



# HIGH COURT OF SINDH

**TENDER DOCUMENTS**

**FOR**

**OPERATION & MAINTENANCE OF  
AIRCONDITIONING SYSTEM AND  
ANCILLARY WORKS FOR NEW  
ANNEXY BUILDING & MAIN  
BUILDING OF HIGH COURT OF  
SINDH, SADDAR, KARACHI**

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**PRE QUALIFICATION OF BIDDERS FOR OPERATION & MAINTENANCE WORKS OF VRF A/C UNITS**

S.NO.	DESCRIPTION	REMARKS
1	2	3
1	No. of Years of Experience of Firm with total number of projects	
2	Engineering staff Details & no. of years of experience total & in firm individually (with all details i/c. CVs)	
3	No sub-contracting methods in the firm, must have self-labor working for the company	
4	Past Projects - Similar to our project (Start Value & end Value with Variation Orders, Companies worked with, Location, description, time period of completion, pictures of past projects after completion, scope of works (Operation & Maintenance) or any other related tasks	
5	Expertise of firm – any milestone achieved or award or any other high achievement	
6	Qualification & Self experience of Owner / Directors of the Firm	
7	Registration Certificate issued by Federal Board of Revenue (FBR)	
8	Active tax payer as per Federal Board of Revenue (FBR's) revenue data.	
9	Letter of Registration with Pakistan engineering council (PEC Registered in MEP Works)	
10	Affidavit on non-judicial stamp paper of <b>not being blacklisted</b> ,declared un-eligible or debarred by any organization/department for corrupt or fraudulent practices,or no failure to perform Contract in past. Bidder shall also provide the satisfactory performance certificates.timely completion of project as per work program and cost is not achieved in any of the previous contracts executed by the bidder in the last 3 years ,the bidder shall be held non-responsive.	

S.NO.	DESCRIPTION	REMARKS
1	2	3
11	Proof / Evidence(s) of the firm having 10 years of experience in similar nature of Jobs. Minimum 2 similar projects. Copies of work order, completion certificates or contact agreements scope of work to be attached.	
12	Minimum available liquid assets of Rs. 5 Million (bank statement showing Bank Balance on any one day during last three month period preceding the Tender notice )	
13	Minimum Annual Turnover must be Rs. 50 Million in any one year of last 3 years . The bidder shall provide audited balance sheet or other appropriate documentary evidence showing annual turnover	
14	The bidder must be Original Equipment Manufacturer (OEM) or their valid authorized dealer/ representative . Copy of valid OEM Certification of last 3 years consecutively	
15	The bidder/firm must possess OEM's trained engineer for installation of software and hardware of VRF System. Copies of Certificates.	
16	Experience of Project Manager 8 years in management of similar projects. Qualification of project manager B.E. or B.Sc. ( Electrical /Mechanical) registered with PEC. CV with verifiable references.	
17	Affidavit that Supplier have not failed to Perform as per Contract with Government / Semi Government Organization	
18	Complete list of relevant and ongoing projects executed recently ,showing completion period & cost ,clients' names/ address, and list of may also be provided.	
19	Main Equipment Manufacturer / offered Brand 10 years experience in manufacturing of similar equipment/machinery conforming internationally recognized manufacturing and safety standards. (appropriate document evidence .extract from manufacturer's website).	
20	Technical literature and other details including manufacturer's catalogue etc in support of quoted equipment shall be submitted along with the bid for technical evaluation in light of specifications of tender (OEM provided manual,booklets duly stamped and signed by the bidder	
21	Undertaking from the OEM/testifying the availability of sizeable inventory of original consumable,support parts, overhauling and other spare parts for atleast (05) years.Bank reserves the right to inspect and verify the above inventory.	
22	Evidence that bidder has their own support offices ,workshop services network etc.in Faisalabad or Lahore/Islamabad/Karachi.	

