

## CERTIFICATE

It is certified that in compliance of Rule-48 of SPP Rule 2010 (Amended Up to Date), Even when only one bid is submitted, the bidden process may be considered valid, if the bid was advertised in accordance with rules, and prices are comparable to (PC-I cost or Financial Estimates or) the prices or rates of the last awarded contracts or the market prices.

**PPMS ID:** T00518-23-0004

**Tender Name:** PROCUREMENT OF MACHINERY & EQUIPMENT  
(SUPPLY, INSTALLATION, TESTING & COMMISSIONING)

**Tender Reference:** PROC/SMBBIT/(P&M-01)/2023-24

**PROF. DR. SADQA AFTAB**

**Chairperson - PC**

HOD ICU & Anesthesiology Department,  
SMBB Institute of Trauma, Karachi

Dow University of Health Sciences

**PROF. DR. BADDARUDDIN SAHITO**

**Member - PC**

Head of the Department of Orthopaedic Surgery,  
Dow University of Health Sciences &  
Dr. Ruth K.M.Pfau Civil Hospital, Karachi

**MR. MUHAMMAD IBRAHIM MEMON**

**Member - PC**

Deputy Secretary (PM&I),  
Health Department, Govt. of Sindh

**MR. MUHAMMAD FAHEEM**

**Member - PC**

Pharmacist  
SMBB Institute of Trauma, Karachi

**MR. HAMMAD HUSSAIN**

**Member - PC**

Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi

**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma

**DR. YOUSUF MEMON**

**Member - PC**

HOD Interventional Radiology,  
SMBB Institute of Trauma, Karachi  
Dr. M. Yousuf Memon  
Consultant of Trauma & Head of  
Interventional Radiology  
MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
SMBB Institute of Trauma Karachi

**MR. BILAL IDREES**

**Member - PC**

Manager  
Supply Chain Management,  
SMBB Institute of Trauma, Karachi

**SUPPLY CHAIN MANAGEMENT**  
SMBB Institute of Trauma, Karachi



**SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI**  
**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID #	T00518-23-0004
TENDER REFERENCE #	PROC/SMBBIT/(P&M-01)/2023-24
DATE & TIME OPENING OF TECHNICAL	16-03-2024 AT 12:00 PM
TENDER TITLE:	PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING

S. No.	Name of Item	U.O.M	Product Description / Specification	Company Name	Brand Name / Make	Model	Conformity to the Purchaser's Specifications (Mandatory) (40 Marks)			Trained Product specialist (10 Marks)		Manufacturer's Authorization (10 Marks)			Human Resource (Technical Staff) (06 Marks)		Networking (04 Marks)		Experience/ Performance (10 Marks)		Average Annual Turnover during last three (03) financial years (Audited Statements of Accounts and Income Tax) Return Forms must be attached as supporting documents) (10 Marks)		Bonus points (Free of Cost Extended Warranty) (In accordance with the comprehensive warranty period including all parts) (10 Marks)		Total Technical Marks	Remarks				
							Fully compliant with the required specifications (Product/Service) (05 marks)	Product / service may be considered (05 marks)	Product / service may not be considered (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)			Two marks for each format. Trained specialist must be provided for the product (05 marks)	Two marks for each format. Trained specialist must be provided for the product (05 marks)		
							40	30	Disqualify	6	4	10	8	6	6	4	2	4	5	5	10	7	3	3	0	10	5	100		
1	OPERATION THEATER LIGHT DUAL DOME (CEILING MOUNTED)	1	As per Mentioned in SBD	M/s. Imperial Traders Inc.	Klaromed (Poland)	Plus LED ECO 96	-	-	Disqualify	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Disqualified		
				M/s. Eastern Medical Technology Services	Brandon Medical (UK)	Oc1010	-	-	Disqualify	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Disqualified
				M/s. Noor International	Ninson Medical (Germany)	Sim LFD 500MC	40	-	-	6	4	10	-	-	-	4	2	4	5	5	10	-	-	-	-	0	0	90	Qualified	
2	ANESTHESIA MACHINE WITH VENTILATOR	5	As per Mentioned in SBD	M/s. Imperial Traders Inc.	Mindray (China)	A5	-	-	Disqualify	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Disqualified		
				M/s. BIOS	OES Medical (UK)	Astra 3i	-	30	-	6	4	10	-	-	-	4	2	4	5	5	10	-	-	-	-	10	-	90	Qualified	
				M/s. Noor International	Panlon (UK)	Prima 460	40	-	-	6	4	-	-	-	-	4	2	4	5	5	10	-	-	-	-	10	-	90	Qualified	
3	PATIENT MONITOR	10	As per Mentioned in SBD	M/s. Imperial Traders Inc.	Contec (China)	CMIS-8080	-	-	Disqualify	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Disqualified		
				M/s. Noor International	Tromax (Sweden)	Vitus 12s	40	-	-	6	4	10	-	-	-	4	2	4	5	5	10	-	-	-	-	10	-	100	Qualified	
				M/s. Eastern Medical Technology Services	Ascent Medical (Germany)	Cetus x12	-	-	Disqualify	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Disqualified
				M/s. Hospicare System	Biolight (China)	M19500	40	-	-	6	4	10	-	-	-	4	2	4	5	5	10	-	-	-	-	10	-	100	Qualified	
4	BATTERY OPERATED ORTHO DRILL WITH ATTACHMENTS	2	As per Mentioned in SBD	M/s. RECH International	Arthrex (Germany)	-	-	30	-	0	2	-	8	-	-	4	2	4	5	5	10	-	-	-	0	0	70	Qualified		
5	PORTABLE MONITOR	10	As per Mentioned in SBD	M/s. Imperial Traders Inc.	Econet (Germany)	M20	-	-	Disqualify	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Disqualified		
				M/s. Eastern Medical Technology Services	Ascent Medical (Germany)	PAVO	-	-	Disqualify	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Disqualified
				M/s. Hospicare System	Biolight (China)	V6	40	-	-	6	4	10	-	-	-	4	2	4	5	5	10	-	-	-	-	10	-	100	Qualified	
6	VASCULAR DOPPLER	2	As per Mentioned in SBD	M/s. Noor International	Mindray (China)	Concous N8	-	-	Disqualify	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Disqualified		
				M/s. Biologic Medical Systems	Huntleigh Health Care Ltd. (UK)	Dopplex DMX	40	-	-	0	0	10	-	-	-	2	2	3	1.6	0	-	7	-	-	-	10	-	75.6	Qualified	
7	PATIENT WARMER (WATER BASED)	5	As per Mentioned in SBD	M/s. Hospicare System	Gentherm Medical CSZ (USA)	Flowase-Temp	40	-	-	4	2	10	-	-	-	4	4	5	5	10	-	-	-	-	-	-	86	Qualified		
				M/s. Noor International	Keevall Medical Technology (China)	KPW4000	-	-	Disqualify	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Disqualified

MANAGER  
SUPPLY CHAIN MANAGEMENT  
SMBB Institute of Trauma, Karachi

**HAMMAD RUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma

Dr. M. Yousuf Memon  
Consultant and Head of  
Interventional Radiology  
MEBS, DMRD, FRCR<sub>2A</sub>, EDIR VIR  
IBS Institute of Trauma Karachi

Dr. MUHAMMAD FAHEEM  
1st  
Specialist in Trauma

[illegible]

PROF. SADQA AFTAB  
Department Of Anesthesiology & ICU  
Sindh Institute Of TMA  
Dow University of Health Sciences



# SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI

BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS

## TECHNICAL EVALUATION

PPMS ID #  
TENDER REFERENCE #  
DATE & TIME OPENING  
OF TECHNICAL  
TENDER TITLE:

T00518-23-0004  
PROC/SMBBIT/(P&M-01)/2023-24  
16-03-2024 AT 12:00 PM  
PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING

S. No	Name of Item	U.O.M	Product Description / Specification	Company Name	Brand Name / Make	Model	Conformity to the Purchaser's Specifications (Mandatory) (10 Marks)			Trained Product specialist (10 Marks)			Manufacturer's Authorization (10 Marks)			Human Resource (Technical Staff) (10 Marks)			Networking (04 Marks)			Experience/ Performance (10 Marks)			Average Annual Turnover during last three (03) financial years (Audited Statements of Accounts and Income Tax Return Forms must be attached as supporting documents) (10 Marks)			Bonus points (Free of Cost Extended Warranty) (In accordance with the comprehensive warranty period including all parts.) (10 Marks)			Total Technical Marks (Total Allocable marks for Technical Proposal = 70)	Remarks
							Fully compliant with the required specifications (Technical documents, previous experience, references, etc.) (10 Marks)	Partially compliant with the required specifications (Technical documents, previous experience, references, etc.) (5 Marks)	Not compliant with the required specifications (Technical documents, previous experience, references, etc.) (0 Marks)	Two marks for each category (1) trained (2) Untrained Engineer with PTC (3) Engineer with PTC (4) Engineer with PTC (5) Engineer with PTC (6) Engineer with PTC (7) Engineer with PTC (8) Engineer with PTC (9) Engineer with PTC (10) Engineer with PTC (11) Engineer with PTC (12) Engineer with PTC (13) Engineer with PTC (14) Engineer with PTC (15) Engineer with PTC (16) Engineer with PTC (17) Engineer with PTC (18) Engineer with PTC (19) Engineer with PTC (20) Engineer with PTC (21) Engineer with PTC (22) Engineer with PTC (23) Engineer with PTC (24) Engineer with PTC (25) Engineer with PTC (26) Engineer with PTC (27) Engineer 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**MANAGER**  
SUPPLY CHAIN MANAGEMENT  
SMBB Institute of Trauma, Karachi

**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma

**Dr. M. Yousuf Memon**  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCC<sub>2</sub>A, EDIR VIR  
SMBB Institute of Trauma Karachi

**Dr. HAMMAD FAHEEM**  
1st  
SMBB Institute of Trauma

**Prof. DR. RAHMAN KHAN**  
MBBS, FCPS  
Head of Department  
Dow University of Health Sciences

**PROF. SADDIA AFTAB**  
Department of Anesthesia & ICU  
SMBB Institute of Trauma



**SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI**  
**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID #	T00518-23-0004
TENDER REFERENCE #	PROC/SMBBIT/(P&M-01)/2023-24
DATE & TIME OPENING OF TECHNICAL	16-03-2024 AT 12:00 PM
TENDER TITLE:	PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING

[illegible]

**DR. YOUSUF MEMON**  
Member - PC  
HOD Interventional Radiology  
SMBB Institute of Trauma Karachi

**MR. BILAL IDREES**  
Member - PC  
Manager Supply Chain Management,  
SMBB Institute of Trauma, Karachi

SUPPLY CHAIN MANAGEMENT  
SMBB Institute of Trauma, Karachi

**PROF. SADQA AFTAB**  
Chairperson-PC  
HOD ICU & Anesthesiology Department,  
SMBB Institute of Trauma, Karachi

**MR. MUHAMMAD IBRAHIM MEMON**  
Member - PC  
Deputy Secretary (PM&I),  
Health Department, Govt. of Sindh

**MR. HAMMAD HUSSAIN**  
Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi

HAMMAD HUSSAIN  
Biomedical Engineer  
SMBB Institute of Trauma

**Prof. DR. BADARUDDIN SAHITO**  
FRBS, FCPS, FRCS (Tr & Orth) Edinburgh  
Professor of Orthopaedic Surgery  
Head of Department of Orthopaedic Surgery  
Dow University of Health Sciences  
Dr. Ruth K.M.Pfau Civil Hospital Karachi  
**PROF. DR. BADARUDDIN SAHITO**  
Member – PC  
Head of the Department of Orthopaedic Surgery,  
Dow University of Health Sciences &  
Dr. Ruth K.M.Pfau Civil Hospital, Karachi

**MR. MUHAMMAD FAHEEM**  
Member - PC  
Pharmacist,  
MBB Institute of Trauma, Karachi

Member - FC  
Pharmacist,  
SMBB Institute of Trauma, Karachi



**SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI**  
**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID #

T00518-23-0004

TENDER REFERENCE #

PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL:

16-03-2024 AT 12:00 PM

TENDER TITLE:


**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 01

Name of Item: **OPERATION THEATER LIGHT DUAL DOME (CEILING MOUNTED)**

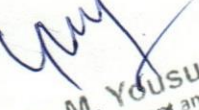
Quantity Required: **01 Unit**


Name of Firms	M/s. Imperial Traders Inc.	M/s. Eastern Medical Technology Services	M/s. Noor International
Make	Klaromed (Poland)	Brandon Medical (UK)	Simeon Medical (Germany)
Model	Plus LED ECO 96	Qe3030	Sim.LED 500MC
Specifications:			
1. Unit should have Clarity of vision, optimum performance	✓	✓	✓
2. Unit should have Concentrated light source	✓	✓	✓
3. Unit should have Patented, proven reflector technology	✓	✓	✓
4. Unit should have No color deterioration	✓	✓	✓
5. Unit should have Cool light	✓	✓	✓
6. Unit should be User-friendly	✓	✓	✓
7. Unit should have Optimum hygiene	✓	✓	✓
8. Unit should have Ultra-reliable lighting	✓	✓	✓
9. Unit should have Safety glass for best possible clarity.	✓	✓	✓
10. Unit Should have Sterilize-able and Remove-able Handles	✓	✓	✓
11. Unit Should have dust protection	✓	✓	✓
12. Should have light intensity of main light 160,000 lux	✓	✓	✓
13. Should have light intensity of satellite light 160,000 lux	✓	✓	✓
14. Should have Color temperature adjustment 3500 - 5500 Kelvin	✓	(Minor -10)	✓
15. Should have Electric field adjustment.	✓	✓	✓
16. Should have Focusable light field size d10 at 1m of light should be 180 mm -300 mm or better	✓	✓	✓
17. Should have Temperature increase at head height < 1 °c	✓	✓	✓
18. Should have color rendering index to 99 Ra or above.	✓	✓	✓
19. Life time of LED should be 50,000 hours or more.	✓	✓	✓
20. Dome should be adjustable upper side maximum 7 Feet or more and lower side minimum 4 Feet or more.	✓	✓	✓
21. Based on room size and can customize the configuration.	✓	✓	✓
Power Requirement			✓
1. Line voltages: 100-240VAC	✓	✓	✓
2. Line Frequency: 50/60 Hz	✓	✓	✓
Requirement:			
Certification:			
1. System should have Certification FDA 510(k)/CE/JIS/MHLW/JQAO	✓	✓	✓
Warranty and Maintenance Period:			
1. Warranty Period required 5 years with maintenance and parts replacement.	X	✓	✓
2. All the parts are included in the warranty. (LED, Keypad and all others parts are included)	X	✓	✓
3. PPM must be done according to the OEM criteria in warranty period.	X	X	✓

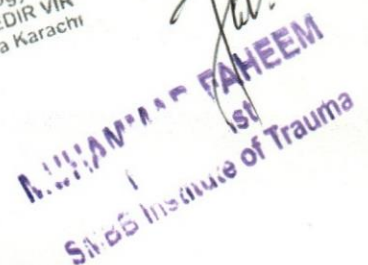
  
**MANAGER**  
**SUPPLY CHAIN MANAGEMENT**  
**SMBB Institute of Trauma, Karachi**

  
**HAMMAD HUSSAIN**  
**Medical Engineer**  
**SMBB Institute of Trauma**

Page 1 of 2

  
**Dr. M. Yousuf Memon**  
**Consultant and Head of**  
**Interventional Radiology**  
**MBBS, DMRD, FRCR, A, EDIR VIR**  
**SMBB Institute of Trauma Karachi**

