

**STATE BANK OF INDIA, SSI PEENYA BRANCH UNDER RBO3/AO-03**

**ESTIMATES FOR HVAC WORKS TO BE UNDERTAKEN AT SSI, PEENYA BRANCH**

| SI.No | Description   | Unit | Qty | Rate   |              | Amount |              |
|-------|---|------|-----|--------|--------------|--------|--------------|
|       |   |      |     | Supply | Installation | Supply | Installation |
| 1.0   | <b>VRF SUPPLY &amp; INSTALLATION –OUTDOOR UNIT</b>  |      |     |        |              |        |              |
|       | Supply, Installation, testing and commissioning of VRF Outdoor units consists of 100 % based scroll / rotary compressor and 100% Inverter type ODU with fully variable speed compressor with copper condensor only, DC fan motor with aero-spiral fan blade, e-pass heat exchanger, safety valves, solenoid valves, receiver, Sub Cool system, check valve, electronic expansion valve, high pressure switch, low pressure sensor, pressure regulating valve refrigerant filter, stop valve, accumulator and outdoor branch kits. Rate inclusive of R410A refrigerant for entire circuits & oil pre charging, vibration isolators, supports and necessary accessories etc.. |      |     |        |              |        |              |
| 1.1   | 67.5 kW Colling capacity ( 24 HP )  | Nos  | 1   |        |              |        |              |
| 1.2   | Lifting Shifting of ODU's at desired place with Cranes, placing at MS Frames  | Nos  | 1   |        |              |        |              |
| 1.3   | Temporary Scaffolding charges at out side for Copper pipings and associated works till Piping , Testing works etc are over avg - 20 days  | lot  | 1   |        |              |        |              |
| 2.0   | Supply and installation of MS Frame for VRF outdoor units and civil works for foundation /pedestal works.etc at Terrace   | Nos  | 1   |        |              |        |              |
| 3.0   | Supply, installation, testing and commissioning of 4-way VCC-Variable Compact Cassette units upto 1.0 Tr onwards. The sizes of cassette units would be approx 208x570x570 or 258x840x840 and the units should be complete with inbuilt drain pump, controls, microprocessor control panel, wiring, Electronic Expansion Contorller etc. The unit shall be charged with R410 A refrigerant. The noise level shall not be more than 55 dB(A)at normal operation measured horizontally 1m away and 1.5m above ground. The capacities of each machine and quantities are as indicated below.  |      |     |        |              |        |              |
| 3.1   | 3.5 kW Cooling capacity ( 1.0 TR ) / 325 CFM,(ONLY VCC)   | Nos  | 3   |        |              |        |              |
|       | 5.3kW Cooling capacity ( 1.5 TR ) / 385 CFM,(ONLY VCC)  | Nos  | 1   |        |              |        |              |
|       | 9.8 kW Cooling capacity ( 2.8 TR ) / 825 CFM,(ONLY VLC)   | Nos  | 3   |        |              |        |              |
|       | 11.3 kW Cooling capacity ( 3.2 TR ) / 855 CFM,(ONLY VLC)  | Nos  | 3   |        |              |        |              |
| 4.0   | Supply & installtion of hand held Cordless Remote controllers   | Nos  | 10  |        |              |        |              |
| 5.0   | Supply, Installation, Testing & Commissioning of Refnet Joints, T joints of Suitable Size for the above system.   |      |     |        |              |        |              |
| 5.1   | Y joints / Refnet Joints  | Nos  | 9   |        |              |        |              |
| 6.0   | Nitrogen Pressure testing & Additional gas charging for the entire length of copper tube - Refrigerant R410A / Environmental friendly refrigerant   |      |     |        |              |        |              |
| 6.1   | 67.5 kW Colling capacity ( 24 HP )  | Nos  | 1   |        |              |        |              |
| 7.0   | Supply, Installation, Testing and Commissioning of the refrigerant copper piping with 13mm/19mm nitrile rubber insulation with UV white tape in sleeve form. The Ref. Piping shall be pressure tested at 1.5 times the working pressure. The Piping shall be properly supported with bracket and supporting rods etc.,  |      |     |        |              |        |              |
| 7.1   | 34.9 mm O.D. (13mm thick insulation)  | Rmt  | 0   |        |              |        |              |
| 7.2   | 28.6 mm O.D. (13mm thick insulation)  | Rmt  | 32  |        |              |        |              |
| 7.3   | 22.2mm O.D. (13mm thick insulation)   | Rmt  | 18  |        |              |        |              |
| 7.4   | 19.1mm O.D. (13mm thick insulation)   | Rmt  | 18  |        |              |        |              |
| 7.5   | 15.9 mm O.D. (10mm thick insulation)  | Rmt  | 64  |        |              |        |              |
| 7.6   | 12.7mm O.D. (10mm thick insulation)   | Rmt  | 40  |        |              |        |              |
| 7.7   | 9.5 mm O.D. (8mm thick insulation)  | Rmt  | 64  |        |              |        |              |
| 7.8   | 6.35 mm O.D. (8mm thick insulation)   | Rmt  | 16  |        |              |        |              |
| 8.0   | Supply & installtioan of CPVC pipe of with 6mm thick nitrile rbber insulation and necessary supports and fixing accessories etc.  |      |     |        |              |        |              |
| 8.1   | 25mm NB   | Rmt  | 75  |        |              |        |              |
| 8.2   | 32mm NB   | Rmt  | 60  |        |              |        |              |
| 9.0   | Control Wiring:   |      |     |        |              |        |              |
|       | Control cabling from Indoor to outdoor unit for all the units with the necessary fittings. The cabling shall be FRLS weather proof type as most of the cabling will have open exposure to atmosphere. The cabling shall be bundled properly and shall be neatly aligned with the Refrigerant piping. The cabling shall be well supported at specific intervals and & similar to refrigerant piping.   |      |     |        |              |        |              |
| 9.1   | 2 C X 1.0 Sqmm cable  | Rmt  | 160 |        |              |        |              |
| 9.2   | 3 C X 1.5 Sqmm cable  | Rmt  | 20  |        |              |        |              |
| 10.0  | Supply and fixing of hot dipped galvanized GI ladder type cabletray conforming to IEC61537. The cable tray shall be supplied in standard length of 3000mm. The run size shallbe of 30x15mm size suitable for fixing the cable clamps the space between them shall be 300mm. The rate shall include cost of necessary fixing accessories as required.  |      |     |        |              |        |              |
| 10.1  | 200 x 50mm wide for Terrace/other areas   | Rmt  | 10  |        |              |        |              |

