

**QUOTATION FOR SUPPLY, ERECTION, TESTING & COMMISSIONING OF
AIRCONDITIONING SYSTEMS TO OPERATION THEATRE**



N.S. MEMORIAL INSTITUTE OF MEDICAL SCIENCES

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Bid document for “Quotation for supply, erection & commissioning of Airconditioning systems to operation theatre of NSMIMS, Kollam

Sealed tenders are invited by the Secretary, NSMIMS, Kollam for supply, erection & commissioning of Airconditioning systems in operation theatre

Eligibility:

- Contractors who have sufficient experience of having successfully carried out similar works in Government Offices/Residential buildings/Office buildings/Pvt. buildings during the last three years are eligible to participate in the bidding.
- The NSMIMS reserves the right to verify the proof of having experience and expertise of the bidder in executing similar works and the bidder has to produce the proof thereof.

Submission of bid:

The document can be obtained in person from the below mentioned address from 10.00 am to 5.00 pm on all working days:

“N.S Memorial Institute of Medical Sciences, Palathara, Thattamala P.O Kollam 691020 “

Alternatively, the tender document can be downloaded from the website www.nshospital.org. The dully filled document is to be submitted as mentioned above.. The bid along with the NSMIMS’s terms and condition duly signed is to be submitted in a sealed envelope superscribing the envelope “Supply, erection & commissioning of Airconditioning systems in operation theatre of NSMIMS, Kollam

SIGNATURE OF THE TENDERER

The Tenderer should submit the following along with the bid

- List of similar works completed during the last three years in any Government organization or private company
- Registration of VAT and Service Tax
- Copy of PAN Number
- If the bid is from an authorized dealer/ distributor of any manufacturer, the dealer or distributor shall submit a valid proof for authorized dealership/distributorship.
- Satisfactory completion certificate from the organization where the tenderer has successfully completed similar projects within last 3 years.

Last date for submission:

The last date for receipt of the bid at our office is **25.10.2023, 3.00 P.M.** The bid submitted beyond the above date and time shall not be considered for the bidding and shall be rejected.

SIGNATURE OF THE TENDERER

CONSTRUCTION OF NEW OT BLOCK

BILL OF QUANTITIES WITH ESTIMATE - HVAC WORKS

SL.N O	DESCRIPTION	UNI T	QT Y	MAK E	SUPPLY		INSTALLATI ON		TOTAL AMOUN T
					RAT E	AM T	RAT E	AM T	
1	Supply, Installation ,Testing & commissioning of Condensing unit with R-410A /R 407C/ R32gas. It should include, temperature controller, and sensors along with the control box, its transformer, relays, necessary power and control wiring between the thermostat, controller, and the communication cabling between the out door and temp.controller .All the fittings associated with the unit like - but not limited to -filter, drier etc. to be considered and can not charge seperately. The out door units shall be connected to AHUs. The capacities for the same is listed under								
	HITACHI/BLUESTAR/VOLTAS/DAIKIN								
1.1	8.5 TR	Nos	1						

2	<p>Supply,Installation and commissioning of copper refrigerant piping, complete with 10mm thick closed cell Class O Nitrile Rubber Insulation , fittings, elbows, bends, supporting and clamping arrangement on walls, cable trays/trenches including necessary civil works.</p> <p>Refrigerant piping to be measured based on the distance between the indoor and outdoor units irrespective of number of circuits. The piping will be measured as one length for suction and liquid line. Insulation will be measured along with the piping and not be claimed as extra.</p> <p>Copper tubes, shall be with thickness conforming to L type to ATM standards.The tubes shall be bright annealed copper upto and including 15 mm size.</p>	RM	15						
RISHAV , MANDEV									
3	<p style="text-align: center;">AHUs:</p> <p>Supply, store, installation, testing & commissioning of Air Handling Units with thermal break profile with a minimum panel thickness of 40mm complete with DX cooling coil , Plug fan with VFD and its enclosure of IP 21 rating for indoor applications and IP 54 for outdoor applications, fan motor shall be of efficiency grade IE3, cleanable fabric filters of MERV 8 rating, fine filters MERV 13 rating (Both can be accomodated on a single frame) strip heaters of capacity in kW as mentioned below , condensate drain pan, DX coil piping connections, condensate drain connections, flexible duct connectors. The fan should deliver the design cfm at 50 Hz or lower.The electrical power wiring from the Isolator to the unit upto 3m shall be included in this scope. HVAC contractor should check the available ceiling spaces during the AHU selections/sizing, and shall strictly limit the</p>								