## 1. **SCOPE OF WORKS & OTHER DETAILS**

1. The scope of works shall be as follows:
    - 1.1 Servicing / Overhauling, replacement / repair of damaged cards of A/C Units.
    - 1.2 Refrigerant Leak detection, repair and charging of refrigerant / oil.
    - 1.3 Proper operation and maintenance of the Airconditioning Systems installed at the Sindh High Court, Karachi.
    - 1.4 The List of the equipment is enclosed.
    - 1.5 The scope of works shall particularly include the following:
      - (a) Proper start up and shut down of Airconditioning Plant according to Sindh High Court Plan.
      - (b) Regular servicing of all the equipment as per schedule approved by the Consultants. It will be done after normal working hours. The servicing shall be done on daily, weekly, fortnightly, monthly and yearly basis.
      - (c) A proper schedule of servicing and maintenance shall be prepared and would be submitted to the Consultant / Client for approval.
      - (d) Detection of faults in case of any break down
      - (e) Repair / rectification of defects in the shortest possible time. The skilled manpower i.e. Supervisor, Mechanic, Electrician, etc., shall be separately arranged for the rectification of defects.
      - (f) Proper cleaning of the equipment shall be done on daily basis.
      - (g) Proper maintenance of the log sheets as per enclosed specimen.
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(h) Submission of the VRF System Performance Report on monthly basis.

1.6 Owner shall be responsible for arranging the material. The Contractor shall submit the List of required material in advance.

## 2. **OPERATION & MAINTENANCE STAFF:**

2.1. The following full time staff shall be deputed at site.

- |   |         |
|---|---------|
| (a) Supervisor, Diploma Holder with minimum 15 years experience | 01 No.  |
| (b) Airconditioning Mechanic / Operator                         | 01 No.  |
| (c) Electrician   | 01 No.  |
| (d) Helpers   | 03 Nos. |

2.2. The minimum experience of the above staff listed in para nos. (b) to (c) shall be ten years and three years for para (d).

2.3. The CV of the staff shall be submitted for approval to the Consultants.

2.4. The staff shall strictly follow the discipline of Rules and Regulations of the Building.

2.5. The Contractor shall be fully responsible for the act of their staff. They will be liable for making good for any damage to the property / material / Goods except the force majeure.

2.6. Proper Uniform with cards shall be worn by the Staff.

2.7. Staff Attendance Register shall be maintained. It will be checked and signed by Client's Representative.

## 3. **PLANT OPERATION TIMINGS:**

3.1. The Air-conditioning System shall be operated 12 hours per day for 300 days per year except Sunday.

3.2. The startup time shall be 8:00 AM.

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**4. REMUNERATION:**

4.1. The Contractor should quote their charges on Monthly basis.

4.2. In case of extra operation of the Plant, the overtime shall be paid. The overtime rates to be quoted as follows:

One Hour Rs. \_\_\_\_\_

Two Hours Rs. \_\_\_\_\_

Three Hours Rs. \_\_\_\_\_

4.3. The payment shall be made by 10<sup>th</sup> of every month.

4.4. Charges for Public Holiday to be quoted separately Rs. \_\_\_\_ per day.

4.5. The charges of the staff absent shall be deducted on pro-rata basis.

4.6. In case of sickness / Leave of any deputed staff more than one day once a month, substitution shall be provided.

4.7. In case of non-compliance of the Contract conditions, the contract shall be cancelled without any prior notice.



**LIST OF INSTALLED EQUIPMENT / COMPONENTS**

1. VRF Outdoor A/C Units.
  2. VRF Indoor A/C Units.
  3. Pipe Insulation.
  4. Equipment's Condensate Drain Piping.
  5. MCCs
  6. Electric Wiring
  7. System Automatic Controls
  8. Instruments
-



## **COST SUMMARY**

### **PART - A**

1. Charges for Servicing / Overhauling,  
Replacement / repair of damaged cards. Rs. \_\_\_\_\_
  
2. Refrigerant leak detection and charging of  
Refrigerant and oil. Rs. \_\_\_\_\_

**GRAND TOTAL COST** Rs. \_\_\_\_\_

### **PART - B**

1. Operation & Maintenance Monthly Charges Rs. \_\_\_\_\_
  
  2. Overtime Charges  
    - 2.1 For One Hour Rs. \_\_\_\_\_
    - 2.2 For Two Hours Rs. \_\_\_\_\_
    - 2.3 For Three Hours Rs. \_\_\_\_\_
  