  
**PROF. SADIQA ASLAM**  
**Department of Health Services**  
**SMBB Institute of Trauma**  
**Dow University of Health Sciences**

  
**A. HAMEED**  
**1st**  
**SMBB Institute of Trauma**



Item #: 01

Name of Item: **OPERATION THEATER LIGHT DUAL DOME (CEILING MOUNTED)**

Quantity Required: 01 Unit

Name of Firms	M/s. Imperial Traders Inc.	M/s. Eastern Medical Technology Services	M/s. Noor International
<b>Make</b>	Klaromed (Poland)	Brandon Medical (UK)	Simeon Medical (Germany)
<b>Model</b>	Plus LED ECO 96	Qe3030	Sim.LED 500MC
4. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	X	X	✓
5. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	X	X	✓
6. Up-time guarantee during warranty period must be 90-95%.	X	X	✓
7. Response to breakdown during and after warranty period must be 1-3Hours.	X	X	✓
<b>Down Time:</b>			
If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below;	X	X	✓
90% → No Down Time	X	X	✓
Below 90% → 1.5 days increase daily	X	X	✓
Below 75% → 3.5 days increase daily	X	X	✓
Below 50% → 5 days increase daily	X	X	✓
<b>Trainings &amp; Manual:</b>			
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	X	X	✓
2. In house operator training session for end user.	X	X	✓
3. In house service training session by Principal Certified resource	X	X	✓
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	X	X	✓
<b>Note:</b>			
1. Safely installation of new OT light and dismantling of old installed OT light should be responsibility of awarded firm/supplier.	X	X	✓
Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) are the responsibility of awarded firm/supplier).	X	X	✓
<b>COUNTRY OF ORIGIN: UK / USA / EUROPE / JAPAN OR EQUIVALENT</b>	Poland	UK	Germany
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks 2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks 3. Above 10% / Non-compliant to required specifications (Disqualified).	Dis-Qualified	Dis-Qualified	40

MR. HAMMAD HUSSAIN  
Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi

MR. MUHAMMAD FAHEEM  
Member - PC  
Pharmacist,  
SMBB Institute of Trauma, Karachi

MR. BILAL IDREES  
Member - PC  
Manager Supply Chain Management,  
SMBB Institute of Trauma, Karachi

**MANAGER**

**SUPPLY CHAIN MANAGEMENT**  
SMBB Institute of Trauma, Karachi

PROF. SADQA AFTAB  
Chairperson - PC  
HOD ICU & Anesthesiology Department,  
SMBB Institute of Trauma, Karachi  
Department of Anaesthesiology  
SMBB Institute of Trauma  
Dow University of Health Sciences

MR. MUHAMMAD IBRAHIM MEMON  
Member - PC  
Deputy Secretary (PM&I),  
Health Department, Govt. of Sindh

Prof. DR. BADARUDDIN SAHITO  
MBBS, FCPS (Tr & Orthopaedic Surgery)  
Head of Department of Orthopaedic Surgery,  
Dow University of Health Sciences &  
Dr. Ruth K.M.Pfau Civil Hospital, Karachi

DR. YOUSUF MEMON  
Member - PC  
HOD Interventional Radiology,  
SMBB Institute of Trauma, Karachi

Dr. M. Yousuf Memon  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
SMBB Institute of Trauma Karachi



**SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI**  
**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID #

T00518-23-0004

TENDER REFERENCE #

PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL:

16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 02

Name of Item: **ANESTHESIA MACHINE WITH VENTILATOR**

Quantity Required: **05 Units**

Name of Firms	M/s. Imperial Traders Inc.	M/s. BIOS	M/s. Noor International
<b>Make</b>	Mindray (China)	OES Medical (UK)	Penlon (UK)
<b>Model</b>	A5	Astra 3i	Prima 460
<b>Demonstration:</b>			
1. Quoted model demonstration is mandatory in technical approval is subject to satisfactory demonstration.	Service Support from Company and Principal is not Satisfactory	Satisfactory	Satisfactory
<b>Specifications:</b>			
1. Gas Supply: Pipeline input pressure: 3 to 6 bar supply required; Connections: for O2, N2O, Air and Vacuum.	-	✓	✓
2. Non-interchangeable gas supply pipeline inlets.	-	✓	✓
3. Pin index cylinder yokes for O2 and N2O one each or more.	-	✓	✓
4. Stainless steel/fiber work surface.	-	✓	✓
5. Central Gas / Electronically driven unit.	-	✓	✓
6. Continual fresh gas flow with fresh gas flow compensation during mechanical ventilation.	-	✓	✓
7. Should be low flow	-	✓	✓
8. Auxiliary O2 Outlet one or more.	-	✓	✓
9. Two lockable castors	-	✓	✓
10. Absorber bag support arm	-	✓	✓
11. Oxygen flush 30 l/min or more	-	✓	✓
12. Should have built in suction operating on vacuum	-	✓	✓
13. Should have built in Active scavenging system compatible with hospital AGSS	-	✓	✓
14. Manometer gauges (Manual or Digital)	-	✓	✓
i. Pipeline: O2, N2O & Air	-	✓	✓
ii. Cylinder NIST: O2, N2O	-	✓	✓
iii. Pin indexed: O2, N2O	-	✓	✓
15. Rotameter (hypoxic guard system)	-	✓	✓
i. O2 tube (Double tube)	-	✓	✓
ii. N2O tube	-	✓	✓
iii. Air	-	✓	✓
16. Common gas outlet option should be present.	-	✓	✓
17. Front outlet 22mm OD – 15mm ID	-	✓	✓
18. Built in Oxygen monitoring system.	-	✓	✓
19. Built in autoclavable flow sensor compatible with all type of patient.	-	Minor -10	✓
20. Should have ability to add module or other optional features like EtCO2, Agent monitoring.	-	✓	✓
21. Selectatec system two or more station vaporizer mounting	-	✓	✓
i. Vaporizer should be flow and temperature compensated	-	✓	✓
ii. Should not be brand specified and can be interchangeable	-	✓	✓
22. Minimum 1.5 liters CO2 absorber volume compatible with all type of patient	-	✓	✓
i. Absorbent canister should be Autoclavable	-	✓	✓
23. Breathing assembly/system should be completely Autoclavable and not be cycle bounded.	-	✓	✓
24. Two or more drawer units.	-	✓	✓



Item #: 02

Name of Item: ANESTHESIA MACHINE WITH VENTILATOR

Quantity Required: 05 Units

Name of Firms	M/s. Imperial Traders Inc.	M/s. BIOS	M/s. Noor International
<b>Make</b>	Mindray (China)	OES Medical (UK)	Penlon (UK)
<b>Model</b>	A5	Astra 3i	Prima 460
25. Anesthesia ventilator with minimum 15" or more color Touch LCD/TFT screen and should be capable of ventilating adult, pediatric and neonate patient.	-	✓	✓
26. Ventilation modes: MAN, SPONT, VCV, PCV, PSV	-	✓	✓
27. Should be equipped with anti-barotrauma and anti-volutrauma system	-	✓	✓
28. Tidal volume from 5 ml to 1500 ml or better	-	✓	✓
29. Ventilation frequency starting from 4 bpm up to 80 bpm or better	-	✓	✓
30. Inspiratory to expiratory time starting from 1:1 till 4:1	-	✓	✓
31. PEEP 4 cmH2O to (20 cmH2O or more)	-	✓	✓
32. Oxygen failure safety system	-	✓	✓
33. Measured parameters should include: Expired tidal volume, frequency, minute volume, PIP, plateau pressure, PEEP, mean pressure, airway pressure	-	✓	✓
<b>Power Requirement:</b>			
i. Line Voltages: 100-240 VAC	-	✓	✓
ii. Line Frequency: 50/60Hz	-	✓	✓
35. Battery backup: 60 minutes or more	-	✓	✓
36. Audible and visual alarms: Low air/ N2O/ O2 input pressure, apnea alarm, O2 alarms, upper/ lower limit alarms and leak or patient disconnection	-	✓	✓
37. Silent indicator, time and date and mains and battery indicator	-	✓	✓
<b>Should Be Supplied with:</b>			
1. 2*Rebreathing patient circuit for Adult and Paeds	-	✓	✓
2. 1*Reusable bag 2L	-	✓	✓
3. 1*Power cord	-	✓	✓
4. 1*Vaporizers (Isoflurane)	-	✓	✓
5. 1*Side arm for Patient Monitor attachment	-	✓	✓
<b>Requirement:</b>		✓	✓
<b>Warranty and Maintenance Period:</b>			
1. <b>Warranty Period required 5 years</b> with maintenance and parts replacement. All the parts are included in the warranty i.e., O2 sensor, battery & etc.	-	✓	✓
2. <b>Five years' warranty of internal flow sensor.</b>	-	✓	✓
3. PPM must be done according to the OEM criteria in warranty period	-	✓	✓
1) Up-time guarantee during warranty period must be 90 -95%	-	✓	✓
<b>After Sales Service Support:</b>			
1. Free of cost software installation and up gradation would be responsibility of manufacturer and its authorized distributor for upcoming next ten years after installation of quoted model.	-	✓	✓
2. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by OEM.	-	✓	✓
3. Required surety of service support and parts from the manufacturer, in case of transfer agency/ distributor	-	✓	✓
4. Response to breakdown during and after warranty period must be 1-3 Hours	-	✓	✓
<b>Trainings &amp; Manual:</b>			
1. Operating and service manual with troubleshooting and circuit diagram	-	✓	✓
2. In house operator training session for end user	-	✓	✓
3. In house service training session by Principal Certified resource	-	✓	✓
4. Trained service engineers with certification from the principal, Karachi based mandatory.	-	✓	✓
<b>Note:</b>			
<b>Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) is the responsibility of awarded firm/supplier.</b>	-	✓	✓
<b>COUNTRY OF ORIGIN: USA / EUROPE / JAPAN / UK SHOULD HAVE FDA 510(K) / CE (MDD) / JIS /JQAO/ MHLW.</b>	China	UK	UK

**MANAGER**  
SUPPLY CHAIN MANAGEMENT  
SMBB Institute of Trauma, Karachi

**PROF. SADOQ ALI**  
Department Of Anesthesia & Intensive Care  
SMBB Institute of Trauma  
Dow University of Health Sciences

Page 2 of 3

**FAHEEM**  
Jr Trauma

**Dr. M. Yousuf Memon**  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR2A, EDIR VIR  
SMBB Institute of Trauma Karachi



Item #: 02

Name of Item: ANESTHESIA MACHINE WITH VENTILATOR

Quantity Required: 05 Units

Name of Firms	M/s. Imperial Traders Inc.	M/s. BIOS	M/s. Noor International
Make	Mindray (China)	OES Medical (UK)	Penlon (UK)
Model	A5	Astra 3i	Prima 460
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks 2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks 3. Above 10% / Non-compliant to required specifications (Disqualified).	Dis-Qualified	30	40

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Biomedical Engineer  
SMBB Institute of Trauma

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Member - PC  
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SMBB Institute of Trauma, Karachi

**MUHAMMAD FAHEEM**  
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SMBB Institute of Trauma

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Dow University of Health Sciences  
Dr. Ruth K.M. Pfau  
Civil Hospital Karachi

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SMBB Institute of Trauma, Karachi

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SMBB Institute of Trauma Karachi



**SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI**  
**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID #

T00518-23-0004

TENDER REFERENCE #

PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL:

16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 03

Name of Item: **PATIENT MONITOR**

Quantity Required: **10 Units**

Name of Firms	M/s. Imperial Traders Inc.	M/s. Noor International	M/s. Eastern Medical Technology Services	M/s. Hospicare System
<b>Make</b>	Contec (China)	Trionara (Sweden)	Axcent Medical (Germany)	Biolight (China)
<b>Model</b>	CMS-8000	Vitus 12s	Cetus x12	M9500
<b>Specifications:</b>				
1. Monitor for Adult / Paeds / Neonates	✓	✓	✓	✓
2. Operating Features and Characteristics:	✓	✓	✓	✓
3. Screen Size: At least 12" diagonal (Touch Operated) or better with non-fade LCD / TFT LCD / LED color display	✓	✓	✓	✓
4. Electro-Surgical Interference Suppression / Protection	✓	✓	✓	✓
5. Defibrillator Protection	✓	✓	✓	✓
6. Freeze and Cascade Facility	✓	✓	✓	✓
7. Waveform: Six wave forms or more	✓	✓	✓	✓
8. Waveform Traces Speed: 25 & 50 mm / sec	✓	✓	✓	✓
<b>Parameters:</b>				
<b>ECG</b>				
1. Input: 3&5-lead ECG cable and standard AAMI line for connection Lead Choice: I, II, III, aVR, aVF, aVL, V, V1-V6,	✓	✓	✓	✓
2. Numeric: Heart Rate	✓	✓	✓	✓
3. Real time, and freeze ECG Trace	✓	✓	✓	✓
<b>Non-Invasive Blood Pressure (NIBP):</b>				
1. Method: Oscillometric Principle	✓	✓	✓	✓
2. Numeric: Systolic, Diastolic, and Mean Pressure	✓	✓	✓	✓
3. Selectable auto inflates interval settings	✓	✓	✓	✓
4. Rising Cuff / Continuous Pressure Display	✓	✓	✓	✓
<b>Invasive Blood Pressure (IBP):</b>				
1. IBP Two or more Channels	✓	✓	✓	✓
<b>Temperature:</b>				
1. Numeric: Temperature selectable in °C / °F	✓	✓	✓	✓
<b>Pulse Oximetry:</b>				
1. Numeric: 0 – 100% oxygen saturation measuring range	✓	✓	✓	✓
2. Waveform-Plethysmograph Pulse with Pulse Strength Indication	✓	✓	✓	✓
3. Probe preferable Masimo/Nellcor or equivalent	✓	✓	✓	✓
<b>Arrhythmia Analysis:</b>				
1. Arrhythmia Analysis and ST Analysis	✓	✓	✓	✓
<b>Respiration:</b>				
1. Breath Rate display and settable apnea alarms	✓	✓	✓	✓
2. Sweep Speed: 6.25, 12.5 mm / sec or better	✓	✓	✓	✓
<b>Other Parameters:</b>				
1. Built-in rechargeable battery with 2 or more-hour battery backup	✓	✓	✓	✓
2. Monitor should have ability to add module or other optional features like EtCO <sub>2</sub> Agent monitoring and IBP up to 4 channels	✓	✓	✓	✓

**HAMMAD HUSSAIN**  
**Biomedical Engineer**  
**SMBB Institute of Trauma**

**Dr. M. Yousuf Memon**  
 Consultant and Head of  
 Interventional Radiology  
 MBBS, DMRD, FRCR<sub>2A</sub>, EDIR VJR  
 SMBB Institute of Trauma Karachi