	AHU dimensions accordingly, as no changes whatsoever shall be acceptable. Hydronic and air balancing to be done as per the approved shop drawings at the time of commissioning. The AHUs should meet the sound levels of 55 dbA as back ground noise in rooms or in waiting areas .The system shall be complete in all respects of commissioning.								
	EDGE TECH, SYSTEM AIR, VTS, EUROCLIMA								
3.1	CEILING SUSPENDED TYPE								
3.1.1	AHU-5.5 TR, 2600CFM, 6RD, 100mm ESP	Nos	1						
4	Supply, store, installation, testing & commissioning of MS structural work for AHU stacking / unit support. The system shall be complete in all respects for commissioning.	Kg	RO						
5	Supply, store, installation, testing & commissioning of Inline Centrifugal Extract / Fresh air Fans shall be with direct driven circular section, suitable for ceiling suspension/mounting. The units shall be complete with flexible duct connections at inlet and outlet. Flow controlling mechanism shall be provided with all fans. The motor shall be IP 55 rated, protected by inbuilt thermal contact relay as protection against burn-out as specified and as indicated in the technical specifications and drawings for the following and the system shall be complete in all respects for commissioning.								
	OSTBERG, NUAIRE, NADI, SYSTEMAIR, JOHNSON CONTROLS, CRUGER								
5.1	200 cfm, 6mm ESP	Nos	3						

6	Supply, store, installation, testing & commissioning of uPVC Class E condensate drain pipe with U trap, 13 mm thick nitrile rubber insulation & fittings up to drain line. The system shall be complete in all respects for commissioning.								
	ASTRAL,AJAY,AASHIRVAD								
6.1	25mm Dia		12						
8	Supply, store, installation, testing & commissioning of Aluminum duct work in Operation theatres of following Gauges as appropriate with all accessories, supports, jointing materials, flanges complete all inline with the DW 144 or SMACNA and in line with the specifications, drawings etc. The system shall be complete in all respects for commissioning.								
	JINDAL,TATA,SAIL								
8.1	Supply and Return ductwork complete (22 G)	Sq. m	100						
8.2	Supply and Return ductwork complete (20 G)	Sq. m	12						
8.3	Supply and Return ductwork complete (18 G)	Sq. m	RO						
9	Supply, store, installation, testing & commissioning of Flexible duct work shall be provided for connections between ductwork, plenum boxes of linear diffusers and as indicated in the drawings, complying with BS 476, dually insulated over all duct work. The system shall be complete in all respects for commissioning.								
9.1	300mm	Rm	RO						

9.2	200mm	R.m	RO						
9.3	150mm	R.m	RO						
9.4	100mm	R.m	RO						
10	<p>Supply, store, installation, Testing and commissioning of Supply and return Duct insulation which is closed cell elastomeric nitrile foam rubber insulation class stuck to duct as per specifications. The thermal conductivity of the insulation material shall not exceed 0.035 W/m K at an average temperature of 30 degC. Density of nitrile rubber shall be 40-60 Kg/m³. The product shall have temperature range of -40 deg C to 105 deg C. The insulation material shall be fire rated for Class O and should have antimicrobial properties. Water vapor permeability shall not less than 0.024 per inch (2.48x10⁻¹⁴ Kg/m.s Pa) as per DIN 53122 part DIN 52615. The system shall be complete in all respects for commissioning. Required thicknesses as mentioned below</p>								
	ARMACELL, K-FLEX, A-FLEX ,Superlon								
10.1	Supply and Return ductwork complete running in Air-Conditioned space (Thickness-19 mm).	Sq. m							
10.2	Supply and Return ductwork complete running in Non Air-Conditioned space. (Thickness-32mm). covered with 2 coats of vapor barrier	Sq. m							
10.3	Supply and Return ductwork complete running in Plant rooms, External Roof and in Risers. (Thickness-25 mm) covered with aluminium sheets of 26 gauge.	Sq. m	120						

