

No:1951/21/NK/ TVPM

Office of the Nirmithi Kendra,
B Block, 4th Floor, Civil Station,
Kudappanakunnu, Thiruvananthapuram 43.
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06.11.2021

INVITATION OF TENDER (6)

District Nirmithi Kendra invites Competitive Tenders from authorized Suppliers/Individual in the form attached herewith for the work of **HVAC at TSCCC Building Thiruvananthapuram.**

Sl. No.	PARTICULARS	QTY	UNIT
1	Supply, installation, testing and commissioning of factory assembled Modular type VRF out door units equipped with high efficiency DC inverter scroll compressor low noise variable speed condenser fans, Anticorrosion treatment standard on exterior metal parts, heat exchanger, operating on R 410 A refrigerant and factory wired micro-processor based control centre with auto check function for connection error, auto address setting etc. and safety devices like vibrator isolator pad, thermal protector, over load relays, single phase preventor, over voltage / low voltage / short circuit protection. The system shall be suitable for operation upto 45°C ambient without tripping or failure. Power supply - 400 V / 3ph/ 50 Hz and erecting suitable structure made up of MS suitable cross section neatly painted with one coat of anti corrosive paint as primer and two coats of epoxy paint of approved colour with placing vibration isolators of ribbed rubber pads. 12 HP OUTDOOR MAKE : Daikin/Mitsubishi/Carrier or Approved Equivalent make	2	nos
2	Supply of VRF Indoor units complete with electronic expansion valve, multi-row deep high efficiency cooling coil, low noise single/twin speed fan - statically and dynamically balanced, washable type synthetic media filter, insulated drain pan with drain pump. The unit shall be provided with drain pump and safety devices like over load relays, single phase preventor, over voltage / low voltage / short circuit protection. 2.0 Tr Hi Wall Make : Daikin/Mitsubishi/Carrier or Approved Equivalent make.	4	nos
3	Supply of VRF Indoor units complete with electronic expansion valve, multi-row deep high efficiency cooling coil, low noise single/twin speed fan - statically and dynamically balanced, washable type synthetic media filter, insulated drain pan with drain pump. The unit shall be provided with drain pump and safety devices like over load relays, single phase preventor, over voltage / low voltage / short circuit protection. 1.5 Tr Hi-wall Split Unit MAKE: Daikin/Mitsubishi/Carrier or Approved Equivalent make	2	nos



4	Supply of VRF Indoor units complete with electronic expansion valve , multi-row deep high efficiency cooling coil ,low noise single/twin speed fan - statically and dynamically balanced, washable type synthetic media filter, insulated drain pan with drain pump.The unit shall be provided with drain pump and safety devices like over load relays,single phase preventor, over voltage / low voltage / short circuit protection. 6.36 Tr Ceiling Suspended Ductable Unit MAKE: Daikin/Mitsubishi/Carrier or Approved Equivalent makeconcrete	2	nos
5	Supply, Installation, Testing & Commissioning of (PAC) Top Suction Bottom discharge 10.6 TR DX type Precision Air Conditioning Units compatible with R410a refrigerant , with Two Fixed Scroll Compressors and Backward curved Centrifugal fans with EC Brushless motors in fully assembled conditions. The unit shall be suitable for operation on 415 Volts, 50 Hz, 3 Phase, 4 Wire AC supply. Each unit should be having individual display panel, which shall display date, time, actual & set values, operating conditions, signal faults, collective faults, limiting values. The Unit shall also include Heater, Humidifier, Thermostatic Expansion Valve, Pre Filter, Fan Speed Controller to regulate condenser fan speed. Air Cooled condenser should be inclusive of Coil Section and fans. (10.6 TR = 1W+1S)	1	set
6	Supply of Cordless Remote Hand set for Hi-wall / Cassette 	6	nos
7	Supply of corded controller for ductable units. 	2	nos
8	Supply,installation and testing of imported refrigerant joint / Branch distributors in copper piping for units as recommended by the manufacturer/consultant, complete with nitrile rubber insulation, supports etc asrequired. 	4	nos
9	Unloading, Positioning, Installation, testing and commisioning of HVAC units of following types complete with all necessary accessories as required, with R-410A gas after necessary pressure testing, vaccumising, intial charging and handing over of air conditioning system after necessary airbalancing Ductable Unit 	2	nos
10	Unloading, Positioning, Installation, testing and commisioning of HVAC units of following types complete with all necessary accessories as required, with R-410A gas after necessary pressure testing, vaccumising, intial charging and handing over of air conditioning system after necessary air balancing Hi-wall Split Unit	6	nos
11	Supply,Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 6.35 mm with 13 mm thick insulation 	6	m