**M. JAHANFAHEEM**  
 Asst. Dir. of Trauma

**MANAGER**  
**SUPPLY CHAIN MANAGEMENT**  
**SMBB Institute of Trauma, Karachi**

**Page 1 of 3**  
 Department of Anesthesia & ICU  
 SMBB Institute of Trauma  
 Dow University Of Health Sciences



Item #: 03

Name of Item: PATIENT MONITOR

Quantity Required: 10 Units

Name of Firms	M/s. Imperial Traders Inc.	M/s. Noor International	M/s. Eastern Medical Technology Services	M/s. Hospicare System
<b>Make</b>	Contec (China)	Trionara (Sweden)	Axcent Medical (Germany)	Biolight (China)
<b>Model</b>	CMS-8000	Vitus 12s	Cetus x12	M9500
3. Trend Data: Graphical / Tabular with at-least 48 hours' or better	✓	✓	✓	✓
4. Should have feature for the connectivity with the Central monitoring station	✓	✓	✓	✓
<b>Alarms:</b>				
1. High & Low (settable) on all parameters	✓	✓	✓	✓
2. Visual and audible indication of alarms	✓	✓	✓	✓
<b>Communication:</b>				
1. Capability to interface with LAN / WLAN for data transfer	✓	✓	✓	✓
<b>Accessories:</b>				
1. The system must be complete with all reusable (sensors, probes, cables, or any other accessories) required for measuring all the above selected parameters for Adult, Paeds and Neonates	✓	✓	✓	✓
2. Reusable Cuffs (Latex Free) of all available sizes of all body contours	✓	✓	✓	✓
3. Height and tilt adjustable wall mounts (Quick release of monitor) and (Medical grade construction)	✓	✓	✓	✓
<b>Note:</b> Monitor stand installation and Monitor attachment with wall stand is the responsibility of supplier/vendor	✓	✓	✓	✓
<b>Power Requirement:</b>				
1. Linevoltages: 100-240VAC	✓	✓	✓	✓
2. Line Frequency: 50/60 Hz	✓	✓	✓	✓
<b>Requirement:</b>				
<b>Warranty and Maintenance Period:</b>		✓	✓	✓
1. Warranty Period required 5 years with maintenance and parts replacement. All the parts are included in the warranty. (Battery, EtCO2 sensor and all others parts are included).	X	✓	✓	✓
2. PPM must be done according to the OEM criteria in warranty period.	X	✓	✓	✓
3. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	X	✓	X	✓
4. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	X	✓	X	✓
5. Up-time guarantee during warranty period must be 90-95%.	X	✓	X	✓
6. Response to breakdown during and after warranty period must be 1-3Hours.	X	✓	X	✓
7. <b>Down Time:</b> If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below;	X	✓	X	✓
90% → No Down Time	X	✓	X	✓
Below 90% → 1.5 days increase daily	X	✓	X	✓
Below 75% → 3.5 days increase daily	X	✓	X	✓
Below 50% → 5 days increase daily	X	✓	X	✓
<b>Trainings &amp; Manual:</b>				✓
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	X	✓	X	✓
2. In house operator training session for end user.	X	✓	X	✓
3. In house service training session by Principal Certified resource	X	✓	X	✓
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	X	✓	X	✓
<b>Note:</b>				
Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) is the responsibility of awarded firm/supplier.	X	✓	X	✓
<b>Country of Origin:</b> USA / Europe / JAPAN / UK should have FDA 510(k) / CE(MDD) / JIS /JQAO/ MHLW.	China	Sweden	Germany	China
<b>Manufacturer from other Countries</b> (other than USA, Europe or Japan) should have FDA (510k) and CE / (MDD) / JIS / JQAO / MHLW.	X	✓	X	✓

**MANAGER**  
SUPPLY CHAIN MANAGEMENT  
SB Institute of Trauma. Karachi

**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma

Prof. DR. QADAR UDDIN SAHOTA  
MBBS, FCPS, FRCS (S) & Orth. Surgeon  
Head of Department of Orthopaedic Surgery  
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Civil Hospital Karachi

**Dr. M. Yousuf Memon**  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCS(A), EDIR VIR  
SMBB Institute of Trauma Karachi

**FAHEEM**  
1st  
Institute of Trauma

Page 2 of 3  
**PROF. SADDQA LATIF**  
Department of Anesthesia & ICU  
SMBB Institute of Trauma  
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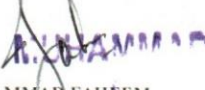
Item #: 03


Name of Item: **PATIENT MONITOR**


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Make	Contec (China)	Trionara (Sweden)	Axcent Medical (Germany)	Biolight (China)
Model	CMS-8000	Vitus 12s	Cetus x12	M9500
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks 2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks 3. Above 10% / Non-compliant to required specifications (Disqualified).	Dis-Qualified	40	Dis-Qualified	40

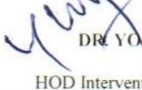
  
**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma  
MR. HAMMAD HUSSAIN  
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SMBB Institute of Trauma, Karachi

  
**MUHAMMAD FAHEEM**  
ist  
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SMBB Institute of Trauma, Karachi

  
**BILAL IDREES**  
Member - PC  
Manager Supply Chain Management,  
SMBB Institute of Trauma, Karachi  
**SUPPLY CHAIN MANAGEMENT**  
SMBB Institute of Trauma, Karachi

  
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SMBB Institute of Trauma, Karachi

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Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
SMBB Institute of Trauma Karachi



# SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI

## BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS

### TECHNICAL EVALUATION

PPMS ID #

TENDER REFERENCE #

DATE & TIME OPENING OF TECHNICAL PROPOSAL:

TENDER TITLE:

Item #: 04

Name of Item: BATTERY OPERATED ORTHO DRILL WITH ATTACHMENTS

Quantity Required: 02 Units

T00518-23-0004

PROC/SMBBIT/(P&M-01)/2023-24

16-03-2024 AT 12:00 PM

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Name of Firms	M/s. RECH International
Make	Arthrex (Germany)
Model	-
Specifications:	
1. Researchable Battery with 2 hours or more battery backup;	✓
2. Lid for battery	✓
3. Charge status display	✓
4. Maximum Speed 950 or more rpm	✓
5. Maximum Torque: 4.5 Nm or better	Minor -10
6. Temperature and current Sensitive over load Protection	✓
7. Light weight preferably less than 1.5 kg including battery and lid	Minor -10
8. Sterile Cover	✓
9. Universal Battery Charger for same manufacturer with status indication	✓
10. Drill Chuck, with key, clamping range up to Ø 7 mm or better Speed: approx. 1200 or more rpm Chucking range: 1.0–6.0 mm or better Cannulation: 4 mm or better	Minor -10
11. Screw Attachment, with AO/ASIF Quick Coupling Speed: approx. 250 rpm or better Cannulation: 4 mm or better	✓
12. Attachment for Acetabular and Medullary Reaming Speed: approx. 250 rpm or better Cannulation: 4 mm or better	✓
13. Quick Coupling for Kirschner Wires Ø 1.0 to 4 mm or better 1200 Rpm or better	Minor -10
14. Sagittal Saw Attachment Frequency: Approx. 11,000 cpm or better Deflection: approx. 4.0° or better	✓
Accessories:	
1. Drill & Saw with all standard accessories.	✓
2. Bio barrier container with all standard accessories including filter, re-useable modular lock mechanism and filter paper at least 5000cycle (100each with box and disposable security seal 5000pcs.)	✓
Power Requirement:	
1. Line voltages: 100-240VAC	✓
2. Line Frequency: 50/60 Hz	✓
Requirement:	
Certification:	
1. System should have Certification FDA 510(k)/CE/JIS/MHLW/JQAO	
Warranty and Maintenance Period:	
1. Warranty Period required 5 years with maintenance and parts replacement. All the parts are included in the warranty. (Battery, and all others parts like attachments, hand piece, motor etc. are included).	✓
2. PPM must be done according to the OEM criteria in warranty period.	

**MANAGER**  
SUPPLY CHAIN MANAGEMENT  
SMBB Institute of Trauma, Karachi

Page 1 of 2

**Dr. M. Yousuf Memon**  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
SMBB Institute of Trauma Karachi

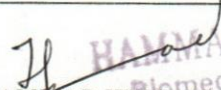


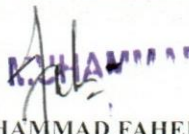
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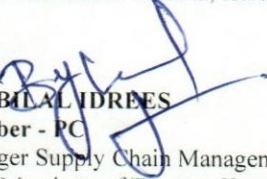
Name of Item: **BATTERY OPERATED ORTHO DRILL WITH ATTACHMENTS**

Quantity Required: **02 Units**

Name of Firms	M/s. RECH International
Make	Arthrex (Germany)
Model	-
3. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	✓
4. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	✓
5. Up-time guarantee during warranty period must be 90-95%.	✓
6. Response to breakdown during and after warranty period must be 1-3Hours.	✓
Down Time: If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below;	✓
90% → No Down Time	✓
Below 90% → 1.5 days increase daily	✓
Below 75% → 3.5 days increase daily	✓
Below 50% → 5 days increase daily	✓
Trainings & Manual:	
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	✓
2. In house operator training session for end user.	✓
3. In house service training session by Principal Certified resource	✓
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	✓
Note:	
Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) is the responsibility of awarded firm/supplier.	✓
COUNTRY OF ORIGIN: JAPAN / EUROPE / UK / USA OR EQUIVALENT	Germany
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks 2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks 3. Above 10% / Non-compliant to required specifications (Disqualified).	30


  
**MR. HAMMIAD HUSSAIN**  
Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi

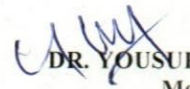
  
**MR. MUHAMMAD FAHEEM**  
Member - PC  
Pharmacist,  
SMBB Institute of Trauma, Karachi

  
**MR. BILAL IDREES**  
Member - PC  
Manager Supply Chain Management,  
SMBB Institute of Trauma, Karachi  
**SUPPLY CHAIN MANAGEMENT**  
SMBB Institute of Trauma, Karachi

**PROF. SADQA AFTAB**  
Chairperson - PC  
HOD ICU & Anesthesiology Department,  
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**PROF. DR. BADDARUDDIN SAHITO**  
Member - PC  
Head of the Department of Orthopaedic Surgery,  
Dow University of Health Sciences &  
Dr. Ruth K.M.Pfau Civil Hospital, Karachi

  
**DR. M. YOUSUF MEMON**  
Member - PC  
HOD Interventional Radiology,  
SMBB Institute of Trauma, Karachi  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
SMBB Institute of Trauma Karachi



**SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI**  
**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID #

T00518-23-0004

TENDER REFERENCE #

PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL:

16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 05

Name of Item: **PORTABLE MONITOR**

Quantity Required: **10 Units**

Name of Firms	M/s. Imperial Traders Inc.	M/s. Eastern Medical Technology Services	M/s. Hospicare System
<b>Make</b>	Econet (Germany)	Axcent Medical (Germany)	Bioloight (China)
<b>Model</b>	M20	PAVO	V6
<b>Specifications:</b>			
1. Less than 7" Color Digital display LCD/LED	✓	✓	✓
<b>NIBP:</b>			
1. Method: Oscillometric Principle	✓	✓	✓
2. Numeric: Systolic, Diastolic, and Mean Pressure	✓	✓	✓
3. Selectable auto inflates interval settings	✓	✓	✓
4. Rising Cuff / Continuous Pressure Display	✓	✓	✓
5. NIBP Measurement Record: 2000 or more	✓	✓	✓
<b>SPO2:</b>			
1. Preferable Masimo/Nellcor or equivalent.	✓	✓	✓
2. Pulse Oximeter with Plethysmograph waveform and Pulse Strength Indication	✓	✓	✓
3. Complete with all standard accessories reusable SPO2 probe for Paeds and Adult, reusable NIBP cuff with all standard sizes and etc.	✓	✓	✓
4. Rechargeable battery with 2 hours or more battery backup	✓	✓	✓
5. Integrated thermal printer optional	✓	✓	✓
<b>Power Requirement:</b>			
1. Line voltages: 100-240VAC	✓	✓	✓
2. Line Frequency: 50/60 Hz	✓	✓	✓
<b>Requirement:</b>			
<b>Certification:</b>			
<b>Warranty and Maintenance Period:</b>			
1. <b>Warranty Period required 5 years</b> with maintenance and parts replacement. All the parts are included in the warranty. (Battery, and all others parts are included).	X	✓	✓
2. PPM must be done according to the OEM criteria in warranty period.	X	✓	✓
3. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	X	X	✓
4. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	X	X	✓
5. Up-time guarantee during warranty period must be 90-95%.	X	✓	✓
6. Response to breakdown during and after warranty period must be 1-3Hours.	X	✓	✓
7. <b>Down Time:</b> If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below;	X	X	✓
90% à No Down Time	X	X	✓
Below 90% à 1.5 days increase daily	X	X	✓
Below 75% à 3.5 days increase daily	X	X	✓
Below 50% à 5 days increase daily	X	X	✓
<b>Trainings &amp; Maintenance:</b>			
1. Operating and service manual with troubleshooting and circuit diagram must be provided	X	X	✓
2. In house operator training session for end user.	X	X	✓

**Dr. M. Yousuf Memon**  
 Consultant and Head of  
 Interventional Radiology  
 MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
 SMBB Institute of Trauma Karachi

**HAMMAD MUSSAIN**  
 Biomedical Engineer  
 SMBB Institute of Trauma  
 Prof. Dr. BADARUDDIN KHAN  
 FRCGS, FRCS (Tr & Orth) Edinburgh  
 Professor  
 Head of Department Orthopaedic Surgery  
 Low University of Health Sciences  
 Dr. Ruth K.M. Pfau  
 SMBB Institute of Trauma Karachi




Item #: 05


Name of Item: **PORTABLE MONITOR**


Quantity Required: **10 Units**

Name of Firms	M/s. Imperial Traders Inc.	M/s. Eastern Medical Technology Services	M/s. Hospicare System
Make	Econet (Germany)	Axcent Medical (Germany)	Biolight (China)
Model	M20	PAVO	V6
3. In house service training session by Principal Certified resource	X	X	✓
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	X	X	✓
Note:			
Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) is the responsibility of awarded firm/supplier.	X	X	✓
Country of Origin: USA / Europe / JAPAN / UK should have FDA 510(k) / CE (MDD) / JIS /JQAO/ MHLW.	Germany	Germany	China
Manufacturer from other Countries (other than USA, Europe or Japan) should have FDA (510k) and CE / (MDD) / JIS / JQAO / MHLW.	X	X	✓
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks 2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks 3. Above 10% / Non-compliant to required specifications (Disqualified).	Dis-Qualified	Dis-Qualified	40

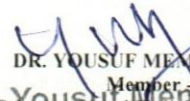
  
**HAMMAD HUSSAIN**  
 Biomedical Engineer  
 SMBB Institute of Trauma  
 MR. HAMMAD HUSSAIN  
 Member - PC  
 Bio-Medical Engineer,  
 SMBB Institute of Trauma, Karachi

  
**MR. MUHAMMAD FAHEEM**  
 Member - PC  
 Pharmacist,  
 SMBB Institute of Trauma, Karachi

  
**MR. BILAL IDREES**  
 Member - PC  
 Manager Supply Chain Management,  
 SMBB Institute of Trauma, Karachi  
**SUPPLY CHAIN MANAGEMENT**  
 SMBB Institute of Trauma, Karachi

  
**PROF. SADQA AFTAB**  
 Chairperson - PC  
 HOD ICU & Anesthesiology Department,  
 SMBB Institute of Trauma, Karachi  
 Department Of Anesthesia & ICU  
 SMBB Institute Of Trauma  
 Dow University Of Health Sciences

**MR. MUHAMMAD IBRAHIM MEMON**  
 Member - PC  
 Deputy Secretary (PM&I),  
 Health Department, Govt. of Sindh  
**Prof. DR. BADARUDDIN SAHITO**  
 MBBS, FCPSC, FRCGS (T & G), Edinburgh  
 Head of the Department of Orthopaedic Surgery,  
 Dow University of Health Sciences &  
 Dr. Ruth K.M. Pfau Civil Hospital, Karachi