11	Supply, store, installation, testing & commissioning of Acoustic Insulation for ducts and the return plenum using nitrile rubber, open cell foam, fibre free, minimum density of 140 kg/cu.m should have microban, as per ASTM G-21, ASTM E-2180, thermal conductivity not exceeding 0.047 W/m.K at 20 C, conform to class 1 rating for flame spread in accordance to BS 476 part 7, to thickness of minimum of 10mm all inline with the specificatoin and to meet the design noise criteria. (ARMACELL, THERMOBREAK, K-FLEX, A-FLEX or equal). The system shall be complete in all respects forcommissioning.								
	(ARMACELL, K-FLEX, A-FLEX ,Superlon)								
11.1	Acoustic liner 10mm	Sq. m	12						
11.2	Acoustic liner 15mm	Sq. m	RO						
	(BEARDCEL,QUALITY THERMOPACK)								
12	Supply, store, installation, testing & commissioning of Grilles, Diffusers with plenums and Dampers as specified below. The system shall be complete in all respects forcommissioning.								
	(COSMOS,SYSTEMAIR, ENTECH ADP)								
12.1	4 Way Supply Air Square Diffusers with opposed blade dampers	Sq. m							
12.2	4 Way Return Air Square Diffusers	Sq. m							
12.3	Supply Linear Bar Grille	Sq. m							

12.4	Return Linear Bar Grille	Sq. m	1.2						
12.5	Exhaust air grille	Sq. m	0.5						
13	Supply, store, installation, testing & commissioning of Volume Control dampers in accordance with DW 144 / 154 on ductwork air distribution and extract systems to regulate airflow and balancing the air systems to adequately balance whether or not, these are indicated on the drawings. The system shall be complete in all respects for commissioning.								
	(COSMOS, SYSTEMAIR)								
13.1	GI volume control damper.	Sq. m							
13.2	Aluminium volume control damper.	Sq. m	2						
14	Supply, store, installation, testing & commissioning of Fire dampers quick release fusible link, louver type, constructed out of 18 Gauge galvanized steel casing etc., in accordance with BS 476, DW 144, DW 151, DW 154 as appropriate and have Fire resistance rating equal to the Fire barrier it penetrates all inline with the specifications relevant statutory authority regulations on all Fire rated walls, Barriers, Floors whether indicated on the HVAC drawings or not.	Sq. m	RO						
	(COSMOS, SYSTEMAIR, GREENHECK)								

15	Supply, installation, testing and commissioning of humidity control panel with 3 phase indication lamps, auto manual selector switch ,on off push buttons with indications,overload relay, incoming MCB, Humidstat,heater digital thermostat, safety thermostat, contactors,humidity digital display ,temperature digital display,trip indication.The control panel shall be made from 16 Gauge CRCA sheet with powder coat finish. Logic-Heaters to be operate automatically when the selector switch is in Auto mode and whenever operator wants to control the humidity in manual mode keep the Auto manual selector switch in manual mode and switch On the heater bank(Panel scheme drawing has been attached along with tender).	Nos	1						
	(HONEYWELL, ANERGY, JOHNSON CONTROLS)								
16	Supply, store, installation, testing & commissioning of Differential pressure transmitters (devices, cabling, instrumentation) with 0.1 Pa resolution and will work in the range 0 to 35 Pa minimum . The rates of monitor and all other related accessories should be considered along with this lineitem and can not be charged seperately. The system shall be complete in all respects for commissioning.(For isolation rooms)	No	1						
	(HONEYWELL, JOHNSON CONTROLS,SIEMENS)								
17	Supply, store, installation, testing & commissioning of Poratble dehumidifiers of extraction capacity 35 l/day. The system shall be complete in all respects forcommissioning.	No	RO						

	(NOVITA, BRY AIR, WHITEWESTING HOUSE)								
18	Supply, store, installation, testing & commissioning of Stainless steel Laminar flow panels with HEPA filters for the OT's as per the specifications and drawings, all in line with the OT standards. Necessary test points / provisions for fixing sensors for BMS integration to be provided. The system shall be complete in all respects for commissioning. The sizes are as follows								
	(AMENSCO, IMPEC)								
	8' x8 '	Nos.	1						
	GRAND TOTAL INCLUDING TAX								

SIGNATURE OF THE TENDERER

Terms and conditions of Bid:

1. Rate / Price

The unit rate to be quoted shall be unit rate and shall remain firm without the price variation clause. The bidders should not claim for any price variation / escalation.

