

**SUPPLY, INSTALLATION, TESTING AND
COMMISSIONING OF VRV/VRF SYSTEM FOR SECOND
FLOOR & THIRD FLOOR LECTURE HALL AT JAC,
JIPMER, PUDUCHERRY.**

**Volume- IV
BILL OF QUANTITIES**

Tender No: HLL/IDD/CHN/20-21/046

Dated: 6th June 2020



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BILL OF QUANTITIES						
TENDER NO: HLL/IDD/CHN/20-21/046 DATED 06.06.2020						
NAME OF WORK: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF VRV/VRF SYSTEM FOR SECOND FLOOR & THIRD FLOOR LECTURE HALL AT JAC, JIPMER, PUDUCHERRY.						
S. No	Description of works	Unit	Qty	Rate in figs in Rs.	Rate in words In Rupees	Amount in figs In Rs.
1	Supply, installation, balancing and commissioning of factory fabricated GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.					
1.1	Thickness 0.63 mm sheet	Sq m	100.00			
2	Supply, Installation, Testing & Commissioning of modular type Variable Refrigerant Flow/Variable Refrigerant Volume aircooled Outdoor units suitable for cooling and heating, having all hermetically sealed inverter type Scroll Compressor(s), minimum two compressors for above 14HP modules, microprocessor based Controller, top discharge type condensing unit(s), with R410A Refrigerant, vibration isolators, with suitable foundation etc. complete as required. The unit shall deliver the rated capacity at AHRI Conditions and work even at 50°C ambient temperature without tripping. The unit shall be suitable to work on 400V+/-10%, 3Phase, 50Hz AC power supply. The unit shall be filled with first charge of the refrigerant and ready for use as required. The COP at AHRI conditions shall not be less than 3.1 and IEER not less than 6.5. The ODUs shall be provided suitable vibration isolators, and required Out door unit Connecting kit or Branch kit, complete as per the satisfaction of the engineer in charge. The rate shall include supply, Installation of outdoor unit control box near outdoor with necessary breakers and accessories for controlling the outdoor. Make and model have to be approved by the engineer in charge					
2.1	40 HP	Nos	2.00			

3	Supply, installation, testing and commissioning of following minimum capacity 4 – way flow VRV/VRF cassette type indoor ceiling mounted unit equipped with synthetic washable media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with dx copper coil, electronic expansion valve, outer cabinet, drain pump, grill, necessary supports, vibration isolation, cordless remote control etc., suitable for operation on single phase 230v±10%, 50 hz ac supply, complete, as required. The unit shall have automatic force shutdown provision in case of fire on receiving signal from bms system. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree CD Band 19 Degree CWB temperature. The units shall have provision for Fresh air and extension duct connections with Decorative panels . Make and model have to be approved by the engineer in charge					
3.1	4TR	Nos	16.00			
4	Supply, installation, testing and commissioning, Transmission/Communication cabling, of copper cable of the required gauge thickness, as required for interconnecting the Indoor and Outdoor Units of all the VRV Units for proper performance, complete as per the satisfaction of the engineer in charge. Make and model have to be approved by the engineer in charge	Rmts	500.00			
5	Supply, Installation, testing and commissioning including vaccumiazation and Nitrogen testing of suitable nominal sizes of soft/hard drawn copper refrigerant piping for VRV/VRF system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/brazing including accessories, insulated with XPLE Class-O tubular insulation/with Class-O closed cell elastometric nitrile rubber tubular sleeves sections of 19 mm thickness of required size for Suction and Liquid lines, all accessories as per specifications etc. as required	Rmts	500.00			

6	Supply, installation, testing and commissioning of special refrigerant connection refnet joint kits for taking branch connections to the various Indoor Units, as required, for the complete installation and proper functioning of the VRV system, complete as per the satisfaction of the engineer in charge. Make and model have to be approved by the engineer in charge	Set	20.00			
7	Supply and Installation of Flexible Duct for Connecting the VRV indoor unit & GI duct along with Fresh air Louvers of required size	Set	16.00			
8	Supply, Installation, testing and commissioning of suitable nominal sizes of drain piping for VRV/VRF system, complete with fittings, with suitable adjustable ring type hanger supports, jointing including accessories, insulated with XPLE Class-O tubular insulation/with Class-O closed cell elastometric nitrile rubber tubular sleeves sections of 13 mm thickness of required size all accessories as per specifications etc. as required	Mtr	360			
Total Amount						
Add GST @12%						
Grand Total Amount incl. of GST@12% in Figures						
Grand total amount in words: Rupees						

END OF VOLUME - IV