  
**DR. YOUSUF MEMON**  
 Member - PC  
 HOD Interventional Radiology,  
 SMBB Institute of Trauma, Karachi  
**Dr. M. Yousuf Memon**  
 Head of  
 Interventional Radiology  
 MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
 SMBB Institute of Trauma Karachi



# SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI

## BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS

### TECHNICAL EVALUATION

PPMS ID # T00518-23-0004

TENDER REFERENCE # PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL: 16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 06

Name of Item: **VASCULAR DOPPLER**

Quantity Required: **02 Units**

Name of Firms	M/s. Noor International	M/s. Biologic Medical Systems
<b>Make</b>	Mindray (China)	Huntleigh Health Care Ltd. (UK)
<b>Model</b>	Consona N8	Dopplex DMX
<b>Specifications:</b>		
1. High Resolution Color Display	-	✓
2. Vascular Probe: 8 MHz, 10 MHz and Intraoperative probe.	-	✓
3. Bi-directional Doppler Waveform Display	-	✓
4. Noise Reduction to reduce the background hiss	-	✓
5. Removable Micro SD Card Storage	-	✓
6. Compatible with Interchangeable Probes	-	✓
7. Integrated Loudspeaker	-	✓
8. Flow Separated Stereo Headphone Output	-	✓
9. Auto Gain Control	-	✓
10. Rechargeable Battery with 2 hours or more battery backup	-	✓
11. Medical grade recharging kit	-	✓
12. Accessories: complete with: gel, soft carry bag, user manual. Vascular probe (8 & 10 MHz and Intraoperative probe) and Adaptor for battery charging	-	✓
<b>Power Requirement:</b>		
1. Linevoltages:100-240VAC	-	✓
2. Line Frequency: 50/60 Hz	-	✓
<b>Requirement:</b>		
<b>Certification:</b>		
1. System should have Certification <b>FDA 510(k)/CE/JIS/MHLW/JQAO</b>	-	✓
<b>Warranty and Maintenance Period:</b>		
1. <b>Warranty Period required 5 years</b> with maintenance and parts replacement. All the parts are included in the warranty. (Battery, and all others parts are included).	-	✓
2. PPM must be done according to the OEM criteria in warranty period.	-	✓
3. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	-	✓
4. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	-	✓
5. Up-time guarantee during warranty period must be 90-95%.	-	✓
6. Response to breakdown during and after warranty period must be 1-3Hours.	-	✓

**Biomedical Engineer**  
SMBB Institute of Trauma

**MANAGER**  
SUPPLY CHAIN MANAGEMENT  
SMBB Institute of Trauma, Karachi

**FAHEEM**  
Page 1 of 2  
DR. BADAR UD DIN  
MBBS, FCPS, FRCS (Tr & Orth)  
Head of Department Orthopaedic Surgery  
Dow University of Health Sciences  
Civil Hospital Karachi

**Dr. M. Yousuf Memon**  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
SMBB Institute of Trauma Karachi



Item #: 06

Name of Item: **VASCULAR DOPPLER**

Quantity Required: **02 Units**

Name of Firms	M/s. Noor International	M/s. Biologic Medical Systems
<b>Make</b>	Mindray (China)	Huntleigh Health Care Ltd. (UK)
<b>Model</b>	Consona N8	Dopplex DMX
7. <b>Down Time:</b> If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below;	-	✓
90% → No Down Time	-	✓
Below 90% → 1.5 days increase daily	-	✓
Below 75% → 3.5 days increase daily	-	✓
Below 50% → 5 days increase daily	-	✓
<b>Trainings &amp; Manual:</b>		
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	-	✓
2. In house operator training session for end user.	-	✓
3. In house service training session by Principal Certified resource	-	✓
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	-	✓
<b>Note:</b>		
<b>Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) is the responsibility of awarded firm/supplier.</b>	-	✓
<b>COUNTRY OF ORIGIN: JAPAN / EUROPE / UK / USA OR EQUIVALENT</b>	China	UK
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks 2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks 3. Above 10% / Non-compliant to required specifications (Disqualified).	Quoted Colour Doppler Ultrasound System, Not Vascular Dopplar (Dis-Qualified)	40

**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma

**MR. HAMMAD HUSSAIN**  
Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi

**MR. MUHAMMAD FAHEEM**  
Member - PC  
Pharmacist,  
SMBB Institute of Trauma, Karachi

**MR. BILAL IDREES**  
Member - PC  
Manager Supply Chain Management,  
SMBB Institute of Trauma, Karachi

**SUPPLY CHAIN MANAGEMENT**  
SMBB Institute of Trauma, Karachi

**PROF. SADQA AFTAB**  
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HOD ICU & Anesthesiology Department,  
SMBB Institute of Trauma, Karachi

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Department Of Anesthesia & ICU  
SMBB Institute Of Trauma  
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Health Department, Govt. of Sindh

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Member - PC  
Head of the Department of Orthopaedic Surgery,  
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Dr. Ruth K.M.Pfau Civil Hospital, Karachi

**DR. M. YOUSUF MEMON**  
Member - PC  
HOD Interventional Radiology,  
SMBB Institute of Trauma, Karachi  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
SMBB Institute of Trauma Karachi



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**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID # T00518-23-0004

TENDER REFERENCE # PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL: 16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 07

Name of Item: **PATIENT WARMER (WATER BASED)**

Quantity Required: **05 Units**

Name of Firms	M/s. Hospicare System	M/s. Noor International
<b>Make</b>	Gentherm Medical CSZ (USA)	Keewell Medical Technology (China)
<b>Model</b>	Morm-o-Temp	KPW4000
<b>Specifications:</b>		
Patient Warmer whole-body system could be allowed conductive warming therapy.	✓	-
Which can be used in the operating room, pre-op, recovery, emergency department or any department in need of patient warming therapy	✓	-
Unit should have ability to pre-condition the water saves time for the caregiver.	✓	-
Digital display LCD/LED	✓	-
Water Temperature Range: 20°C - 42°C or better (Heating Only)	✓	-
Controller Accuracy: Water Temp: ±1°C or better	✓	-
Water Temperature Display Range: 0°C - 50°C	✓	-
Audible & Visible alarms for over temperature limits.	✓	-
Adult Blanket with Tubing: 60" x 24" or equivalent, Qty. 02	✓	-
Paeds Blanket with Tubing: 30" x 22" or equivalent, Qty. 02	✓	-
Mobile Trolley with two lockable castors (imported or local both must be quoted)	✓	-
Complete with all standard accessories	✓	-
Safety: Class 1, Type BF, Defibrillation-proof, IPX4	✓	-
<b>Power Requirement:</b>		
1. Line voltages: 100-240VAC	✓	-
2. Line Frequency: 50/60 Hz	✓	-
<b>Requirement:</b>		
<b>Certification:</b>		
1. System should have Certification <b>FDA 510(k)/CE/JIS/MHLW/JQAO</b>	✓	-
<b>Warranty and Maintenance Period:</b>		
1. <b>Warranty Period required 5 years</b> with maintenance and parts replacement. All the parts are included in the warranty.	✓	-
2. PPM must be done according to the OEM criteria in warranty period.	✓	-
3. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	✓	-
4. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	✓	-
5. Up-time guarantee during warranty period must be 90-95%.	✓	-
6. Response to breakdown during and after warranty period must be 1-3Hours.	✓	-



Item #: 07

Name of Item: **PATIENT WARMER (WATER BASED)**

Quantity Required: **05 Units**

Name of Firms	M/s. Hospicare System	M/s. Noor International
<b>Make</b>	Gentherm Medical CSZ (USA)	Keewell Medical Technology (China)
<b>Model</b>	Morm-o-Temp	KPW4000
<b>7. Down Time:</b>		
If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below;	✓	-
90% → No Down Time	✓	-
Below 90% → 1.5 days increase daily	✓	-
Below 75% → 3.5 days increase daily	✓	-
Below 50% → 5 days increase daily	✓	-
<b>Trainings &amp; Manual:</b>		
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	✓	-
2. In house operator training session for end user.	✓	-
3. In house service training session by Principal Certified resource	✓	-
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	✓	-
<b>Note:</b>		
Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) is the responsibility of awarded firm/supplier.	✓	-
<b>COUNTRY OF ORIGIN: UK / USA / EUROPE / JAPAN OR EQUIVALENT</b>	USA	China
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks 2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks 3. Above 10% / Non-compliant to required specifications (Disqualified).	40	Quoted China product (Dis-Qualified)

**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma, Karachi

**MR. HAMMAD HUSSAIN**  
Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi

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Pharmacist,  
SMBB Institute of Trauma, Karachi

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Member - PC  
Manager Supply Chain Management,  
SMBB Institute of Trauma, Karachi

**SUPPLY CHAIN MANAGEMENT**  
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SMBB Institute of Trauma, Karachi

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Member - PC  
HOD Interventional Radiology,  
SMBB Institute of Trauma, Karachi

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MBBS, DMRD, FRCR, A, EDIR VIR  
SMBB Institute of Trauma Karachi



**SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI**  
**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID # T00518-23-0004

TENDER REFERENCE # PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL: 16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 08

Name of Item: **BLOOD / FLUID WARMER**

Quantity Required: **02 Units**

Name of Firms	M/s. Imperial Traders Inc.	M/s. Noor International	M/s. Hospicare System
<b>Make</b>	Elltec (Japan)	Keewell Medical Technology (China)	Gentherm Medical CSZ (USA)
<b>Model</b>	AM-301	FT1800	Astotherm 220 Plus
<b>Specifications:</b>			
Microprocessor controlled for simple operation	✓	-	✓
Digital display LCD/LED	✓	-	✓
Temperature Setting: 39°C to 43°C	✓	-	✓
Preheat Time <2 min or better	✓	-	✓
Over temperature safety cutoff	✓	-	✓
Visual & Acoustic Over-temperature & Under-temperature alarms	✓	-	✓
Flow Rate: Standard (Low to Rapid Flow rate)	✓	-	✓
Alarm Temperature: Standard (Visual and Acoustic)	✓	-	✓
Heat Exchanger: Dry	✓	-	✓
Operating mode: Continuous operation, 24hrs a day continuous duty	✓	-	✓
No special disposable required	✓	-	✓
Standard tube size 4mm or equivalent can be attached and should not be brand specified	✓	-	✓
Safety: Class 1, Type BF, Defibrillation-proof, IPX4	✓	-	✓
Heat protection sleeve should be provided: To protect from the environmental effect.	✓	-	✓
<b>Power Requirement:</b>			
1. Line voltages: 100-240VAC	✓	-	✓
2. Line Frequency: 50/60 Hz	✓	-	✓
<b>Requirement:</b>			
<b>Certification:</b>			
1. System should have Certification FDA 510(k)/CE/JIS/MHLW/JQAO		-	✓
<b>Warranty and Maintenance Period:</b>			
1. Warranty Period required 5 years with maintenance and parts replacement. All the parts are included in the warranty.	X	-	✓
2. PPM must be done according to the OEM criteria in warranty period.	X	-	✓
3. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	X	-	✓
4. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	X	-	✓
5. Up-time guarantee during warranty period must be 90-95%.	X	-	✓
6. Response to breakdown during and after warranty period must be 1-3Hours.	X	-	✓
<b>7. Down Time:</b>			✓
If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below:	X	-	✓
90% → No Down Time	X	-	✓
Below 90% → 1.5 days increase daily	X	-	✓
Below 75% → 3.5 days increase daily	X	-	✓
Below 50% → 5 days increase daily	X	-	✓
<b>Trainings &amp; Manual:</b>			
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	X	-	✓
2. In house operator training session for end user.	X	-	✓
3. In house service training session by Principal Certified resource	X	-	✓
4. Training Service Manual with certification from the principle, Karachi based mandatory	X	-	✓

**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma

**MUHAMMAD FAHEEM**  
Head of Department Orthopedic Surgery  
Dow University of Health Sciences  
Civil Hospital Karachi

**Dr. M. Yousuf Memon**  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR, A. E. D. MR  
SMBB Institute of Trauma Karachi




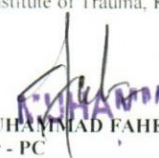
Item #: 08

Name of Item: **BLOOD / FLUID WARMER**

Quantity Required: **02 Units**

Name of Firms	M/s. Imperial Traders Inc.	M/s. Noor International	M/s. Hospicare System
Make	Elltec (Japan)	Keewell Medical Technology (China)	Gentherm Medical CSZ (USA)
Model	AM-301	FT1800	Astotherm 220 Plus
Note:			
Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) is the responsibility of awarded firm/supplier.	X	-	✓
COUNTRY OF ORIGIN: UK / USA / EUROPE / JAPAN OR EQUIVALENT	Japan	China	USA
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks 2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks 3. Above 10% / Non-compliant to required specifications (Disqualified).	Dis-Qualified	Quoted China product (Dis-Qualified)	40

  
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Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi


  
**MR. MUHAMMAD FAHEEM**  
Member - PC  
Pharmacist,  
SMBB Institute of Trauma, Karachi


  
**MR. BILAL IDREES**  
Member - PC  
Manager Supply Chain Management,  
SMBB Institute of Trauma, Karachi

**MANAGER**  
**SUPPLY CHAIN MANAGEMENT**  
SMBB Institute of Trauma, Karachi

**PROF. SADQA AFTAB**  
Chairperson - PC  
HOD ICU & Anesthesiology Department,  
SMBB Institute of Trauma, Karachi  
Department of Anesthesia & ICU  
SMBB Institute of Trauma  
Dow University of Health Sciences

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SMBB Institute of Trauma, Karachi  
Consultant Interventional Radiology  
Interventional Radiology  
MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
SMBB Institute of Trauma Karachi



**SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI**  
**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID # T00518-23-0004

TENDER REFERENCE # PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL: 16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 09

Name of Item: **ECG MACHINE**

Quantity Required: **05 Units**

Name of Firms	M/s. Imperial Traders Inc.	M/s. Hospicare System
<b>Make</b>	Bionet (Korea)	Cardioline (Italy)
<b>Model</b>	Cardio-07	SECG-200S
<b>Specifications:</b>		
Instruments Type: Multi lead electrocardiography	✓	✓
Input Channels: 12 Channel, Simultaneous Acquisition of all 12 leads	✓	✓
Standard Leads Acquired: I, II, III aVR, aVL, aVF, V1, V2, V3, V4, V5, V6	✓	✓
Waveform Display: Backlit 10" or more color display	✓	✓
Input Impedance Meet or exceed the	✓	✓
requirements of ANSI/AAMI/ EC11	✓	✓
Input Dynamic Range	✓	✓
Electrode Offset Tolerance	✓	✓
Common Mode Rejection	✓	✓
Patient Leakage Current Meet or exceed the requirements of ANSI/AAMI ESI	✓	✓
Chassis Leakage Current	✓	✓
Digital Sampling Rate: 30,000 or better samples /second/Channel used for Pacemaker spike detection;	✓	✓
1,000 or better samples /second/Channel used for recording and analysis	✓	✓
Printer Technologies: Thermal Printer;	✓	✓
Thermal Printer Speed: 5, 10, 25 or 50 mm/s	✓	✓
Gain Setting 5, 10 or 20mm /mV or Better	✓	✓
Report Print Formats Standard or Cabrera: 3+1, 3+3, 6, 6+6, & 12 Channel	✓	✓
Frequency Response 0.05 to 300 Hz or Better	✓	✓
Filters High-Performance baseline filter; AC interference filter 50/60 Hz; Low-Pass filters 40Hz, 150 Hz, or 300 Hz	✓	✓
A/D Conversion 20 bits or better	✓	✓
Keyboard Type Full alphanumeric keyboard	✓	✓
Heart Rate Range 30 to 300 bpm or better	✓	✓
Sensitivity /Gain` 1.25, 2.5, 5, 10,20,10/5 mm/mV	✓	✓
Device Classification Class I, Type CF defibrillation-proof applied parts	✓	✓
Data Storage Internal Storage up to 500 files or better	✓	✓
Support for external archiving to the system	✓	✓
Capability to interface with MANAGEMENT for data transfer	✓	✓
File Formats: PDF, SCP, XML, DICOM etc.	✓	✓
Power Requirement:		

