

Scope of Work/Bill of Quantity

Scope of Work for Annual Maintenance Contract

Our scope of work shall include Annual Maintenance for the entire Air – Conditioning plant repair, servicing, replacement of spares, maintenance etc. The total air conditioning systems with associated equipment shall be checked for its proper functioning periodically by preventive maintenance and if any defect is found the same will be rectified by repair or replacement of relevant components.

QUARTERLY MAINTENANCE/ PREVENTIVE MAINTENANCE

Chiller/ VRF as applicable.

- Checking of compressor & AHU for its proper functioning.
- Top-up of refrigerant if required.
- Checking and rectification, if required for abnormal noise, vibration, leakage of oil, refrigerant etc.
- Topping up system with refrigerant and oil arising out of normal wear & tear, replacement of dehydrators etc.
- Checking of operation of oil heater, motor protector, flow switch, loading unloading, O/L etc.
- Checking/repair of microprocessor-based control panel / electrical panel and components.
- Checking/repair/ replacement of Expansion Valve.
- Checking/repair/ replacement of Contactors in chiller panel.
- Checking/repair/ replacement of Control relays in chiller panel.
- Checking/repair/ replacement of phase sequence relays in chiller panel.
- Checking/repair/ replacement of Sensors.
- Checking/repair/ replacement of Transducers.
- Checking/repair/ replacement of Differential Water pressure switch, pumps of chiller .
- Checking/repair/ replacement of Solenoid Valves.
- Checking/repair/ replacement of Isolators & fuses.
- De-scaling of condensers/cleaning of evaporator coils, if needed. Develop action plan for rectifying, abnormalities if any observed in performance of the system.
- To attend break down calls as and when required, investigation, locate defects, replace the defective parts, and verify defects and re-commissioning the system.
- Maintaining general cleanliness in the plant room religiously.

Yearly Maintenance

- The total plant will be overhauled once in a year preferably during winter months.
- Oil & water test once in every year.
- All type of spares & consumables etc.as and when required.

General Maintenance

- All breakdown calls will be attended as & when required.
- Chiller capacity report (IKW) based on water flow measurement, in every 6 months.
- Repairing/replacement of controller as and when required.
- Compressor motor rewinding as and when required.
- Condenser fan motor repairing as and when required.
- All electrical instruments chiller roof mounted panel onwards covered under contract.

Penalty Clause (additional)

- If normal air conditioning requirement at part of the area served by AHU /VRF is not rectified for more than 24 hrs or for the mutually agreed period depending upon the servicing of damage, a penalty @ 500.00 per day will be deducted from the contractor's bill.
- If chiller/ VRF remain out of order for more than 15 days a penalty of Rs 1000.00 per day / chiller or VRF will be deducted from his accounts.

LIST OF EQUIPMENTS

1. AC CHILLER PLANT AND AHU DETAILS

- i. 280 Tr (140 Tr X 02), Voltas make chiller compressor.
- ii. Chiller water pump -02 no
- iii AHU - 10 no's
- iv FCU – 2 no's
- v Electrical control panel & other accessories for above plant.

2. VRF System details (Voltas Make)

- i. Out Door unit - 24 nos. (18 HP x 24 = 432 HP)
- ii. Indoor units - 189 nos, located in different location of New Building
- iii. Electrical Control Panels and Other Accessories for VRF Centralized Air Conditioner Plants/Systems"

Bill of Quantity

Sl. No.	DESCRIPTION OF WORKS	UNIT	QNTY.	Rate (₹)	Amount/Year
1	Comprehensive annual maintenance of 140 Tr x 02 nos air cooled screw chiller complete with associate items viz pumps & air handling units.	Per Tr Per Year	280	4,252.00	₹11,90,560.00
2	Comprehensive annual maintenance contract of variable refrigerant flow type air conditioning unit 18 HP x 24 nos (432 HP)	Per HP per Year	432	3,725.00	₹16,09,200.00
3	Day to day deployment of operator for operation of chiller, as and when required during 8 AM To 8 PM as follows:- I. Skilled Operator 01 - 8 AM to 4 PM ii. Skilled Operator 01 - 12 .00 to 8 PM. iii. Highly Skilled 01 - 10 AM to 6 PM.	days	365	3,182.05	₹11,61,448.25
	Total for one year				₹39,61,208.25
	Total for two year (excluding GST)				₹79,22,416.50
	Add GST @ 18 %				₹14,26,034.97
	Total including GST (in Rs.)				₹93,48,451.47