|      |  |     |    |  |  |  |  |       |  |
|------|--|-----|----|--|--|--|--|-------|--|
|      |  |     |    |  |  |  |  |       |  |
| 11.0 | S.I.T.C. of 5 Star 1 Ton capacity inverter High wall mounted Split A.C. comprising Indoor & Out-door units. Indoor unit comprising Multi Row DX Copper cooling coil, expansion valve, drier, motor driven air-blower with metallic frame etc. Out-door unit will have rotary/scroll compressor, Copper condenser coil, & fan, Cordless remote control unit etc. including refrigerant gas charging. (as per BEE notification | Nos | 1  |  |  |  |  |       |  |
| 12.0 | S.I.T.C.of suitable voltage stabilizers for above capacity Air-Conditioners .3KVA for 1.0 TR   | Nos | 1  |  |  |  |  |       |  |
| 13.0 | S.I.T.C.of 16mm. & 9mm.dia.Copper refrigerant pipe with foam Insulation between Indoor & Outdoor units with breaking of wall for making hole wherever required For all 2, 1.5 TR Split Air- Conditioners   | Mtr | 10 |  |  |  |  |       |  |
| 14.0 | S.I.T.C.of copper conductor flexible cable between Indoor & Outdoor units through holesmadeaboveforSplitAC's.(Cables to be as per manufacturers' specification / recommendation for 1,1.5.2 TR units)  | Mtr | 12 |  |  |  |  |       |  |
| 15.0 | Supply and Fixing Factory made metallic Wall mounting supports for the condenser of split Air conditioner-Hi wall  | Nos | 1  |  |  |  |  |       |  |
| 16.0 | Supplying, installing, testing and commissioning of INLINE TYPE FAN (For Fresh Air) with three speed regulator for supply / exhaust. All the supply fan to be provided with prefilter The casing shall be single skin of following capacity, all the outdoor unit to be provided with canopy   |     |    |  |  |  |  |       |  |
| 16.1 | 400 CFM with 20mm static pressure  | Nos | 2  |  |  |  |  |       |  |
| 17.0 | Supplying, installing, testing and commissioning of PVC (For Fresh Air)  |     |    |  |  |  |  |       |  |
| 17.1 | 40mm dia   | Rmt | 20 |  |  |  |  |       |  |
| 17.2 | 80mm dia   | Rmt | 12 |  |  |  |  |       |  |
| 17.3 | 100mm dia  | Rmt | 36 |  |  |  |  |       |  |
| 18   | SUPPLY and installation of timer switch for AC in ATM room / E lobby   | Nos | 1  |  |  |  |  |       |  |
| 19   | Minor Civil works such as Making level for ODU, core cuttings , patching up all holes etc for VRF Copper pipings , Cables, drain works etc.  | job | 1  |  |  |  |  |       |  |
|      |  |     |    |  |  |  |  |       |  |
|      |  |     |    |  |  |  |  |       |  |
|      |  |     |    |  |  |  |  | TOTAL |  |
|      | <b>GST AS APPLICABLE SHALL BE EXTRA</b>  |     |    |  |  |  |  |       |  |