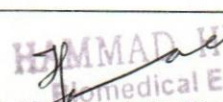



Item #: 09

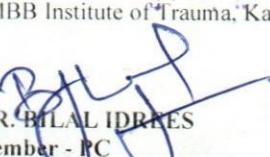
Name of Item: ECG MACHINE

Quantity Required: 05 Units

Name of Firms	M/s. Imperial Traders Inc.	M/s. Hospicare System
<b>Make</b>	Bionet (Korea)	Cardioline (Italy)
<b>Model</b>	Cardio-07	SECG-200S
Line Voltages: 100-240 VAC	✓	✓
Line Frequency: 50/60Hz	✓	✓
Battery Rechargeable Battery 5 hours or more battery backup	✓	✓
Accessories Complete with standard accessories ECG Leads, Printer paper, Power Cord and	✓	✓
Original Mobile Cart with 2 Lockable Caster	✓	✓
<b>Requirement:</b>		
<b>Certification:</b>		
• System should have Certification CE & US FDA	✓	✓
<b>Warranty and Maintenance Period:</b>		✓
• Warranty Period required 5 years with maintenance and parts replacement. All the parts are included in the warranty (battery, keypad, printer & etc. are included).	X	✓
• PPM must be done according to the OEM criteria in warranty period	X	✓
• Up-time guarantee during warranty period must be 90 -95%	X	✓
<b>After Sales Service Support:</b>	X	✓
• Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by OEM.	X	✓
• Required surety of service support and parts from the manufacturer, in case of transfer agency/ distributor	X	✓
• Response to breakdown during and after warranty period must be 1-3 Hours	X	✓
<b>Trainings &amp; Manual:</b>	X	
• Operating and service manual with troubleshooting and circuit diagram	X	✓
• In house operator training session for end user	X	✓
<b>Country of Origin: USA / Europe / JAPAN or equivalent / other than USA, Europe or Japan will be accepted if equivalent has FDA (510k), CE (MDD) / JIS / JQAO (Any Two Certificates).</b>	X	✓
<b>COUNTRY OF ORIGIN: UK / USA / EUROPE / JAPAN OR EQUIVALENT</b>	Korea	Italy
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks	Dis-Qualified	40
2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks		
3. Above 10% / Non-compliant to required specifications (Disqualified).		


  
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 SMBB Institute of Trauma, Karachi

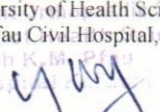
  
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 Interventional Radiology  
 MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
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**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID # T00518-23-0004

TENDER REFERENCE # PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL: 16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 10

Name of Item: **WASHING, DISINFECTION AND DRYING MACHINE (10 DIN)**

Quantity Required: **01 Unit**

Name of Firms	M/s. Pakistan Oxygen Ltd.	M/s. Total Technologies (Pvt.) Ltd.
<b>Make</b>	Sumer (Turkey)	MMM Group (Germany)
<b>Model</b>	ADELA-2 250 L	UniClean PL II 10-2 (2:Door)
<b>Specifications:</b>		
1. The machine must be usable in all thermo-disinfection applications of medical equipment including drying.	✓	✓
2. The machine's washing reservoir's capacity must be at least 20 Liters.	✓	✓
3. The machine must have 2 water inlets, being cold and hot.	✓	✓
4. The machine's washing cabinet must be corrosion-resistant and fully made of AISI316L stainless steel.	✓	✓
5. The machine must have an at least 2-phase water filtering system.	✓	✓
6. The machine must have a motorized double-sliding-door opening and closing automatically, and after one of the two doors ensuring the sterilization safety closes, the other must open.	✓	✓
7. The machine must be front loading.	✓	✓
8. The machine must have a discharge pump discharging all of the waste water.	✓	✓
9. The machine must have two independent PT 100 type heat probes controlling the temperature and each other.	✓	✓
10. The machine must be microprocessor controlled, and have at least 2 dosing pumps for chemical products.	✓	✓
11. It must allow to change the required quantity of product at every cycle thanks to the microprocessor control.	✓	✓
12. The machine must be able to control the quantity of chemical products.	✓	✓
13. The machine must have at least 6 programs.	✓	✓
14. The machine's washing cycles, temperature, time and drying phases must be fully controllable.	✓	✓
15. The machine must have an Ethernet connection.	✓	✓
16. The machine must have a safety locking system causing the door to close automatically after a program starts and preventing its opening while the machine is operating.	✓	✓
17. Each washing program must be clearly displayed on the control panel, and any fault or problem arising during a washing program must be displayed on the control panel again as acoustic signals.	✓	✓
18. The control panel must have an encoding system preventing changing the program values without entering a particular password.	✓	✓
19. The machine must have a color touchscreen displaying all machine functions.	✓	✓
20. The machine must have an emergency stop button.	✓	✓
21. The machine must have a filtered drying system, by HEPA filter.	✓	✓
22. The machine must have at least 5 Kw heating power, and at least 150 m3/h air flow.	✓	✓
23. The machine must have a glass door to see the interior when looking from outside.	✓	✓
The following accessories must be provided with the machine:	✓	✓
25. 15 phase washing shelf 1 pcs	✓	✓

**HAMMAD MUSSAIN**  
 Biomedical Engineer  
 SMBB Institute of Trauma

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 Interventional Radiology  
 MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
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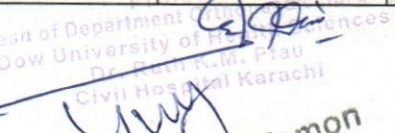


Item #: 10

Name of Item: **WASHING, DISINFECTION AND DRYING MACHINE (10 DIN)**

Quantity Required: **01 Unit**

Name of Firms	M/s. Pakistan Oxygen Ltd.	M/s. Total Technologies (Pvt.) Ltd.
<b>Make</b>	Sumer (Turkey)	MMM Group (Germany)
<b>Model</b>	ADELA-2 250 L	UniClean PL II 10-2 (2:Door)
26. *DIN Basket 20 pcs	✓	✓
27. *Loading Cart 2 pcs	✓	✓
<b>Power Requirement:</b>		
Line voltages: 400VAC, 3phase	✓	✓
Line Frequency: 50/60 Hz	✓	✓
<b>Requirement:</b>		
<b>Certification:</b>		
System should have Certification <b>FDA 510(k)/CE/JIS/MHLW/JQAO</b>	✓	✓
<b>Warranty and Maintenance Period:</b>		
1. <b>Warranty Period required 5 years</b> with maintenance and parts replacement.	✓	✓
2. All the parts are included in the warranty. (LCD, Keypad, door seal, heaters and all others parts are included)	✓	✓
3. PPM must be done according to the OEM criteria in warranty period.	X	✓
4. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	X	✓
5. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	X	✓
6. Up-time guarantee during warranty period must be 90-95%.	X	✓
7. Response to breakdown during and after warranty period must be 1-3Hours.	X	✓
<b>Down Time:</b>		
If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below;	X	✓
90% → No Down Time	X	✓
Below 90% → 1.5 days increase daily	X	✓
Below 75% → 3.5 days increase daily	X	✓
Below 50% → 5 days increase daily	X	✓
<b>Trainings &amp; Manual:</b>		
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	X	✓
2. In house operator training session for end user.	X	✓
3. In house service training session by Principal Certified resource	X	✓
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	X	✓
<b>Note:</b>		
Safely installation of said equipment and dismantling of installed said equipment should be responsibility of awarded firm/supplier.	X	✓
Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) are the responsibility of awarded firm/supplier including all electrical, mechanical & Civil works).	X	✓
COUNTRY OF ORIGIN: UK / USA / EUROPE / JAPAN OR EQUIVALENT	Turkey	Germany



  
**HAMMAD HUSSAIN**  
 Biomedical Engineer  
 SMBB Institute of Trauma

Page 2 of 3

**Dr. M. Yousuf Memon**  
 Consultant and Head of  
 Interventional Radiology  
 MBBS, DMRD, FRCR2A, EDIR VIM  
 SMBB Institute of Trauma Karachi

SMBB Institute of Trauma

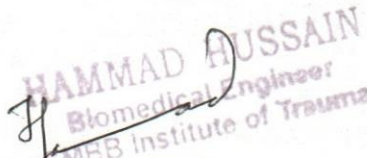



Item #: 10

Name of Item: **WASHING, DISINFECTION AND DRYING MACHINE (10 DIN)**


Quantity Required: **01 Unit**

Name of Firms	M/s. Pakistan Oxygen Ltd.	M/s. Total Technologies (Pvt.) Ltd.
Make	Sumer (Turkey)	MMM Group (Germany)
Model	ADELA-2 250 L	UniClean PL II 10-2 (2:Door)
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks 2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks 3. Above 10% / Non-compliant to required specifications (Disqualified).	Dis-Qualified	40


  
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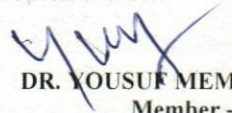
  
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# SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI

## BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS

### TECHNICAL EVALUATION

PPMS ID # T00518-23-0004

TENDER REFERENCE # PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL: 16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 11

Name of Item: **STEAM STERILIZER (8 STU)**

Quantity Required: 01 Unit

Name of Firms	M/s. Total Technologies (Pvt.) Ltd.	M/s. Pakistan Oxygen Ltd.
Make	MMM Group (Germany)	Sumer (Turkey)
Model	Selectomat PL 6612-2 CL (2:Double Door, CL:Compact Line)	ADELA 2 CKK 580 L
Specifications:		
<b>PLC-CONTROLLED AUTOCLAVE (STERILIZING) DEVICES</b>		
1. Must be usable to sterilize any material that can be sterilized with the heat of pressurized steam.	✓	✓
2. Chamber, continuous jacket, doors and steam generator must be made of stainless steel AISI 316L.	✓	✓
3. Must have two sliding doors, which operate vertically. The door must open in a way that shall not prevent taking out the parts (baskets, buckets, etc.) that allow to place materials in the autoclave.	✓	✓
4. The doors must be opened, closed, locked, and operated vertically by pneumatic piston systems for motorized system there should be manual bypass system in the event of any malfunctioning or fault. The device's door must have a safety lock, and if it touches anything outside in its movement direction when closing, the fully electronic (photocell) safety system must be activated and the door must open. In addition, in case of pressure in the sterilization room, the door must not be opened. The doors must not be opened before the cell pressure decreases below 50 mbar after sterilization.	✓	✓
5. The groove the seal is mounter and the door is bedded must be processed of AISI 316L quality stainless steel at least as 45 – 50 mm or better and in a single piece.	✓	✓
6. The steam generator must be embedded, automatically start and be able to produce steam sufficient for the autoclave. The heaters must consist of at least 4 groups. Groups of heaters must be controlled individually. The water level must be controlled by atleast 3 electrodes located outside the generator in a way that tolerates fluctuations, and if the water level is not sufficient, the heaters must automatically get deactivated.	✓	✓
7. The outer surfaces of steam jacket must be insulated against heat loss.	✓	✓
8. All Pipes, Fittings, Clamps conducting steam should be made of stainless steel AISI 316L.	✓	X
9. The device's pressure test controls for the sterilizing volume and steam jacket of the device must be performed under at least 4 Bar for the steam generator.	✓	X
10. Pressure and vacuum impermeability must be ensured with a heat-resistant silicon-based seal or better, and it must be changeable without disassembling anything.	✓	X
11. All of the processes of vertical operation of the doors, locking of the doors, control of the steam generator, cell steam supply, steam jacket steam supply, seal steam supply, air intake into the cell, drainage, and vacuuming of the cell must be carried out by MANAGER valve systems. For motorized system there should be manual bypass system in the event of any malfunctioning or fault.	✓	X
12. For optimum measurement of the temperature in the cell, Pt-100 temperature sensor must be found, and this Pt-100 must be of class A quality.	✓	X

**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma

**Page 1 of 4**

**Dr. M. Yousuf Memon**  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR2A, EDIR VIR  
SMBB Institute of Trauma Karachi



Item #: 11

Name of Item: STEAM STERILIZER (8 STU)

Quantity Required: 01 Unit

Name of Firms	M/s. Total Technologies (Pvt.) Ltd.	M/s. Pakistan Oxygen Ltd.
Make	MMM Group (Germany)	Sumer (Turkey)
Model	Selectomat PL 6612-2 CL (2:Double Door, CL:Compact Line)	ADELA 2 CKK 580 L
13. If nothing is done after sterilization, the stand-by system must get activated within an automatically- adjustable period of time, and the device must get in the stand-by mode. When operation is required again, the stand-by must immediately get deactivated, and the device must get ready to use.	✓	X
14. The vacuum pump must have a thermal switch, operate with water, and provide the required vacuum level.	✓	X
15. If air enters the cell in some way during any cycle of sterilization, the user must be warned, and the sterilization must stop.	✓	X
16. The device must have analogue / digital manometers to display the pressure of the generator, the cell, the jacket and the seal.	✓	X
17. The sterilization cell, the jacket and the generator must have mechanical safety valves against excessive pressure, in case of excessive pressure, it must discharge the steam, and the pressure fault must be monitored on the screen. In case of a power cut, lack of air and mains water, the device must notify these events to the user with audible/visual warnings.	✓	X
18. In case of any fault or failure of the device, it must be equipped with software and electric equipment that will not allow for danger.	✓	X
19. It must operate with 380V 50 Hz mains voltage, and tolerate +/- 10 % voltage fluctuations.	✓	X
20. To be moved easily, the device must have four fixable wheels, and in addition, four adjustable legs to get fixed where it is to be used.	Minor -10	X
21. The control unit shall control whether all phases of sterilization operate without any problem, stop operating if there is no fault that could interfere with sterilization, otherwise indicate on the screen that sterilization is unsuccessful by notifying the fault or failure.	✓	X
22. The condensed steam during the program operation and the steam discharged from the cell as a result of sterilization must be cooled by the internal cooling system and drained.	✓	X
23. On/off switch must be able to cut the electricity completely. In addition, the device must have an emergency stop button.	✓	X
24. The control and operation elements must be gathered on a capped board to analyze the system status easily.	✓	X
25. The control unit must be specially designed for devices sterilizing with steam, and the sterilization software must fully belong to the manufacturing company. The device's clean and dirty side touch screen must be at least 7 inches.	✓	X
26. This screen must allow to monitor the name of the program, the cell temperature and pressure, the total time, the generator pressure, the steam jacket pressure, the warning for the door open or closed, actual date and time, and the sterilization temperature and pressure.	✓	X
27. The control unit must have at least 20 empty programs and test programs that the staff may download and adjust the sterilization temperature, the sterilization time, the pre-heat and the vacuum time with, pre-determined and unchangeable 125 °C Rubber Material, 121 °C Liquid Material, 134 °C Solid Material, 134 °C Textile Material programs, Bowie-Dick Test Program and Air Leak Test Program.	✓	X
28. The touchscreen meeting the safety of operating with user's name and password in a way that will block unauthorized operator interventions, and must allow to insert special programs, monitor the performed processes, and also for simulation.	✓	✓
29. The device must have an embedded board, and the built-in thermal type without ink need. The printer output must have parameters such as actual date and time, the user's name, the name of the sterilization program, the number of cycles, the number of pre-vacuums, the number of pre- heats, the sterilization temperature, the sterilization pressure, the sterilization time, the drying time, the instant fault messages, the actual date and time and the total time at the end of the operation designed for maximum safety for sterilization.	✓	✓
30. The autoclave must have a hepa filter that filters particles bigger than 0.3 micron by 99.999% for drying and pressure adjustment.	✓	✓
31. The autoclave's tub and heat areas must be insulated with CFC (Chlorofluorocarbon) and chlorine- free insulating material.	✓	✓



