 07/Stores(DO)/Ortho/PAC/2018-19/FSC

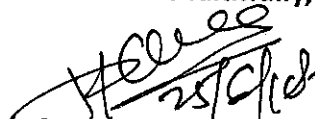
Dated-25/06/2018

Sub:- Purchase of "High-End C-Arm Machine" for the Department of Orthopedics at AIIMS, New Delhi-110029, on proprietary basis Inviting comments thereon.

The Institute is in the process to purchase "High-End C-Arm Machine" for the department of Orthopedics at AIIMS, New Delhi from **M/s. Ziehm Imaging GmbH, Germany through M/s. Bet Medical Pvt. Ltd.** The PAC Certifications by **M/s. Ziehm Imaging GmbH, Germany** as well as the user department are attached.

The above documents are being uploaded for open information to submit objections, comments, if any, from any manufacturer regarding proprietary nature of the equipment/item within 15 day from the date of issue/uploading of the notification giving reference No. **07/Stores(DO)/Ortho/PAC/2018-19/FSC**. The comments should be received in office of Stores Officer (FSC), Store Section (DO), Animal House Building, Near Biotechnology Building at AIIMS on or before **11/07/2018** upto **12.30 p.m.** failing which it will be presumed that any other vendor is having no comment to offer and case will be decided on merits.

Yours faithfully,


STORE OFFICER (FSC)

Encl: Related documents enclosed.

TENDER SPECIFICATIONS FOR 3D & 2D ISOCENTRIC MOBILE IMAGING SYSTEM WITH FLAT PANEL DETECTOR (HIGH-END C-ARM MACHINE – 01 No.)

Should be a Versatile compact with facility to allow unobstructed positioning and enhanced ease of operation in operation theatre. C-arm with flat panel and 3D to have following or better mechanics:

X-RAY GENERATOR

- It should be Rotating anode X-Ray tube
- It should have dual focus :0.3 / 0.6mm
- The Generator should be Mono block with high frequency or more with microprocessor controlled.

2. GENERATOR OUTPUT

- MAXIMUM OUTPUT : 25 kW or above

3. TUBE HOUSING HEAT CAPACITY

- It should be powered by integrated heat exchanger systems, so that the system has the heat withstanding capacity of 10 MHU or more
- X-ray tube should be integrated with special liquid Cooling for Continuous Use

4. OPERATING VALUES

Pulsed Fluoroscopy:

- kV Range : 40 to 120 kV
- mA range : 1.5 to 250mA
- pulse rate : 1,2,4,8,1 2.5,25 pulses per second

Digital Radiography

- kV Range : 40 to 120 kV
- mAs range : upto 250mA

5. Filtering:

- It should have Total filtering : ≥ 4.3 mm Al, including 0.1mm cu

6. Collimator system:

- Dedicated pre collimator for FPD
- Collimator Rotation: $\pm 90^\circ$
- Iris Collimator: 50 to 289mm diameter
- Slot Collimator: 50 to 289mm diameter
- Virtual Collimation without radiation

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7. Flat Panel Detector system

- Type : Amorphous silicon photodiode TFT technology
- Scintillator: Cesium Iodide
- Field Size : 29.8 X 29.8cm and the Image size should also be 29cm x 29cm atleast
- Detector Matrix should be of 1 K X 1 k pixels. Pixel Size :194µm
- Dynamic Range: 84dB
- System Resolution: 2.4 lp/mm
- Anti scatter grid: 70 lines / cm / grid ratio 8:1
- Laser localizer integrated in the detector housing
- Flat panel should be integrated with the distant control as a safety measure for the patient and collision prevention. When approaching an object, the motorized movement should slow down and movement should stop immediately before entering a defined safety zone. Should Detects patient as well as instruments

Monitors:

- Monitors should be of High resolution & High brightness twin flat screen monitors
- Screen size : 18.1 " (46 cm) or better
- Resolution :1280X1024 pixels or better
- Viewing Angle (Horizontal & Vertical) : 170°
- Tilt Range : ±10°
- Contrast Ratio : 600:1
- Dimensions:41cm X 34 cm X 7 cm

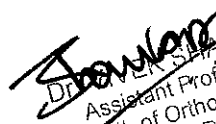
The following real-time and post processing digital processing functions should be possible

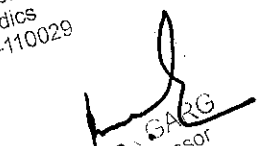
- Edge enhancement filter.
- Zoom 3 levels (post processing)
- Windowing and step windowing
- Digital image rotation and reversal should be possible without radiation
- Recursive filter at 4 levels
- Grayscale inversion
- Digital Shutters (Image cropping)
- Digital measurement functions (post processing)