12	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 9.5 mm with 13 mm thick insulation 	20	m
13	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 12.7 mm with 13 mm thick insulation 	16	m
14	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 15.9 mm with 13 mm thick insulation 	45	m
15	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 19.1 mm with 19 mm thick insulation 	16	m
16	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 22.2 mm with 19 mm thick insulation 	33	m
17	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 28.6 mm with 19 mm thick insulation 	14	m
18	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 31.3	12	m

	mm with 19 mm thick insulation		
19	Supply, installation, testing and commissioning of factory fabricated GSS Rectangular ducting of grade 120 GSM confirming to latest IS-655 & 277 of following sizes as per drawing, complete with all fittings such as tee bends, special off-chutes, turning vanes, splitter dampers, Volume control damper as per design drawing, inspection doors, transformation pieces, slip on flange etc. as reqd. as per IS 655 including suspension and supporting arrangement for plenums, ducts, complete as reqd. and as per specification or as recommended by consultant.	60	sqm
20	Supply, installation, testing and commissioning of factory fabricated GSS Rectangular ducting of grade 120 GSM confirming to latest IS-655 & 277 of following sizes as per drawing, complete with all fittings such as tee bends, special off-chutes, turning vanes, splitter dampers, Volume control damper as per design drawing, inspection doors, transformation pieces, slip on flange etc. as reqd. as per IS 655 including suspension and supporting arrangement for plenums, ducts, complete as reqd. and as per specification or as recommended by consultant	6	sqm
21	Supply, laying and giving connections by using manufacturer recommended copper cable in medium duty electrical graded PVC, FRLS conduits of minimum 25mm dia, neatly clamped, complete with all necessary accessories as required for the electrical interconnections between indoor and outdoor units	70	m
22	Supply and fixing in position of condensate drain water & indoor unit drain to the floor trap piping with 6 mm thick nitrile rubber insulation and with necessary fittings like elbows, tees and reducers	14	m
23	Supply and fixing in position of condensate drain water & indoor unit drain to the floor trap piping with 6 mm thick nitrile rubber insulation and with necessary fittings like elbows, tees and reducers etc.	3	m
24	Supply & fixing of 9 mm thick Class "O" nitrile rubber thermal insulation with density 45-55kg/m ³ , with adhesive as per the recommendation of the manufacturer	50	sqm
25	Supply and fixing of acoustic insulation with density 140-180kg/m ³ on plenum and initial portion of the duct from the Indoor units mouth with open cell type of following thick nitrile sheet and manufacturer recommended adhesive and tightened with necessary accessories etc. as required	15	sqm
26	Supply and installation of Fresh air intake louvers made of extruded aluminium with bird/insect screen provided with intake louvers. The lowest louvers of the assembly shall extend out slightly to facilitate disposal of rain water without falling on the door/wall on which it is mounted and complete	10	sqm

	with all aluminium made volume control dampers		
27	Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications. GI volume control duct damper	2.5	sqm
28	Supplying, fixing testing commissioning of supply air diffusers of powder coated aluminium with aluminium volume control dampers with anti smudge ring & removable core	8	sqm
29	Supplying, fixing testing commissioning of Return air diffusers of powder coated aluminium volume control dampers without er Engineering Organisation	8	sqm
30	Supply and Installation of factory made flexible connectors made of fire rated canvas cloth for connetions between IDU and sheet metal duct	2	nos

2) Bid Price

- The contract shall be for the full quantity as described above. Corrections if any shall be made by crossing out re-writing with initial and date.
- The rate should be all inclusive of taxes, levies, transports etc. Usual deduction of taxes will be made from the gross amount of bill.
- The rate quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- The price should be quoted in Indian rupees only.

3) Each bidder shall submit only one tender.

4) Validity of tender

Tender shall remain valid for a period not less than 45 days after the dead line date specified for submission

5) Evaluation of tender

The purchaser will evaluate and compare the tenders determined to be substantially responsive ie which

- Are properly signed
- Confirm to the terms and conditions and specification.

6) Award of Contract

- The purchaser will award the contract to the bidder whose tenders has

been determined to be substantially responsive and who has offered the lowest evaluated tender price

b) Not with standing above, the purchaser reserves the right to accept or reject any tenders and to cancel the bidding process and reject all tenders at anytime prior to the award of the contract

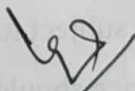
c) The bidder whose bid is accepted will be notified of the award of the contract by the purchaser prior to expiration of the tender validity period.

The terms of the accepted offer shall be incorporated in the purchase order.

7) The amount will be released after verification of the material in physical, quality and receipt of invoice in this office according to the availability of funds. Individual or authorized dealers/agents are only eligible.

8) You are requested to provide your offer latest by 12 hours on **25.11.2021** and the Tenders will be opened at **25.11.2021**

We look forward to receiving your tenders and thank for your interest in this work.