Item #: 11

Name of Item: STEAM STERILIZER (8 STU)

Quantity Required: 01 Unit

Name of Firms	M/s. Total Technologies (Pvt.) Ltd.	M/s. Pakistan Oxygen Ltd.
Make	MMM Group (Germany)	Sumer (Turkey)
Model	Selectomat PL 6612-2 CL (2:Double Door, CL:Compact Line)	ADELA 2 CKK 580 L
32. The cell, jacket, generator and seal pressures of the device must be precisely measured by a pressure transmitter, and the instant pressure values of these areas must be displayed on the screen.	✓	✓
33. The device's heating contactor must have a control, and in case of fault of the contactor, when it operates without any command, the screen must have a fault indicator.	✓	✓
34. The following accessories must be provided with the machine:	✓	✓
*Loading shelf 1 pcs	✓	✓
*STU baskets 10 pcs	✓	✓
*Loading Cart 2 pcs	✓	✓
<b>Power Requirement:</b>		
Line voltages: 100-240VAC	✓	✓
Line Frequency: 50/60 Hz	✓	✓
<b>Requirement:</b>		
<b>Certification:</b>		
System should have Certification <b>FDA 510(k)/CE/JIS/MHLW/JQAO</b>	✓	✓
<b>Warranty and Maintenance Period:</b>		
1. Warranty Period required 5 years with maintenance and parts replacement. (LCD, Keypad, door seal, heaters and all others parts are included).	✓	✓
2. PPM must be done according to the OEM criteria in warranty period.	✓	X
3. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	✓	X
4. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	✓	X
5. Up-time guarantee during warranty period must be 90-95%.	✓	X
6. Response to breakdown during and after warranty period must be 1-3Hours.	✓	X
<b>Down Time:</b>		
If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment	✓	X
90% → No Down Time	✓	X
Below 90% → 1.5 days increase daily	✓	X
Below 75% → 3.5 days increase daily	✓	X
Below 50% → 5 days increase daily	✓	X
<b>Trainings &amp; Manual:</b>		
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	✓	X
2. In house operator training session for end user.	✓	X
3. In house service training session by Principal Certified resource	✓	X
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	✓	X
<b>Note:</b>		

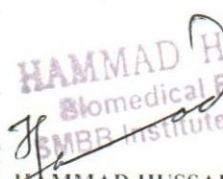



Item #: 11


Name of Item: STEAM STERILIZER (8 STU)


Quantity Required: 01 Unit

Name of Firms	M/s. Total Technologies (Pvt.) Ltd.	M/s. Pakistan Oxygen Ltd.
Make	MMM Group (Germany)	Sumer (Turkey)
Model	Selectomat PL 6612-2 CL (2:Double Door, CL:Compact Line)	ADELA 2 CKK 580 L
Safely installation of said equipment and dismantling of installed said equipment should be responsibility of awarded firm/supplier.	✓	X
Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) are the responsibility of awarded firm/supplier including all electrical, mechanical & Civil works).	✓	X
COUNTRY OF ORIGIN: UK / USA / EUROPE / JAPAN OR EQUIVALENT	Germany	Turkey
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks 2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks 3. Above 10% / Non-compliant to required specifications (Disqualified).	30	Dis-Qualified


  
**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma  
**MR. HAMMAD HUSSAIN**  
Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi


  
**MUHAMMAD FAHEEM**  
ist  
Pharmacist,  
SMBB Institute of Trauma, Karachi

  
**MR. BILAL IDREES**  
Member - PC  
Manager Supply Chain Management  
SMBB Institute of Trauma, Karachi  
**MANAGER**  
**SUPPLY CHAIN MANAGEMENT**  
SMBB Institute of Trauma, Karachi

  
**PROF. SADQA AFTAB**  
Chairperson - PC  
HOD ICU & Anesthesiology Department,  
SMBB Institute of Trauma, Karachi

**MR. MUHAMMAD IBRAHIM MEMON**  
Member - PC  
Deputy Secretary (PM&I),  
Health Department, Govt. of Sindh

  
**PROF. DR. BADDARUDDIN SAHITO**  
Member - PC  
Head of the Department of Orthopaedic Surgery,  
Dow University of Health Sciences &  
Dr. Ruth K.M. Pfau Civil Hospital, Karachi

  
**DR. YOUSUF MEMON**  
Member - PC  
HOD Interventional Radiology,  
SMBB Institute of Trauma, Karachi  
**Dr. M. Yousuf Memon**  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR<sub>2A</sub>, EDIR VIR  
SMBB Institute of Trauma Karachi



**SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI**  
**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID #

T00518-23-0004

TENDER REFERENCE #

PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL:

16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 12

Name of Item: VENTILATOR FOR ICU

Quantity Required: 05 Unit

Name of Firms	M/s. Imperial Traders Inc.	M/s. Noor International	M/s. Oasis Medical System
<b>Make</b>	Mindray (China)	Hamilton (Switzerland)	UTAS Technologies SRO (Slovakia, Europe)
<b>Model</b>	SV-600	Hamilton C3	Uvent-T-S
<b>Demonstration:</b>			
Quoted model demonstration is mandatory in technical approval is subject to satisfactory demonstration.	(Demo not Provided)	Satisfactory	Satisfactory
<b>Specifications:</b>			
1. Display should be 12" or more, TFT color with touch screen.	-	✓	✓
2. Patient Type: Adult, Pediatric and neonate.	-	✓	✓
3. Modes: CMV, SIMV, PCV, DuoPAP / bilevel, APRV, SPONT, Closed loop-ventilation, NIV.	-	✓	✓
4. Should show real time lungs mechanics parameter including tidal volume, lung compliance, resistance and patient activity, cuff pressure.	-	✓	Minor -10
5. Visual representation of the ventilator dependency	-	✓	Minor -10
6. Real time waveforms: display of up to 8 waveforms	-	✓	✓
7. Loops: simultaneous display of up to 4 loops, Display of Volume, Flow, airway pressure, auxiliary pressure, or CO2	-	✓	✓
8. Trending: 1 to 72 hours	-	✓	✓
9. Built-in Air Turbine system with at least 10 years' warranty.	-	✓	✓
10. Special functions should include nebulizer, manual breath, 100% O <sub>2</sub> , Standby, sigh, apnea backup ventilation, tube resistance compensation.	-	✓	✓
11. Cuff pressure Control system option should be presents / external cuff pressure control and monitoring device can be connected.	-	✓	Minor -10
12. High flow oxygen therapy option should be present	-	✓	✓
13. ETCO <sub>2</sub> option should be present	-	✓	✓
14. SPO <sub>2</sub> Monitoring option should be present	-	✓	✓
15. Pressure Volume Tool for lung assessment and recruitment	-	✓	✓
16. PEEP and CPAP ranges from 0 cmH <sub>2</sub> O not less than 50 cm H <sub>2</sub> O	-	✓	✓
17. Oxygen from minimum range of 21% to 100%	-	✓	✓
18. The inspiratory to expiratory ratio starting from 1:9 up to 4: 1	-	✓	✓
19. Operator adjustable alarms should include low/high minute volume, low/high pressure, low/high tidal volume, low/high rate, apnea time, low/high PetCO <sub>2</sub> , and % leak	-	✓	✓
20. Storage and display of not less than 1000 events with date and time	-	✓	✓
21. Should have back up batteries with at least 2 hour or more functionality	-	✓	✓
22. Ventilator should also have low pressure oxygen port along with the connections (including connector, tubing, etc.) for the portability of the ventilator.	-	✓	✓
23. Ventilator should be compatible with the institute central oxygen system pressure that is around 4 bar.	-	✓	✓
24. <b>HUMIDIFIER:</b> Servo Controlled Humidifier which balances the delivery of optimal humidity for the Invasive and NIV therapy with clinical usability and reduction of mobile condensation. One device supports multiple therapies for adult, pediatric and neonatal patients. Minimal circuit condensation which supports patient circuits having semipermeable material allow water vapor to diffuse through the tubing wall. It must have Flow sensor technology with built in algorithms to reduce circuit condensate. It can measure dual temperature and provide feedback to the system for maintaining optimal humidity. It allows clinicians to heat and humidify gases to target 37deg C for invasive and Nasal high flow therapies and 31deg C for non-invasive ventilation mode.	-	✓	✓
<b>To be supplied with:</b> Oxygen Hose pipe and probe (compatible with our existing oxygen point), patient breathing circuits for Neonate, Peds and Adults, supporting arm and original trolley, power cord, Humidifier along with it re-usable / Sterilizable chamber, Temperature probe & Heated wire.	-	✓	✓
<b>Power Requirement</b>			
Line voltages: 100-240VAC	-	✓	✓
Line Frequency: 50/60 Hz	-	✓	✓
<b>Requirements:</b>			
Certification for both Ventilator & Humidifier:			
SMBB Institute of Trauma ISO, CE / FDA 510(K)/JIS/MLHW/JQAO		✓	✓

**HAMMAD HUSSAIN**  
 Biomedical Engineer  
 SMBB Institute of Trauma

**Dr. M. Yousuf Memon**  
 Consultant and Head of  
 Interventional Radiology  
 MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VJR  
 SMBB Institute of Trauma Karachi



Item #: 12

Name of Item: VENTILATOR FOR ICU

Quantity Required: 05 Unit

Name of Firms	M/s. Imperial Traders Inc.	M/s. Noor International	M/s. Oasis Medical System
Make	Mindray (China)	Hamilton (Switzerland)	UTAS Technologies SRO (Slovakia, Europe)
Model	SV-600	Hamilton C3	Uvent-T-S
<b>Warranty and Maintenance Period:</b>			
1. Warranty Period required 5 years with maintenance and parts replacement.	-	✓	✓
2. All the parts are included in the warranty. (Battery, O2 Cell, Expiratory cover and membrane and all other parts are included in the warranty period).	-	✓	X
3. PPM must be done according to the OEM criteria in warranty period.	-	✓	X
4. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	-	✓	X
5. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	-	✓	X
6. Up-time guarantee during warranty period must be 90-95%.	-	✓	X
7. Response to breakdown during and after warranty period must be 1-3Hours.	-	✓	X
<b>Down Time:</b>			
If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below;	-	✓	X
90% → No Down Time	-	✓	X
Below 90% → 1.5 days increase daily	-	✓	X
Below 75% → 3.5 days increase daily	-	✓	X
Below 50% → 5 days increase daily	-	✓	X
<b>Trainings &amp; Manual:</b>			
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	-	✓	X
2. In house operator training session for end user.	-	✓	X
3. In house service training session by Principal Certified resource	-	✓	X
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	-	✓	X
Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) are the responsibility of awarded firm/supplier).	-	✓	X
<b>COUNTRY OF ORIGIN: UK / USA / EUROPE / JAPAN OR EQUIVALENT</b>	China	Switzerland	Slovakia, Europe
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks	Dis-Qualified	40	30
2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks			
3. Above 10% / Non-compliant to required specifications (Disqualified).			

**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma

MR. HAMMAD HUSSAIN  
Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi

**MUHAMMAD FAHEEM**  
Member - PC  
Pharmacist,  
SMBB Institute of Trauma, Karachi

MR. BILAL DREES  
Member - PC  
Manager Supply Chain Management,  
SMBB Institute of Trauma, Karachi  
**SUPPLY CHAIN MANAGEMENT**  
SMBB Institute of Trauma, Karachi

**PROF. SADQA AFTAB**  
Chairperson - PC  
HOD ICU & Anesthesiology Department,  
SMBB Institute of Trauma, Karachi

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Member - PC  
Deputy Secretary (PM&I),  
Health Department, Govt. of Sindh

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Member - PC  
Head of the Department of Orthopaedic Surgery,  
Dow University of Health Sciences &  
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Civil Hospital Karachi

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Member - PC  
HOD Interventional Radiology,  
SMBB Institute of Trauma, Karachi

**Dr. M. Yousuf Memon**  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR2A, EDIR VIR  
SMBB Institute of Trauma Karachi



# SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI

## BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS

### TECHNICAL EVALUATION

PPMS ID #

T00518-23-0004

TENDER REFERENCE #

PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL:

16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 14

Name of Item: **LOW TEMP PLASMA CAPACITY**

Quantity Required: **01 Unit**

Name of Firms		M/s. Total Technologies (Pvt.) Ltd.
<b>Make</b>		MMM Group (Germany)
<b>Model</b>		HYPER LTS 150-2 (2:Double Door)
<b>Specifications:</b>		
Volume	Total : 130 Liters or more	✓
Chamber Type	Rectangular	✓
Door type	Double Door System, operated by touch screen nd sensor or better	✓
Sterilizing Agent	Hydrogen Peroxide, 20 Cycles / Bottle or better	Minor -10
Total Cycle Time Approx.	Quick 30+5 Min or better	✓
	Standard 40+5 Min or better	✓
	Special 50+5 Min or better	✓
Cycle Temperature	50±5°C, Rapid Warmup & Dry System	✓
SAL (Sterility Assurance Level)	10-6	✓
By-Products	Oxygen And Vapor Water Only	✓
Lumen Claims	Rigid Lumen & Flexible Lumen, Endoscopes	✓
Material	Stainless Steel(SUS)	✓
Display	7" or more touch LCD, Easy Monitoring the Cycle information	✓
Control	Microprocessor	✓
Dry system	Rapid warm up and drying system to remove the moisture And long	✓
lumen penetration up to 2000 mm		✓
Cycle Information	Screen, Printer, USB	✓
PM Cycle	Automatic Alarm & Setup	✓
Placement	Built-in Wheels for Mobility	✓
Printer	Built-in Thermal Printer	✓
Cycle Parameters	(Temp, Pressure, Time, Daily & Total Cycle, Etc.)	✓
Alarm & Error Display		✓
Others	Emergency Stop(Front), Operator ID Login, Self-Diagnosis, Multi-Language, RFID Coding System	✓
<b>Power Requirement:</b>		
Line voltages: 100-240VAC		✓
Line Frequency: 50/60 Hz		✓
<b>Requirement:</b>		
<b>Warranty and Maintenance Period:</b>		
1. Warranty Period required 5 years with maintenance and parts replacement.		✓
2. All the parts are included in the warranty. (LCD, Printer, Keypad, Recorder and all others parts are included)		✓
3. PPM must be done according to the OEM criteria in warranty period.		✓
4. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter from M.		✓
5. Required surety of service support and parts from the manufacturer, in case of transfer agency distributor via undertaking by OEM.		✓

Page 1 of 2

**HAMMAD HUSSAIN**  
Biomedical Engineer

Dr. M. Yousuf Memon  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCP, A, EDIR VIB  
SMBB Institute of Trauma Karachi



Item #: 14

Name of Item: **LOW TEMP PLASMA CAPACITY**

Quantity Required: **01 Unit**

Name of Firms	M/s. Total Technologies (Pvt.) Ltd.
<b>Make</b>	MMM Group (Germany)
<b>Model</b>	HYPER LTS 150-2 (2:Double Door)
6. Up-time guarantee during warranty period must be 90-95%.	✓
7. Response to breakdown during and after warranty period must be 1-3Hours.	✓
<b>Down Time:</b>	
If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below;	✓
90% → No Down Time	✓
Below 90% → 1.5 days increase daily	✓
Below 75% → 3.5 days increase daily	✓
Below 50% → 5 days increase daily	✓
<b>Trainings &amp; Manual:</b>	
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	✓
2. In house operator training session for end user.	✓
3. In house service training session by Principal Certified resource	✓
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	✓
<b>Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) are the responsibility of awarded firm/supplier).</b>	✓
<b>Country of Origin: USA / Europe / JAPAN / UK should have FDA 510(k) / CE (MDD) / JIS /JQAO/ MHLW.</b>	Germany
<b>Manufacturer from other Countries (other than USA, Europe or Japan) should have FDA (510k) and CE / (MDD) / JIS / JQAO / MHLW.</b>	✓
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks	30
2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks	
3. Above 10% / Non-compliant to required specifications (Disqualified).	