- The bid submitted with a price variation/escalation clause will be treated as non-responsive and rejected.
- Bid / rates quoted by the bidder shall remain valid for 120 days from the date of opening of tenders for the purpose of acceptance and award of work; validity beyond 120 days from the date of opening shall be by mutual consent. No price variation / cost escalation is accepted.
- The rates quoted by the bidder should be inclusive of all the tax applicable, levies, excise duties, transit, insurance and freight and any other statutory levies etc.
- The Income Tax and any other taxes or charges as applicable will be deducted at source by the NSMIMS from the successful bidder while making the payment.
- The price quoted by the bidder shall remain firm during the entire period of contract and shall not be subject to variation on any account.
- The bidder should quote the rate as specified in the scope of work. The bids submitted other than in the specified scope of work at Annexure-II shall be summarily rejected.

2. Execution of work:

- Time period of completion: The successful bidder shall execute and complete the work as per specification/Scope of work mentioned in Annexure-II to the satisfaction of the Officer In-Charge within a period of **4 weeks** from the date of award of work.
- The successful bidder to whom the work is awarded, shall have to execute the work as per the work order and the terms & conditions of this tender document.
- The NSMIMS is not responsible for the breakage/damage of any goods during the transit. In that case, it is the responsibility of the firm/contractor to whom the work has been awarded.
- No extra cost shall be given for transportation; cost of labourers, insurance etc., as the rates quoted is all inclusive price
- The contractor shall have to bring all the supporting materials for carrying out the above work.

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3. Variation in quantity / scope of work:

The quantity mentioned in the scope of work is approximate. The NSMIMS reserves the right at the time of award/execution of the contract to vary the quantity specified in the scope of work without any change in the unit rate. However, the payment will be made as per the actual material used and work done.

4. Security Deposit & Performance Guarantee

The Contractor shall submit a bank guarantee for 5% of the bill amount towards security deposit. The bank guarantee shall be from a nationalized bank and shall be valid for a period of 12 months and additionally 60 days from the date of completion of the work to the full satisfaction of the NSMIMS. The same shall be released by the NSMIMS after the expiry of the above period.

5. Liquidated damages

For delay in completion of work, the liquidated damage @ 1% of order value per week or part thereof subject to the maximum of 10% of the order value shall be deducted.

6. Extension of work completion time

Ordinarily no time extension shall be granted. However, under unforeseen site conditions, the contractor shall make proper representation to the office in-charge with reasons for the delay upon which the extension of completion time may be allowed by the office in-charge.

7. Payment terms

A part payment up to 20% of the contract value shall be paid upon receipt of the materials required for project at the site after due verification and authentication by the Officer In-charge against submission of the part bill by the contractor. Balance Payment shall be made against the final bill within 45 days from the date of completion of the works to the satisfaction of the NSMIMS/Officer In-charge in all respects and submission of completion certificate.

8. Completion Certificate

Within one month of the completion of the work the contractor shall furnish a certificate for such completion.

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9. Guarantee Period

Guarantee period for all the items supplied should be **36 months** from the date of completion of installation for poor workmanship, poor performance, an in case of deficiencies are found during guarantee period, the same shall be rectified or replaced free of cost by the Contractors at their own cost and risk.

10. Quality assurance:

The successful contractor should ensure the quality of material as per the requirement /discretion of the NSMIMS and quality standards as specified by Government agencies.

11. Right to accept or reject tender

(i) The right of acceptance of tender will rest with the NSMIMS.

(ii) The acceptance of the tender shall rest with the NSMIMS who does not bind himself to accept the lowest tender and reserves to himself the authority to reject any or all of the tenders received without assigning any reason. Further, the NSMIMS reserves the right to accept the whole or any part of the tender and tenderer shall be bound to perform the same at the rates quoted. All the tenders in whom any of the prescribed conditions are not fulfilled or are incomplete in any respect shall be liable to be rejected.

12. Insurance

Contractor shall at his own expenses carry and maintain insurance with reputable Insurance Companies for :(i) Employees State Insurance Act, (ii) workmen's Compensation & Employer's Liability Insurance, (iii) Any other Insurance required under Law or Regulations or by Owner.

13. Safety Regulations

Contractor shall adhere to safe construction practice and guard against hazardous and unsafe working conditions and shall comply with safety rules. The NSMIMS shall not be held responsible for any accidents that occur due to unsafe practice of the persons employed by the contractor to carry out the work.

14. Other Important conditions

Before submitting their bid proposals, bidders shall carefully examine the site of the work to familiarize themselves with the site conditions which exist regarding present work to be executed, materials to be matched, precautions required, working space available and other conditions necessary to the making of the intelligent bids. All the above terms and conditions of the tender as mentioned above and included in the tender document is duly accepted.

SIGNATURE OF THE TENDERER

END OF THE DOCUMENT