Project Manager



Format of Tender

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2	Supply of VRF Indoor units complete with electronic expansion valve, multi-row deep high efficiency cooling coil, low noise single/twin speed fan - statically and dynamically balanced, washable type synthetic media filter, insulated drain pan with drain pump. The unit shall be provided with drain pump and safety devices like over load relays, single phase preventor, over voltage / low voltage / short circuit protection. 2.0 Tr Hi Wall MAKE : Daikin/Mitsubishi/Carrier or Approved Equivalent make.	4	nos
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5	Supply, Installation, Testing & Commissioning of (PAC) Top Suction Bottom discharge 10.6 TR DX type Precision Air Conditioning Units compatible with R410a refrigerant , with Two Fixed Scroll Compressors and Backward curved Centrifugal fans with EC Brushless motors in fully assembled conditions. The unit shall be suitable for operation on 415 Volts, 50 Hz, 3 Phase, 4 Wire AC supply. Each unit should be having individual display panel, which shall display date, time, actual & set values, operating conditions, signal faults, collective faults, limiting values. The Unit shall also include Heater, Humidifier, Thermostatic Expansion Valve, Pre Filter, Fan Speed Controller to regulate condenser fan speed. Air Cooled condenser should be inclusive of Coil Section and fans. (10.6 TR = 1W+1S)	1	set
6	Supply of Cordless Remote Hand set for Hi-wall / Cassette 		nos
7	Supply of corded controller for ductable units. 	2	nos
8	Supply, installation and testing of imported refrigerant joint / Branch distributors in copper piping for units as recommended by the manufacturer/consultant, complete with nitrile rubber insulation, supports etc asrequired. 	4	nos
9	Unloading, Positioning, Installation, testing and commissioning of HVAC units of following types complete with all necessary accessories as required, with R-410A gas after necessary pressure testing, vaccumising, intial charging and handing over of air conditioning system after necessary airbalancing Ductable Unit 	2	nos
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12	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 9.5 mm with 13 mm thick insulation 	20	m
13	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or	16	m

	concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 12.7 mm with 13 mm thick insulation 		
14	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 15.9 mm with 13 mm thick insulation 	45	m
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17	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 28.6 mm with 19 mm thick insulation 	14	m
18	Supply, Installation of hard drawn insulated copper tubes nitrile rubber for both liquid and gas line with copper pipes for connection between ODU and IDU as per manufacturer recommendations, neatly clamped on wall protected or concealed on wall including cutting the wall, making good the damages and colour washing etc. as required. 31.3 mm with 19 mm thick insulation	12	m
19	Supply, installation, testing and commissioning of factory fabricated GSS Rectangular ducting of grade 120 GSM conforming to latest IS-655 & 277 of following sizes as per drawing, complete with all fittings such as tee bends, special off-chutes, turning vanes, splitter dampers, Volume control damper as per design drawing, inspection doors, transformation pieces, slip on flange etc. as reqd. as per IS 655 including suspension and supporting arrangement for plenums, ducts, complete as reqd. and as per specification or as recommended by consultant. 24 G	60	sqm

20	Supply, installation, testing and commissioning of factory fabricated GSS Rectangular ducting of grade 120 GSM confirming to latest IS-655 & 277 of following sizes as per drawing, complete with all fittings such as tee bends, special off-chutes, turning vanes, splitter dampers, Volume control damper as per design drawing, inspection doors, transformation pieces, slip on flange etc. as reqd. as per IS 655 including suspension and supporting arrangement for plenums, ducts, complete as reqd. and as per specification or as recommended by consultant	6	sqm
21	Supply, laying and giving connections by using manufacturer recommended copper cable in medium duty electrical graded PVC, FRLS conduits of minimum 25mm dia, neatly clamped, complete with all necessary accessories as required for the electrical interconnections between indoor and outdoor units	70	m
22	Supply and fixing in position of condensate drain water & indoor unit drain to the floor trap piping with 6 mm thick nitrile rubber insulation and with necessary fittings like elbows, tees and reducers	14	m
23	Supply and fixing in position of condensate drain water & indoor unit drain to the floor trap piping with 6 mm thick nitrile rubber insulation and with necessary fittings like elbows, tees and reducers etc.	3	m
24	Supply & fixing of 9 mm thick Class "O" nitrile rubber thermal insulation with density 45-55kg/m ³ , with adhesive as per the recommendation of the manufacturer	50	sqm
25	Supply and fixing of acoustic insulation with density 140-180kg/m ³ on plenum and initial portion of the duct from the Indoor units mouth with open cell type of following thick nitrile sheet and manufacturer recommended adhesive and tightened with necessary accessories etc. as required	15	sqm
26	Supply and installation of Fresh air intake louvers made of extruded aluminium with bird/insect screen provided with intake louvers. The lowest louvers of the assembly shall extend out slightly to facilitate disposal of rain water without falling on the door/wall on which it is mounted and complete with all aluminium made volume control dampers	10	sqm
27	Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications. GI volume control duct damper	2.500	sqm
28	Supplying, fixing testing commissioning of supply air diffusers of powder coated aluminium with aluminium volume control dampers with anti smudge ring & removable core	8	sqm
29	Supplying, fixing testing commissioning of Return air diffusers of powder coated aluminium volume control dampers without er Engineering Organisation	8	sqm

30	Supply and Installation of factory made flexible connectors made of fire rated canvas cloth for connetions between IDU and sheet metal duct	2	nos
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Gross Total Cost: - Rs.....

(In words) We agree to supply the above goods in accordance with the technical Specification for a total price of Rs.....(amount in figure).....(amount in words) with in the period specified in the invitation for tender.

Signature of Tenderer