**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma

**MR. HAMMAD HUSSAIN**  
Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi

**MUHAMMAD FAHEEM**  
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SMBB Institute of Trauma

**MR. MUHAMMAD FAHEEM**  
Member - PC  
Pharmacist,  
SMBB Institute of Trauma, Karachi

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Member - PC  
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SMBB Institute of Trauma, Karachi

**SUPPLY CHAIN MANAGEMENT**  
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Member - PC  
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Department of Orthopaedic Surgery,  
Dow University of Health Sciences  
Dr. Ruth K.M. Pfau  
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Member - PC  
HOD Interventional Radiology,  
SMBB Institute of Trauma, Karachi  
**Dr. M. Yousuf Memon**  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
SMBB Institute of Trauma Karachi



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**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID # T00518-23-0004

TENDER REFERENCE # PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF TECHNICAL PROPOSAL: 16-03-2024 AT 12:00 PM

TENDER TITLE:

**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**

Item #: 15

Name of Item: **OXYGEN GENERATION PLANT 160 CUBINC METER PER MINUTE**

Quantity Required: **01 Unit**

Name of Firms	M/s. Pakistan Oxygen Ltd.	M/s. Imperial Traders Inc.
<b>Make</b>	Sumer (Turkey)	Noxerrior (Italy)
<b>Model</b>	-	Oxytwin OT-2000 M
<b>Specifications:</b>		
Pressure swing absorption (PSA) technology.	✓	✓
80 m <sup>3</sup> /h Duplex system means total capacity will be 80+80= 160 m <sup>3</sup> /h. PSA with reservoir tank, Air Compressor Units, Air Dryer, Filter and Air Reservoir & all other parts (02 Separate Units in Quantity with respect to the Duplex System).	✓	✓
Plug & play component for simple installation on site	✓	✓
Service indications and relevant alarms.	✓	✓
The outlet oxygen purity shall be 93% +/- 3%	✓	✓
Oxygen outlet pressure 5.0 bar (g) or more	✓	✓
The generator vessels shall contain chemically produced zeolite to adsorb specific types of molecules, such as nitrogen and water vapor - providing infinite lifetime.	✓	✓
The system shall operate at a maximum ambient temperature of 45°C.	✓	✓
The generator will require a single phase low voltage 110-240V 50-60Hz supply.	✓	✓
In order to protect the zeolite, the inlet air dewpoint shall be monitored with a PDP sensor and an alarm shall be triggered when the dewpoint is too high.	✓	✓
They shall be protected by a safety pressure relief valve and include a pressure gauge. These valves shall be suitable for oxygen use.	✓	✓
A silencer shall be included to reduce the noise level during the regeneration process.	✓	✓
Non-return valves shall be included to avoid back flow from the outlet of the generator.	✓	✓
The oxygen generator shall include an oxygen sensor for continuous measurement of oxygen purity and shall be provided with a calibration certificate. Oxygen sensor using long-life and low-maintenance technology to extend the period between sensor recalibration.	✓	✓
Digitally shown oxygen purity and flow rate (Total consumption of oxygen) on generator screen	✓	✓
User-friendly high-definition display with clear pictograms and indicators, providing easy access to system operational information.	✓	✓
On screen alarms: Low pressure, Low oxygen purity, Low oxygen purity shut-down, high flow, High dew point, High dew point shut-down and etc.	✓	✓
The oxygen vessel shall be of steel construction and shall be adequately sized to ensure oxygen pressure during nominal operation. The vessel shall be protected by a safety pressure relief valve and include a pressure gauge.	✓	✓
<b>Air Compressor</b>		
Compressors should be oil-free screw compressors suitable for both continuous and frequent start/stop operation at a nominal outlet pressure of 7.5 to 10 bar gauge.	X	✓
Compatible with the Oxygen generation plant of 80 m <sup>3</sup> /h	✓	✓
Noise level: 80 dB or better	✓	✓
<b>Dryer</b>		
Compatible with Oxygen generation system of 80 m <sup>3</sup> /h and Air compressor	✓	✓
The dryer should be a refrigerant dryer and shall include a simple plug & play concept.	✓	✓

MANAGER  
 SUPPLY CHAIN MANAGEMENT  
 SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI

HAMMAD HUSSAIN  
 Biomedical Engineer  
 SMBB Institute of Trauma  
 Department Orthopaedic Surgery  
 Dow University of Health Sciences  
 Dr. Ruth K.M. Pfau  
 Civil Hospital Karachi

Page 01 of 5  
 FAHEEM  
 1st  
 SMBB Institute of Trauma

Dr. M. Yousuf Memon  
 Consultant and Head of  
 Interventional Radiology  
 MBBS, DMRD, FRCR<sub>2</sub>A, EDIR VIR  
 SMBB Institute of Trauma Karachi

Dr. M. Yousuf Memon  
 SMBB Institute of Trauma Karachi  
 Dow University of Health Sciences



Item #: 15

Name of Item: **OXYGEN GENERATION PLANT 160 CUBINC METER PER MINUTE**

Quantity Required: 01 Unit

Name of Firms	M/s. Pakistan Oxygen Ltd.	M/s. Imperial Traders Inc.
<b>Make</b>	Sumer (Turkey)	Noxerion (Italy)
<b>Model</b>	-	Oxytwin OT-2000 M
Pressure shall be self-regulating. The dryer shall be able to reach 3°C PDP at 45°C with nominal flow.	✓	✓
The dryer shall include the following components:	✓	✓
<b>Refrigerant Circuit:</b> Refrigerant separator, Refrigerant compressor, Maximum pressure switch and fan control switch, Condenser fan, Condenser, Capillary filter, Capillary tube, Hot gas bypass	✓	✓
<b>Air Circuit:</b> Air inlet, Air to refrigerant heat exchanger, Air/heat exchanger, Water separator, Automatic drain, Air outlet	✓	✓
<b>Filters</b>		
High efficiency filters shall be used to remove oil aerosols, solid particles, and liquid droplets and dust particles.	✓	✓
An additional oxygen-approved filter shall be included at the outlet of the oxygen buffer vessel to protect against zeolite dust particles.	✓	✓
Filtration according to the recommendation of the principle and according to city environment and temperature	✓	✓
<b>Air Receiver Assembly</b>		
The air receiver should be supplied with relevant test certificates.	✓	✓
Each air receiver shall be fitted with a zero loss electronic drain valve. Float type drain valves are not acceptable.	✓	✓
The receiver assembly should be fitted with a pressure safety valve, set at 10% receiver overpressure.	✓	✓
Air reservoir assembly must include a pressure gauge.	✓	✓
<b>Note:</b>		
Only copper pipe must be used as material. In all type of connection in the Air compressor side as well as oxygen generation side.	✓	✓
Vendor/supplier will be responsible for the commissioning and installation of the oxygen generation plant including site preparation, site renovation, electrical wiring, electrical DB, room temperature, room ventilation and humidity related work and part	X	✓
Room temperature, ventilation and humidity for the complete system will be responsibility of the supplier/vendor.	X	✓
Supplier/Vendor will be responsible for the proper filtration of the air required for the zeolite and filtration of the oxygen required for the institute.	X	✓
Supplier/Vendor will be responsible to ensure the all safety check.	X	✓
Supplier/Vendor will perform complete PPM in the warranty period including all parts and consumable (filter, muffler, valve and etc.)	X	✓
<b>Power Requirement:</b>		
Line voltages: 100-240VAC	✓	✓
Line Frequency: 50/60 Hz	✓	✓
<b>Requirement:</b>		
<b>Certification:</b>		
System should have Certification <b>FDA 510(k)/CE/JIS/MHLW/JQAO</b>	✓	✓
<b>Warranty and Maintenance Period:</b>		
1. <b>Warranty Period required 5 years</b> with maintenance and parts replacement.	✓	✓
2. All the parts are included in the warranty. (Compressors, Oxygen Sensor, Flow analyzer and all other parts are included)	✓	✓
3. Zeolite 10 years warranty from manufacturer.	✓	✓
4. PPM must be done according to the OEM criteria in warranty period and consumable like filters and Oil Grease all are whichever needed bidder / vendor responsibility till the warranty period.	X	✓
5. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	X	✓
6. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	X	✓
7. Up-time guarantee during warranty period must be 90-95%.	X	✓



Item #: 15

Name of Item: **OXYGEN GENERATION PLANT 160 CUBINC METER PER MINUTE**

Quantity Required: **01 Unit**

Name of Firms	M/s. Pakistan Oxygen Ltd.	M/s. Imperial Traders Inc.
<b>Make</b>	Sumer (Turkey)	Noxerion (Italy)
<b>Model</b>	-	Oxytwin OT-2000 M
8. Response to breakdown during and after warranty period must be 1-3Hours.	X	✓
<b>Down Time:</b>		
If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below;	X	✓
90% → No Down Time	X	✓
Below 90% → 1.5 days increase daily	X	✓
Below 75% → 3.5 days increase daily	X	✓
Below 50% → 5 days increase daily	X	✓
<b>Trainings &amp; Manual:</b>		
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	X	✓
2. In house operator training session for end user.	X	✓
3. In house service training session by Principal Certified resource	X	✓
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	X	✓
<b>Note:</b>		
Safely installation of said equipment and dismantling of old installed said equipment should be responsibility of awarded firm/supplier.	X	✓
Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) are the responsibility of awarded firm/supplier with electrical, Civil and mechanical works).	X	✓
<b>COUNTRY OF ORIGIN: UK / USA / EUROPE / JAPAN OR EQUIVALENT</b>	Turkey	Italy
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks 2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks 3. Above 10% / Non-compliant to required specifications (Disqualified).	Dis-Qualified	40

**HAMMAD HUSSAIN**  
Biomedical Engineer  
SMBB Institute of Trauma  
MR. HAMMAD HUSSAIN  
Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi

**MR. MUHAMMAD FAHEEM**  
Member - PC  
Pharmacist,  
SMBB Institute of Trauma, Karachi

**MR. BILAL IDREES**  
Member - PC  
Manager Supply Chain Management,  
SMBB Institute of Trauma, Karachi

**PROF. SADQA AFTAB**  
Chairperson - PC  
HOD ICU & Anesthesiology Department,  
SMBB Institute of Trauma, Karachi

**MR. MUHAMMAD IBRAHIM MEMON**  
Member - PC  
Deputy Secretary (PM&I),  
Health Department, Govt. of Sindh

**PROF. DR. BADDARUDDIN SAHITO**  
Member - PC  
Head of the Department of Orthopaedic Surgery,  
Dow University of Health Sciences &  
Dr. Ruth K.M. Pfau Civil Hospital, Karachi  
Dow University of Health Sciences  
Dr. Ruth K.M. Pfau  
Civil Hospital Karachi

**DR. YOUSUF MEMON**  
Member - PC  
HOD Interventional Radiology,  
SMBB Institute of Trauma, Karachi  
Dr. M. Yousuf Memon  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCR, A EDIF VIR  
SMBB Institute of Trauma Karachi



**SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI**  
**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**TECHNICAL EVALUATION**

PPMS ID # T00518-23-0004  
TENDER REFERENCE # PROC/SMBBIT/(P&M-01)/2023-24  
DATE & TIME OPENING OF TECHNICAL PROPOSAL: 16-03-2024 AT 12:00 PM  
TENDER TITLE:  
**PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING**  
Item #: 16  
Name of Item: **PORTABLE LAPTOP BASED COLOR DOPPLER ULTRASOUND MACHINE**  
Quantity Required: **01 Unit**

Name of Firms	M/s. Noor International	M/s. Bio-Tech Services	M/s. BIOS
<b>Make</b>	Mindray (China)	Esaote (Italy)	Sonoscape (China)
<b>Model</b>	M6	MyLabSigma	X5
<b>Demonstration:</b>			
1. Quoted model demonstration is mandatory in technical approval is subject to satisfactory demonstration.	Quoted Model not Demonstrated	Satisfactory	Satisfactory
<b>Specifications:</b>			
High resolution 15 inch or more LCD/LED.	-	✓	✓
Screen should be anti-flickering technology.	-	✓	✓
Machine opening angle of 130° or more.	-	✓	✓
Full screen image zoom.	-	✓	✓
Frame Rate: 200 fps or more	-	✓	✓
1 active probe connectors or more, should be extendable to 3 connectors.	-	✓	✓
1-hour or more built-in battery backup	-	✓	✓
320 GB hard drive or more.	-	✓	✓
6 kg weight or less.	-	✓	✓
USB Ports for data transfer.	-	✓	✓
Video/HDMI ports for external monitor connectivity.	-	✓	✓
Built-in DICOM Compatibility (3.0 with all components).	-	✓	✓
<b>Standard Operating Modes</b>			
B mode, M mode, Tissue Harmonic Imaging mode, Pure Inversion Harmonic Imaging mode, Power Doppler Imaging mode, Directional Power Doppler Imaging mode, Tissue Doppler Imaging mode, Color Flow mode (CFM), PW mode, CW mode, Spatial Compound imaging mode, Trapezoid imaging mode, Noise reduction technology, Anatomical M Mode, Color M mode.	-	✓	✓
<b>B-Mode</b>			
Digital image zoom of 1-10 times or more.	-	✓	✓
Dynamic range: 30db - 200db or better.	-	✓	✓
Grayscale level: 256 or better.	-	✓	✓
Focus points: Should be multiple and adjustable focus points	-	✓	✓
Cine loop: 800 frames or better.	-	✓	✓
Adaptive image fusion: 10 types selectable or more.	-	✓	✓
Scanning Depth: 40 cm or better.	-	✓	✓
Frequency: 5 bands or mode. Should be adjustable.	-	✓	✓
Line Density: 3 levels or more. Should be adjustable	-	✓	✓
Needle Enhancement feature for biopsy procedures.	-	✓	✓
Needle Guide Function: (a) Needle lines angle adjustable (b) Needle lines offset adjustable.	-	✓	✓
Grayscale Curve: 5 or more selectable.	-	✓	✓
Auto image enhancement function.	-	✓	✓
<b>Color Doppler Mode</b>			
Color Flow Invert.	-	✓	✓
PW/CW Spectrum Invert.	-	✓	✓
Frequency Range: 5 steps or more. Should be adjustable.	-	✓	✓
Wall Filter: 20 - 700Hz or better.	-	✓	✓
PRF: 1 - 12 kHz or better (CDI).	-	✓	✓
Line Density: 3 levels or more	-	✓	✓
Color base line: 10 steps or better.	-	✓	✓
Auto image enhancement function and Auto Adjusting Baseline, (b) Auto Adjusting PRF.	-	✓	✓
Auto Mode	-	✓	✓