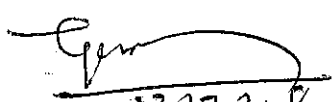
System should be capable of doing 3D imaging and therefore should be available with 3D IMAGE ACQUISITION

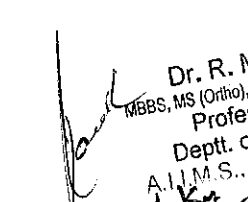
SOFTWARE FOR 3D VISUALIZATION

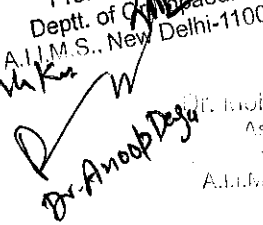
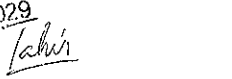
- 3D WORKSTATION
- With Resolution 320 voxel or more
- Slice planes, axial, saggital , coronal
- 3D motor driven C-arm orbital rotation should be possible.
- motorized scanning for 3D Image acquisition with rotation time of 45 secs max.
- Anatomical programs to determine ideal noise reduction, pulse width, etc. specific to anatomy should be possible
- Power technology of the system should be such a way that will avoid the need to replace the battery package
- Digital memory with storage capacity of atleast 100,000 images or more and Digital Image processing upto 32 bit should be possible


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Should include the following

- Wireless Multifunctional Dual Plus foot switch with programmable configuration.
- Wireless Video package including transmitter integrated in the monitor and also should provide video server for streaming their live image with the hospital network supporting bi-directional voice transmission.
- Removable Grid can be removed to perform applications with lower dose. Grid holder to be provided
- Measurement functions
- DVD-RW drive
- System should have netport DICOM interface for digital network integration with storage, query /retrieve and print capability.
- Interface for pressure injector.

8. User Interface:

- TFT touch screens should be available on C-arm stand and should be synchronized with TFT monitors on the monitor cart
- Intuitive icons for easy use
- Resolution : 640X 480 pixels
- Multi lingual user inter face
- 4 axes movement control
- Fluoro button
- Emergency stop button
- Should have joystick control for four axes motorised movement.
- Additional remote center to mount on the side rail of the operating table.

Dimensions & mechanics:

- C-arm should have the following motorized movements
- Vertical travel : > 40 cm or more
- Horizontal travel : > 25 cm
- Orbital Rotation should be atleast 160° or better
- Angulation : $\pm 215^\circ$
- Speed should not be less than 15 deg / sec for angulation and orbital rotation and 30mm per seconds for vertical and horizontal travel.
- System should have anti-collision protection system for 'C' movements.
- Focus image receptor distance : 105cm
- C-Arm vertical free space: 83.5cm
- C-Arm depth : 68 cm
- Width : 80cm
- Brakes: Steering and breaking lever with parallel movement of the mobile stand in all directions should be possible
- Should be CE & FDA approved
- Should have installed atleast 2 systems of same offered model
- Should have Type approval for AERB

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**ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, NEW DELHI - 110029**

PROPRIETARY/SPECIFIC BRAND GOODS CERTIFICATE

1.	Item/Type/Model No. required alongwith specifications.	3D Flat Panel C-Arm
2.	Is the item a spare part attachment or accessory for existing equipment?	3D Flat Panel C-Arm
3.	Name of the manufactures supplier of the item proposed by the indentor.	M/s. Ziehm Imaging, Germany
4.	Are they sole manufactures/Sold distributors of the item?	Sole Manufacturer
5.	Is there any other item with similar/equivalent specifications available in the market to meet the job requirement envisaged? If the answer is yes, why the same can't be procured. Demanding Officer should bring out of comparative functional advantage/cost effectiveness of the recommended item from these offered by other.	No. Proprietary Certificate Enclosed
6.	What were the efforts made to locate alternative source of supply of use other substitutes.	No
7.	Why open/limited tender can't be resorted to, for locating alternative source.	Proprietary
8.	Are the proprietary items certifying that the rates are reasonable or not	3D Flat Panel C-Arm is proprietary product (certificate enclosed) and best of my
9.	Any other justification for procuring item from single source.	knowledge the price quoted by the firm should be reasonable.

Signature of Indentor

Dr. Bhavuk Gang

Counter Signed by

Head of the Department

Dr. R. MALHOTRA

MBBS, MS (Ortho), FRCS, FACS, FICS, FIMSA

Professor & Head

Department of Orthopaedics

A.I.I.M.S., New Delhi-110029

I certify that the item at Sr. No. 1 above is required to be procured on single tender basis as the source of supply is definitely known/the specified brand proposed was advantages in meeting our functional requirements and limited tender system could be dispensed with as they would serve no useful purpose in this particular case.

