

THE ODISHA STATE POLICE HOUSING & WELFARE CORPORATION LTD.
JANAPATH, BHOINAGAR, BHUBANESWAR - 22
[Electrical Division]
Ph: 0674-2541545, 2542921, Fax: 0674-2541543
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PRICE BID FOR THE WORK UNDER SL. NO :- 01 AS PER IFB

NAME OF THE WORK :- SUPPLY, INSTALLATION, TESTING AND COMMISSIONING VRF AIR-CONDITIONING SYSTEM AND LIGHTNING PROTECTION DEVICE AT 120 MEN BARRACK, S.S Bn., BHUBANESWAR.

BID REF NO :- 99/PM/ELECT/OPHWC/2023-24

NAME & ADDRESS OF THE FIRM	
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SCHEDULE OF WORKS

Sl. No.	Description of work	Unit	Qty.	Estimated Cost in Rs.	
				RATE IN RS.	AMOUNT IN RS.
PART-A	VARIABLE REFRIGERANT FLOW SYSTEM (MAKE-MITSUBISHI/TOSHIBA)				
1	Air Cooled Type Variable Refrigerant Flow System based on 100% Inverter Scroll Compressor with linear capacity control, IPM Technology, VET Technology, PWM overmodulation control, unique HIC circuit, self diagnostic auto check, auto restart, built in Auto Phase Reversal & Auto Bye Pass functions, Inverter start technology complete with R410A refrigerant based Outdoor & Indoor units, wired / wireless / central remote controllers, refrigerant connectors & joints, copper refrigerant piping, control & transmission wiring, condensate drain piping and other accessories as required and detailed in the specification.				
2	VRF OUTDOOR UNITS :				
3	Modular type imported low noise outdoor condensing units, comprising of own made Low Pressure Shell type Inverter based Multi Valve Scroll Compressor housed in a separate fire protected enclosure, 6 Pole Motor, Induction type Heater, Suction Gas Cooled Compressor Motor, Accumulator, Blue fin treated condenser coil for corrosion resistant, BLDC condenser fan motor, high ESP and low noise aerodynamic condenser fan, protection devices for inverter circuit (compressor / fan) and fan motor, capable to operate at a temperature range of 15°C to 52°C (Cooling mode) ambient conditions.				

4	44 HP Cooling Only Inverter Scroll	No.	1	1,058,265.00	1058265.00
5	18 HP Cooling Only Inverter Scroll	No.	1	432,928.00	432928.00
6	VRF INDOOR UNITS :				
7	Indoor units complete with cooling coil, electronic expansion valve, electrical control box, fire resistant metal box protection for Indoor units PCBs and Panel with Auto By Pass Technology, inspection inlet for easy access to the unit, suitable for operation at a power source 1 Phase, 220-230-240V, 50Hz & & 3 Phase, 380-400-415V, 50Hz for High Static Ducted Units with other accessories as required for smooth operation of the system of following capacities				0.00
8	4-Way Cassette Unit of 1.03 TR Nominal Capacity	Nos.	8	37,219.50	297756.00
9	4-Way Cassette Unit of 2.02 TR Nominal Capacity	Nos.	3	42,383.25	127149.75
10	4-Way Cassette Unit of 3.2 TR Nominal Capacity	No.	10	46,433.25	464332.50
11	4-Way Cassette Unit of 4.0 TR Nominal Capacity	No.	4	51,900.75	207603.00
12	Assecories				
13	Wireless Remote Handset	Nos.	25	4,050.00	101250.00
14	Copper Pipe Joints	Nos.	24	3,645.00	87480.00
	Basic Equipment Cost				
	PART B : LOWSIDE WORKS				
	LOWSIDE COST INCLUSIVE OF MATERIALS & LABOUR				
15	Supply, installation , testing & commissioning of the above VRF system including refrigerent copper piping between out door to indoor units , drain piping , communication cable , supporting , channel , nitrogen leakage testing, vacummizing , R-410A gas charging etc.	job	1	1,000,000.00	1000000.00
	Total Rs.				3776764.25
	LIGHTNING PROTECTION SYSTEM				
1	<u>Air-Terminal</u> Supply, Installation, Testing & Commissioning of Early Streamer Emission (ESE) type lightning Air terminal. <u>Supporting Mast</u> The mounting pole used to support the lightning air terminal shall be minimum length of 05 Mtr. , non corrosive and made up of medium class GI / SS pipe of 1.5" diameter having base plate at bottom for securely fixing the mast on roof top. The mounting pole and supports shall be securely fixed with the brackets and PVC insulated metallic guy wires to withstand the maximum wind velocity of that area. <u>Protection Radius</u> :- 48 Mtr. Make :- ABB / STROMKING All the work should be carried out as per the specified specifications and instruction of the Engineer-in-Charge.	No	1	₹ 97,850.00	₹ 97,850.00