Item #: 16

Name of Item: **PORTABLE LAPTOP BASED COLOR DOPPLER ULTRASOUND MACHINE**

Quantity Required: **01 Unit**

Name of Firms	M/s. Noor International	M/s. Bio-Tech Services	M/s. BIOS
<b>Make</b>	Mindray (China)	Esaote (Italy)	Sonoscape (China)
<b>Model</b>	M6	MyLabSigma	X5
Dual-Live Display.	-	✓	✓
Sample Volume and Position for PW Doppler: 1 – 20 mm or better.	-	✓	✓
Real-time Trace of PW/CW Spectrum.	-	✓	✓
<b>Measurements and Calculations</b>			
To provide Comprehensive Software Package for Measurement of Distance, Circumference, Area, Time, Depth, ANGLE, IMT, Velocity, Frequency, Heart Rate, Volumes.	-	✓	✓
Auto-calculation: Auto IMT, Auto PW/CW Trace, Real-time auto trace.	-	✓	✓
All measurement Software to be provided as a Standard.	-	✓	✓
<b>Transducers</b>			
Multi frequency Convex Probe (2.0 – 7.0 MHz or better).	-	✓	✓
Multi frequency Linear Probe (4.0 – 15.0 MHz or better).	-	✓	✓
<b>System Complete with Following Configuration</b>			
Portable color Doppler unit with original OEM trolley.	-	✓	✓
Compatible imported online (pure sine wave) UPS with battery backup.	-	✓	✓
ECG Leads.	-	✓	✓
Ultrasound Gel.	-	✓	✓
User's Manuals.	-	✓	✓
Digital B/W Thermal Printer with Paper Rolls	-	✓	✓
<b>Power Requirement:</b>			
Line voltages: 100-240VAC	-	✓	✓
Line Frequency: 50/60 Hz	-	✓	✓
<b>Requirement:</b>			
<b>Warranty and Maintenance Period:</b>			
1. Warranty Period required 5 years with maintenance and parts replacement.	-	✓	✓
2. All the parts are included in the warranty. (LED, Keypad and all others parts are included)	-	✓	✓
3. PPM must be done according to the OEM criteria in warranty period.	-	✓	✓
4. Service support and parts availability upcoming next ten years after installation of quoted model must be ensure via a separate letter by O.E.M.	-	✓	✓
5. Required surety of service support and parts from the manufacturer, in case of transfer agency / distributor via undertaking by O.E.M.	-	✓	✓
6. Up-time guarantee during warranty period must be 90-95%.	-	✓	✓
7. Response to breakdown during and after warranty period must be 1-3Hours.	-	✓	✓
<b>Down Time:</b>			
If equipment is malfunctioning or not working properly then down time period would start i.e., if machine remain out of order for more than one day; then one and half day increase in contract of concerned equipment will be charged but if any part required from manufacturer, then downtime period not calculated for a month but after a month the down time should be calculated, are mentioned below;	-	✓	✓
90% → No Down Time	-	✓	✓
Below 90% → 1.5 days increase daily	-	✓	✓
Below 75% → 3.5 days increase daily	-	✓	✓
Below 50% → 5 days increase daily	-	✓	✓
<b>Trainings &amp; Manual:</b>			
1. Operating and service manual with troubleshooting and circuit diagram must be provided.	-	✓	✓
2. In house operator training session for end user.	-	✓	✓
3. In house service training session by Principal Certified resource	-	✓	✓
4. Trained Service Engineers with certification from the principle, Karachi based mandatory.	-	✓	✓
<b>Note:</b>			
Safely installation of new OT light and dismantling of old installed OT light should be responsibility of awarded firm/supplier.	-	✓	✓
Supply, Installation, Testing, Commissioning and Maintenance (Including all type of work for the completion of the installation) are the responsibility of awarded firm/supplier).	-	✓	✓
Country of Origin: USA / Europe / JAPAN / UK should have FDA 510(k) / CE (MDD) / JIS / JQAO / MHLW.	China	Italy	China
Manufacturer from other Countries (other than USA, Europe or Japan) should have FDA (510k) and CE / (MDD) / JIS / JQAO / MHLW.		✓	✓


Dr. M. Yousuf Memon  
Consultant and Head of  
Interventional Radiology  
MBBS, DMRD, FRCS, A, EDIR VIR  
SMRB Institute of Trauma Karachi




Name of Item: PORTABLE LAPTOP BASED COLOR DOPPLER ULTRASOUND MACHINE

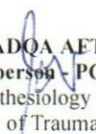
Quantity Required: 01 Unit


Name of Firms	M/s. Noor International	M/s. Bio-Tech Services	M/s. BIOS
Make	Mindray (China)	Esaote (Italy)	Sonoscape (China)
Model	M6	MyLabSigma	X5
1. Fully compliant with the required tender specifications (Product Demonstration, previous technical / support experience of the product / firm may also be considered for technical evaluation) 40 Marks	Dis-Qualified	40	40
2. Compliant with minor deviation (up to 10 % subject to main function is not affected) 30 Marks			
3. Above 10% / Non-compliant to required specifications (Disqualified).			

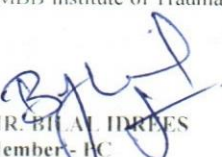
  
**MR. MUHAMMAD HUSSAIN**  
Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi


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Member - PC  
Deputy Secretary (PM&I),  
Health Department, Govt. of Sindh

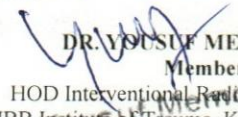
  
**MR. MUHAMMAD FAHEEM**  
Member - PC  
Pharmacist,  
SMBB Institute of Trauma, Karachi

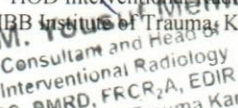
  
**PROF. SADOQA AETAB**  
Chairperson - PC  
HOD ICU & Anesthesiology Department,  
SMBB Institute of Trauma, Karachi

  
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Dow University of Health Sciences &  
Dr. Ruth K.M. Pfau Civil Hospital, Karachi

  
**MR. BILAL IDRIS**  
Member - PC  
Manager Supply Chain Management,  
SMBB Institute of Trauma, Karachi

  
**PROF. SADOQA AETAB**  
Department Of Anesthesiology & ICU  
SMBB Institute Of Trauma  
Dow University Of Health Sciences

  
**DR. YOUSUF MEMON**  
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HOD Interventional Radiology,  
SMBB Institute of Trauma, Karachi

  
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Consultant and Head of  
Interventional Radiology  
MBBS, MRD, FRCR2A, EDIR VIR  
SMBB Institute of Trauma Karachi



**SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI**  
**BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS**  
**FINANCIAL EVALUATION**

PPMS ID #  
TENDER REFERENCE #  
DATE & TIME OPENING OF  
TECHNICAL PROPOSAL:  
TENDER TITLE:

T00518-23-0004  
PROC/SMBBIT/(P&M-01)/2023-24  
16-03-2024 AT 12:00 PM  
PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING

S.#	Item Name	U.O.M	Product Description / Specification	Company Name	Brand Name / Make	Model	Total Technical Scoring	Technical Scoring	Total Quoted Price	Lowest Quoted price	Maximum Allocable unit price	Score Awarded to the unit price	Total Score of Technical + score Awarded to the unit price	Product Ranks highest in the Combined Evaluation	TOTAL AMOUNT	Successful Bidder
1	OPERATION THEATER LIGHT DUAL DOME (CEILING MOUNTED)	1	As per Mentioned in SBD	M/s. Noor International	Simeon Medical (Germany)	Sim.LED 500MC	90	63	7,500,000.00	7,500,000.00	30	30	93	Most Advantageous Bid	7,500,000.00	M/s. Noor International
2	ANESTHESIA MACHINE WITH VENTILATOR	5	As per Mentioned in SBD	M/s. BIOS	OES Medical (UK)	Astra 3i	90	63	8,900,000.00	8,900,000.00	30	30	93	Most Advantageous Bid	44,500,000.00	M/s. BIOS
				M/s. Noor International	Penlon (UK)	Prima 460	90	63	11,000,000.00	8,900,000.00	30	24.27272727	87.27272727			
3	PATIENT MONITOR	10	As per Mentioned in SBD	M/s. Noor International	Trionara (Sweden)	Vitus 12s	100	70	750,000.00	595,000.00	30	23.8	93.8			M/s. Hospicare System
				M/s. Hospicare System	Biolight (China)	M9500	100	70	595,000.00	595,000.00	30	30	100	Most Advantageous Bid	5,950,000.00	
4	BATTERY OPERATED ORTHO DRILL WITH ATTACHMENTS	2	As per Mentioned in SBD	M/s. RECH International	Arthrex (Germany)	-	70	49	11,137,727.00	11,137,727.00	30	30	79	Most Advantageous Bid	22,275,454.00	M/s. RECH International
5	PORTABLE MONITOR	10	As per Mentioned in SBD	M/s. Hospicare System	Biolight (China)	V6	100	70	280,000.00	280,000.00	30	30	100	Most Advantageous Bid	2,800,000.00	M/s. Hospicare System
6	VASCULAR DOPPLER	2	As per Mentioned in SBD	M/s. Biologic Medical Systems	Huntleigh Health Care Ltd. (UK)	Dopplex DMX	75.6	52.92	3,018,750.00	3,018,750.00	30	30	82.92	Most Advantageous Bid	6,037,500.00	M/s. Biologic Medical Systems
7	PATIENT WARMER (WATER BASED)	5	As per Mentioned in SBD	M/s. Hospicare System	Gentherm Medical CSZ (USA)	Morm-o-Temp	86	60.2	2,600,000.00	2,600,000.00	30	30	90.2	Most Advantageous Bid	13,000,000.00	M/s. Hospicare System
8	BLOOD / FLUID WARMER	2	As per Mentioned in SBD	M/s. Hospicare System	Gentherm Medical CSZ (USA)	Astotherm 220 Plus	86	60.2	950,000.00	950,000.00	30	30	90.2	Most Advantageous Bid	1,900,000.00	M/s. Hospicare System
9	ECG MACHINE	5	As per Mentioned in SBD	M/s. Hospicare System	Cardioline (Italy)	SECG-200S	84.2	58.94	820,000.00	820,000.00	30	30	88.94	Most Advantageous Bid	4,100,000.00	M/s. Hospicare System
10	WASHING, DISINFECTION AND DRYING MACHINE (10 DIN)	1	As per Mentioned in SBD	M/s. Total Technologies (Pvt.) Ltd.	MMM Group (Germany)	UniClean PL II 10-2 (2:Door)	86	60.2	29,000,000.00	29,000,000.00	30	30	90.2	Most Advantageous Bid	29,000,000.00	M/s. Total Technologies (Pvt.) Ltd.
11	STEAM STERILIZER (8 STU)	1	As per Mentioned in SBD	M/s. Total Technologies (Pvt.) Ltd.	MMM Group (Germany)	Selectomat PL 6612-2 CL (2:Double Door, CL:Compact Line)	76	53.2	49,500,000.00	49,500,000.00	30	30	83.2	Most Advantageous Bid	49,500,000.00	M/s. Total Technologies (Pvt.) Ltd.
12	VENTILATOR FOR ICU	5	As per Mentioned in SBD	M/s. Noor International	Hamilton (Switzerland)	Hamilton C3	90	63	8,690,000.00	8,690,000.00	30	30	93	Most Advantageous Bid	43,450,000.00	M/s. Oasis Medical System + M/s. Noor International
				M/s. Oasis Medical System	UTAS Technologies SRO (Stockholm, Europe)	Event-T-S	90	63	8,690,000.00	8,690,000.00	30	30	93	Most Advantageous Bid	43,450,000.00	
13	LOW TEMP PLASMA TREATMENT CITY	1	As per Mentioned in SBD	M/s. Total Technologies (Pvt.) Ltd.	MMM Group (Germany)	Interferon SRO (Stockholm, Europe)	53.2	37.500,000.00	37,500,000.00	30	30	83.2	Most Advantageous Bid	37,500,000.00	M/s. Total Technologies (Pvt.) Ltd.	

**MANAGER**  
**SUPPLY CHAIN MANAGEMENT**  
**SMBB Institute of Trauma, Karachi**

**HAMMAD HUSSAIN**  
**Blommed**  
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**M. Yousuf Memon**  
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**Interventional Radiology**  
**SMBB Institute of Trauma Karachi**

**K. JAHAN FAHEEM**  
**ist**  
**SMBB Institute of Trauma**



# SHAHEED MOHTARMA BENAZIR BHUTTO INSTITUTE OF TRAUMA, KARACHI

## BIDS EVALUATED ON MOST ADVANTAGEOUS BID BASIS

### FINANCIAL EVALUATION

PPMS ID #

T00518-23-0004

TENDER REFERENCE #

PROC/SMBBIT/(P&M-01)/2023-24

DATE & TIME OPENING OF  
TECHNICAL PROPOSAL:

16-03-2024 AT 12:00 PM

TENDER TITLE:

PROCUREMENT OF MACHINERY & EQUIPMENT WITH SUPPLY, INSTALLATION, TESTING & COMMISSIONING

S.#	Item Name	U.O.M	Product Description / Specification	Company Name	Brand Name / Make	Model	Total Technical Scoring	Technical Scoring	Total Quoted Price	Lowest Quoted price	Maximum Allocable unit price	Score Awarded to the unit price	Total Score of Technical + score Awarded to the unit price	Product Ranks highest in the Combined Evaluation	TOTAL AMOUNT	Successful Bidder
15	OXYGEN GENERATION PLANT 160 CUBINC METER PER MINUTE	1	As per Mentioned in SBD	M/s. Imperial Traders Inc.	Noxerrior (Italy)	Oxytwin OT-2000 M	81	56.7	807,079,820.00	807,079,820.00	30	30	86.7	Most Advantageous Bid	807,079,820.00	M/s. Imperial Traders Inc.
16	PORTABLE LAPTOP BASED COLOR DOPPLER ULTRASOUND MACHINE	1	As per Mentioned in SBD	M/s. Bio-Tech Services	Esaote (Italy)	MyLabSigma	93	65.1	9,825,000.00	7,150,000.00	30	21.83206107	86.93206107			M/s. BIOS
				M/s. BIOS	Sonoscape (China)	X5	95	66.5	7,150,000.00	7,150,000.00	30	30	96.5	Most Advantageous Bid	7,150,000.00	

PROF. SADOA AFTAB  
Department Of Anesthesiology & ICU  
SMBB Institute of Trauma  
Dow University of Health Sciences  
Chairs person - PC  
HOD ICU & Anesthesiology Department,  
SMBB Institute of Trauma, Karachi

MR. MUHAMMAD IBRAHIM MEMON  
Member - PC  
Deputy Secretary (PM&I),  
Health Department, Govt. of Sindh

MR. HAMMAD HUSSAIN  
Member - PC  
Bio-Medical Engineer,  
SMBB Institute of Trauma, Karachi

HAMMAD HUSSAIN  
Biomedical Engineer  
SMBB Institute of Trauma

Prof. DR. BADARUDDIN SAHITO  
FRCS, FCPS, FRCS (Tr & Orth)  
Professor  
Management Orthopaedic Surgery  
University of Health Sciences  
Civil Hospital Karachi  
Member - PC  
Head of the Department of Orthopaedic Surgery,  
Dow University of Health Sciences &  
Dr. Ruth K.M.Pfau Civil Hospital, Karachi

MR. MUHAMMAD FAHEEM  
Member - PC  
Pharmacist,  
SMBB Institute of Trauma, Karachi

MUHAMMAD FAHEEM  
Pharmacist  
SMBB Institute of Trauma