(Strike out whichever is not applicable.)

Dr. Vijay Kumar D

Dr. Vikramant Manhas

Dr. Tahir Ansari

Dr. Vivek Shankar

Dr. Ravi Mittal

(Dr. R. N. Mohan)

Ziehm Imaging GmbH | Donaustrasse 31 | 90451 Nuremberg | Germany

To whom it may concern

Nuremberg, 19-Feb-18

PROPRIETARY CERTIFICATE

Dear Sir or Madam,

This is certifying that C-arm system model **Ziehm Vision RFD 3D** system is the proprietary item of Ziehm Imaging GmbH, Donaustrasse 31, 90451 Nuremberg, Germany.

Our Ziehm Vision RFD 3D has three special items. The first following two items are the patents incorporated in our model and the third is an iterative algorithm especially for this model.

- 1) SmartScan
- 2) Variable Isocentric Movement
- 3) Ziehm Iterative Reconstruction

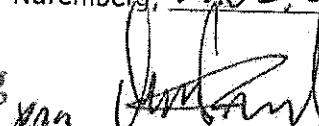
Yours faithfully,

Nuremberg, 20.02.2018

Nuremberg, 19.02.2018


 ziehm imaging
 Stephan Dippold
 Managing Director
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 Martin Törnqvist
 VP Global Sales & Marketing
 Ziehm Imaging GmbH



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Ziehm Imaging GmbH | Donaustrasse 31 | 90451 Nuremberg | Germany

To whom it may concern

Date: 1-February-16

PROPRIETARY CERTIFICATE

Dear Sir or Madam,

This is certifying that Ziehm Imaging GmbH C-Arm System model **Ziehm Vision RFD 3D** system is the proprietary item of **Ziehm Imaging GmbH., Donaustrasse 31, 90451 Nuremberg, Germany.**

No other Company manufactures a Mobile Imaging system for Interventional and surgical applications, with the same specifications like incorporating **FLAT PANEL and 3D Reconstruction facility**. Mainly the first following two items are the patents incorporated in our model and the third is an iterative algorithm design especially for this model.

- 1) SmartScan
- 2) Variable Isocentric Movement
- 3) Ziehm Iterative Reconstruction

Best regards,


Stephan Dippold
Managing Director
Ziehm Imaging GmbH



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Martin Tornvik
VP Global Sales & Marketing
Ziehm Imaging GmbH

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	Ziehm Vision FD Vario 3D	Ziehm Vision RFD 3D
Equipment Design	Very Compact	Very Compact
Image conversion technology	Flat Panel Detector	Flat Panel Detector(Latest technology)
Tube Housing Heat capacity	5 Million Heat Units	10 Million Heat Units with Advance Active cooling system
X-ray Generator Capacity	2.02 kW	25 kW
Scan mode	Orbital Path & Elliptical Path (for different anatomical region)	Patented scan technology with (165 orbital + 15 Shift)
Anode type	Stationary Anode	Rotating Anode
3D volume size	12.8cm x 12.8cm x 12.8cm	16cm x 16cm x 16cm (Cubical)
3D image resolution	512 cubical voxels	320 cubical voxels
Slice thickness	0.50mm Slice thickness	0.50mm slice thickness
3D visualization	Multiplanar Reconstruction(MPR),Orthogonal & Volume rendering	Multiplanar Reconstruction(MPR) & Orthogonal & Volume rendering
3D planes	Axial, Saggital, Coronal	Axial, Saggital, Coronal
Metal Artefact reduction features	Ziehm iterative reconstruction (ZIR) 3D reconstruction algorithm	Ziehm iterative reconstruction (ZIR) 3D reconstruction algorithm
Scan time	60 Secs	48secs
No of images per scan	110 images	400 images
Navigation Compatibility	Yes	Yes Available in 4 Axes (Orbital,Angular Horizontal & vertical)
Motorized C-arm movements	Available only in 3 Axes (Orbital, Horizontal, vertical)	
Collision Stop	Not Available	Available
Mobile cart for remote vision center	Not Available	Available
Wireless multifunctional dual plus foot switch	Not Available	Available
Wireless video package	Not Available	Available
Videoserver for streaming the live image	Not Available	Available
Measurement funtions	Not Available	Available
Generic interface to power injector	Not Available	Available
New remote vision Centre	Not Available	Available
Position control center and distance control to allow faster and isocentric movement	Not Available	Available