2	<p><u>Lightning Strike Counter</u> Supply, Installation, Testing & Commissioning of non-electronic & non-resettable (Not require any external power supply) type lightning strike counter to count the lightning stroke having display with IP-67 enclosure including all accessories and connection..(6/7 digit) Make :- ABB / STROMKING All the work should be carried out as per the specified specifications and instruction of the Engineer-in-Charge.</p>	No	1	₹ 25,000.00	₹ 25,000.00
3	<p>Supply, Installation, Testing & Commissioning of maintenance free chemical earthing having enhancing chemical compound with 3 Mtr. Long copper bonded steel rod and suitable termination clamp including all accessories. Make :- ABB / STAR-X / UNIVERSAL All the work should be carried out as per the specified specifications and instruction of the Engineer-in-Charge.</p>	No	3	₹ 15,200.00	₹ 45,600.00
4	<p>Supply, connection & Testing of sub earthing with 16 Sq.mm single core multi stranded copper flexible wire from surge protection device (SPD) panel to earth electrode & Main panel board to SPD panel including all accessories, cable socketing and connections. Make :- FINOLEX / ANCHOR / HAVELLS All the work should be carried out as per the specified specifications and instruction of the Engineer-in-Charge.</p>	Mtr.	18	₹ 154.73	₹ 2,785.14
5	<p>Supply, Installation, Testing & Commissioning of indoor type wall mounted Surge protection device (SPD) panel made of 2 mm thick CRCA sheet, dust and vermin proof duly powder coated having the following arrangement & complete factory wired by 16 Sq.mm single core multi stranded copper flexible wire. [A] Type 1+2 AC Surge Protection Device (SPD) (TP+N) (50 KA) - 01 Set [B] 63 Amp. HRC fuse with link – 03 Nos [C] 100 Amp. 4 pole stud connector – 01 No Make of SPD & HRC Fuse :- HAVELLS / L&T / LEGRAND Make of Wire :- FINOLEX / ANCHOR / HAVELLS All the work should be carried out as per the specified specifications and instruction of the Engineer-in-Charge.</p>	No	1	18,665.00	₹ 18,665.00
6	<p>Supply and laying of 70sqmm single core FR PVC insulated unseathed copper conductor for voltage grade 1100 volt as per IS-694 in sur face/underground as required(sl no-5.5.2)(Make-KEI/FINOLEX/HAVELLS)</p>	MTR	70	1038.57	72,699.90

		Total Rs.				₹ 262,600.04
	Sub Total Rs					4,039,364.29
PART-B	SUPPLY OF IMPORTED VRF EQUIPMENT					
	VARIABLE REFRIGERANT FLOW SYSTEM (MAKE-MITSUBISHI/TOSHIBA)					
1	Air Cooled Type Variable Refrigerant Flow System based on 100% Inverter Scroll Compressor with linear capacity control, IPM Technology, VET Technology, PWM overmodulation control, unique HIC circuit, self diagnostic auto check, auto restart, built in Auto Phase Reversal & Auto Bye Pass functions, Inverter start technology complete with R410A refrigerant based Outdoor & Indoor units, wired / wireless / central remote controllers, refrigerant connectors & joints, copper refrigerant piping, control & transmission wiring, condensate drain piping and other accessories as required and detailed in the specification.					
2	VRF OUTDOOR UNITS :					
3	Modular type imported low noise outdoor condensing units, comprising of own made Low Pressure Shell type Inverter based Multi Valve Scroll Compressor housed in a separate fire protected enclosure, 6 Pole Motor, Induction type Heater, Suction Gas Cooled Compressor Motor, Accumulator, Blue fin treated condenser coil for corrosion resistant, BLDC condenser fan motor, high ESP and low noise aerodynamic condenser fan, protection devices for inverter circuit (compressor / fan) and fan motor, capable to operate at a temperature range of 15°C to 52°C (Cooling mode) ambient conditions.					
4	56 HP Cooling Only Inverter Scroll	No.	1	1,308,150.00	1308150.00	
5	18 HP Cooling Only Inverter Scroll	No.	1	432,928.00	432928.00	
6	VRF INDOOR UNITS :					
7	Indoor units complete with cooling coil, electronic expansion valve, electrical control box, fire resistant metal box protection for Indoor units PCBs and Panel with Auto By Pass Technology, inspection inlet for easy access to the unit, suitable for operation at a power source 1 Phase, 220-230-240V, 50Hz & & 3 Phase, 380-400-415V, 50Hz for High Static Ducted Units with other accessories as required for smooth operation of the system of following capacities					
8	4-Way Cassette Unit of 1.03 TR Nominal Capacity	Nos.	5	37,219.50	186097.50	
9	4-Way Cassette Unit of 2.02 TR Nominal Capacity	Nos.	6	42,383.25	254299.50	
10	4-Way Cassette Unit of 3.2 TR Nominal Capacity	No.	2	46,433.25	92866.50	
11	4-Way Cassette Unit of 4.0 TR Nominal Capacity	No.	9	51,900.75	467106.75	
12	Assecories					
13	Wireless Remote Handset	Nos.	22	4,050.00	89100.00	
14	Copper Pipe Joints	Nos.	21	3,645.00	76545.00	
	Basic Equipment Cost					
	PART B : LOWSIDE WORKS					
	LOWSIDE COST INCLUSIVE OF MATERIALS & LABOUR					

15	Supply, installation , testing & commissioning of the above VRF system including refrigerent copper piping between out door to indoor units , drain piping , communication cable , supporting , channel , nitrogen leakage testing, vacummizing , R-410A gas charging etc.	job	1	1,200,000.00	1200000.00
	Sub Total Rs.				4,107,093.25
	Total Rs.(PART-A+PART-B)				8,146,457.54
	Cess @ 1%				81,464.58
	Total Estimated Cost				8,227,922.12
	Total Estimated Cost in Figures				8,227,922.00
EXCESS	<input type="checkbox"/> LESS <input type="checkbox"/> (Please Tick)			_____ %	
	Quoted Amount in Figure				
	Quoted Amount in word				

N:B- The Estimated cost is exclusive of GST .

Signature of Tenderer with seal

**Sd/-
Asst. Project Manager (Elect)**

**Sd/-
D.M (Elect) I/C**

**Sd/-
Project Manager (Elect)**