



ALL INDIA INSTITUTE OF MEDICAL SCIENCES
BILASPUR (H.P)

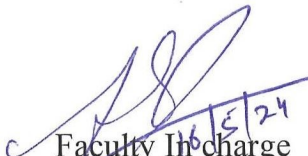
Ref. No CTVS/211-A

Dated: 16.05.2024

Subject: Procurement of TTFM on proprietary basis- Inviting Comments thereon

A demand received from **CTVS Department AIIMS Bilaspur (H.P)** for the procurement of above cited item (**TTFM -Transit Time Flow Measurement**) on proprietary basis. The product is proprietary product of **Medistim ASA Norway**. The PAC certificate from the firm and its authorized supplier are attached and uploaded on website.

The above documents are being uploaded for open information to all, firms to submit the objections, with respect to proprietary nature of the product, if any within 15 days from the date of issue/uploading of the notification, giving reference no. **CTVS/211-A** The objections/comments should be sent to storeofficer@aiimsbilaspur.edu.in or Procurement Officer, AIIMS Bilaspur (HP) 174037, on or before 31.05.2023 up to 5:00 PM, failing which it will be presumed that any other vendor is having no comments to offer and the case will be decided on merit.


16/5/24
Faculty Incharge
(Procurement)

Encl: Related Documents Enclosed

- 1) PAC certificate
- 2) Authorization certificate

Medistim ASA
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17/10/2023

Proprietary Article Certificate

MiraQ Cardiac System

This is to certify and confirm that we, **Medistim, Norway, located at address ØKERVEIEN 94, 0579 Oslo, Norway, Phone +47 23 05 96 60, Fax+47 23 05 96 61**, are the sole manufacturers of MiraQ Cardiac system the technology of Imaging combined with graft patency device/equipment /flow meter for TTFM measurements and its related QuickFit TTFM Probes, Vascular TTFM Probes, Doppler Probe, Ultrasound Imaging Probe, and Cardiac Output TTFM Probes .

We further state and confirm and certify the following Proprietary Technology available exclusively only with Medistim:-

All three of the following techniques – Epiortic imaging, Epicardial imaging and Transit Time Flow Measurement (TTFM) – are provided in the MiraQ Cardiac system from Medistim. MiraQ Cardiac system is adapted to the special requirements of cardiovascular surgery.

TTFM provides accurate and systematic assessments of graft patency. Imaging technology improves the quality assessment obtained from TTFM alone. The combination of TTFM and imaging in a single system provides a complete quality assessment under control of the surgeon – resulting in a single documented report. This gives the surgeon ultimate control for planning, navigation and verification. The documentation can be used as evidence of graft patency, as records for referring physicians, and for preparing publications. Combining blood flow measurement and imaging together in a single package is the new paradigm for intraoperative quality assessment and improved outcomes.

TTFM

Transit Time Flow Measurement (TTFM) should be used to verify graft patency, as recommended by guidelines issued in 2010 jointly by the European Society of Cardiology (ESC) and European Association for Cardio-Thoracic Surgery (EACTS). Proven TTFM delivers nearly instantaneous determination of graft patency for intraoperative control which allows the possibility to detect and correct technical imperfections of coronary bypass grafts.

- Clinically, graft patency is very strongly correlated to **Pulsatility Index**. The key to utilizing PI as an indicator of graft patency is to look to the vast research that has been conducted on CABG grafts, using MediStim technology. A clinical endpoint of PI equal to 5 or less is indicative of laminar flow. Any reading higher than 5 is suggestive of a technical error that should be considered for intervention prior to closure. **MediStim** filter setting at 20 Hz, MediStim picks up more peaks and valleys of flow,
- A well-functioning CABG graft displays a predominant diastolic filling pattern. As intra myocardial pressure is higher on the left side of the heart, diastolic filling is even more pronounced. The Medistim MiraQ Cardiac system is the only System integrates with the patient ECG, enabling a display of the flow curve that differentiates diastolic and systolic flow. The device automatically calculates the **diastolic filling percentage**, which should be around 50% for right-sided grafts and 70% for left-sided grafts. Significantly reduced DF% is cause for concern that patency is compromised. **The diastolic filling percentage parameter is exclusive to MediStim technology.**



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- Medistim MiraQ Cardiac system is the only system in the market to offer Imaging Doppler flow feature. Doppler is used to help search and find coronary vessels covered by fatty tissue or is embedded in the muscle and to guide the surgeon on selection of grafting strategy, especially in cases with diffuse distal disease.
- Medistim MiraQ Cardiac system is the only system in the market offering the advanced features of stenosis location, quantification and distal/retrograde flow verification without snaring the coronary artery, facility to detect competitive flow, detection of spasms.
- MiraQ Cardiac system provides acoustic contact indicator in real time in percent colour coded format and offer up to 9 real time curve displays of DF percentage, Pulsatility Index and Flow in ml/min
- Only MiraQ Cardiac system provides ECG synchronization, standard built in pressure input facility, comprehensive built in patient database facility, electronic export of patient report in pdf format, online user manual, two/four channels input, user selectable curve resolution settings from 5 Hz to 100 Hz, silicone covered flat face probes with ears for holding the vessel in the correct position, steam autoclavable probes up to 50 usages, ability to create derived traces, standard FFT, software/hardware upgradable pericardial imaging feature.

Epiaortic Imaging

Epiaortic Imaging guidelines published in 2007 by the American Society of Echocardiography and the Society of Cardiovascular Anesthesiologists have been endorsed by the Society of Thoracic Surgeons as well as other scientific publications show that Epiaortic Imaging can be used intraoperatively to assess the aorta, identify an area free of soft- and calcified plaque for safe crossclamping and cannulation and strategize graft placement. The use of Epiaortic Imaging can often lead to modifications in intraoperative surgical management.

Epicardial Imaging

Epicardial Imaging guidelines published in 2007 by the American Society of Echocardiography and the Society of Cardiovascular Anesthesiologists as well as other scientific publications show that Epicardial Imaging can be used intraoperatively to assess coronary quality, strategize graft placement and verify graft patency and that a comprehensive epicardial echocardiographic examination can be performed efficiently and safely. Epicardial echocardiography may also provide the best balance between safety and the efficient acquisition of vital information necessary to optimize the perioperative management of critically ill patients. Epicardial echocardiography can provide optimal image resolution when using higher frequency probes. Because of the proximity of the probe to the heart, epicardial echocardiography typically uses higher frequency probes (5-12 MHz).

MiraQ Cardiac system

The MiraQ Cardiac system offers the imaging modes:

- B-Mode (2D): grayscale image to identify plaque and vessel anomalies.
- Color Flow Mapping (CFM): color image to determine presence, direction and velocity of the flow
- Pulsed Wave Doppler (PW): grayscale image with PW gate and velocity spectrum to search, detect and quantify the degree of stenosis

In addition to TTFM applications.

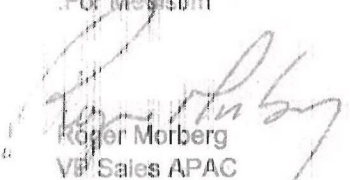
Default settings are provided for optimal use of each application but flexibility is allowed by modification of a range of settings.

EL100015 Imaging Probe

The imaging probe used with MiraQ Cardiac has a frequency range of 11-18 MHz and a 128 element transducer which provide unsurpassed resolution in the near field, with a focal range of 45 mm. The probe is STERRAD sterilizable 100 times and unique in the market as it is Type CF certified which allows for direct cardiac contact. Therefore, it doesn't

require a stand-off or a sterile bag filled with gel or fluid when used intraoperatively. The probe can be kept in the sterile field and repeatedly used for a variety of applications during the 7 hours procedure time, counted as one use. The ergonomic design of the probe permits easy access to all parts of the heart with its flexible probe cable, angled probe head and small footprint of 20x10 mm.

For Medistim


Roger Morberg
VP Sales APAC
MEDISTIM ASA

MEDISTIM

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Health innovation that matters

To,
The 'Director'
All India Institute of Medical Sciences
Bilaspur, (HP) - India.

19-04-2024

Dear Sir,

Subject . :- Subject: Regarding the purchase of INTRAOPERATIVE IMAGING AND TTFM– Authorization Certificate

We, **LivaNova India Pvt. Ltd.** With registered address at 603-A, Copia Corporate Suites, Jasola, New Delhi-110025, India who are official marketers for **Medistim Range Of Equipments and Consumables** in India, do hereby, authorize **Messrs Cardio Medical Devices** at SCO-20(1st & 2nd Floor), Sector-10/D Chandigarh – 160 010 to submit a bid, negotiate and conclude the contract with you.

This authorisation is valid up to 31st Dec, 2024.

Thanking you.

Yours sincerely,
For LivaNova India Pvt Ltd.



Authorized Signatory
Ashish Shokeen
Regional Director - South Asia

LivaNova India Private Limited (Formerly known as Sorin Group India Private Limited)
CIN: U74140DL2015FTC283248

Registered Office: 603-A, Copia Corporate Suites, Building #09, Jasola District Centre, New Delhi-110025
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