  3. Overtime Charges for Holidays Rs. \_\_\_\_\_
-

**LOG SHEETS FOR VRF AIRCONDITIONING UNITS**

Reading No. 1 (Time: \_\_\_\_\_ )

Date: \_\_\_\_\_

S. No	Description	Readings	VRF Airconditioning Unit No. _____			
			Ambient Temp		Indoor Temp	
			DB ° C	WB ° C	DB ° C	RH %
1.	Compressor Running Amps.					
2.	Suction Pressure					
3.	Discharge Pressure					
4.	Voltage					

Reading No. 2 (Time: \_\_\_\_\_ )

S. No	Description	Readings	VRF Airconditioning Unit No. _____			
			Ambient Temp		Indoor Temp	
			DB ° C	WB ° C	DB ° C	RH %
1.	Compressor Running Amps.					
2.	Suction Pressure					
3.	Discharge Pressure					
4.	Voltage					

Reading No. 3 (Time: \_\_\_\_\_ )

S. No	Description	Readings	VRF Airconditioning Unit No. _____			
			Ambient Temp		Indoor Temp	
			DB ° C	WB ° C	DB ° C	RH %
1.	Compressor Running Amps.					
2.	Suction Pressure					
3.	Discharge Pressure					
4.	Voltage					

REMARKS \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
SINDH HIGH COURT.  
REPRESENTATIVE

\_\_\_\_\_  
CONTRACTOR  
REPRESENTATIVE

\_\_\_\_\_

**PREVENTATIVE MAINTENANCE FORM**

DATE: \_\_\_\_\_

VRF AIRCONDITIONING UNIT NOS. \_\_\_\_\_.

SERVING AREA: \_\_\_\_\_

S. No.	Check List			Maintenance Detail
<b>1</b>	<b>CONDENSING UNIT</b>			
A	De Dusting Of Coil With Air Pressure And Brush			
B	Flushing Of Coil Fins with Normal Pressurized Water			
C	Check Tightening of Electrical connections			
D	Check Freon Pressure			
E	Check Overload and Main Control Board			
F	Check Any Evidence of Leaks with Leak Detector			
G	Check Fan and Motor			
H	Check Lubrication / Bearings of Fan Motor			
I	Check Current and Note Down			
J	Check Voltage and Note Down			
K	Check Any Noise (N=Normal ; AN=Abnormal)			
L	Check the Filter Condition Visually			
<b>2</b>	<b>EVAPORATING UNIT</b>			
A	Clean Coil with Brush			
B	Clean Coil with Normal Pressurized Water			
C	Clean Blower Fans and Check Lubrication / Bearings			
D	Check the Condition and Tension of V-Belts			
E	Clean the Air Filters and Housing			
G	Check and Flush Drain Line			
H	Check Any Noise (N=Normal ; AN=Abnormal)			
<b>PART REPLACED</b>				
		DONE BY: 1		2
		CHECKED BY:		
		NAME:		
REMARKS:		REMARKS:		
<hr/> HVAC ENGINEER		<hr/> MAINTENANCE MANAGER		

**VRF INDOOR DETAILS****VRF A/C UNIT MAKE: MIDEA****Each Unit = 2 TR**

<b>S.no</b>	<b>Room</b>	<b>Qty</b>	<b>Floor</b>	<b>Cooling Capacity (TR)</b>
1	Court no. 1	5	2nd Floor	10
2	Chamber	2	2nd Floor	4
3	Court no. 2	3	2nd Floor	6
4	Chamber	2	2nd Floor	4
5	Court no. 3	3	2nd Floor	6
6	Chamber	2	2nd Floor	4
7	Court no. 4	5	2nd Floor	10
8	Chamber	2	2nd Floor	4
9	Court no. 5	5	1st Floor	10
10	Chamber	2	1st Floor	4
11	Court no. 6	3	1st Floor	6
12	Chamber	2	1st Floor	4
13	Court no. 7	5	1st Floor	10
14	Chamber	2	1st Floor	4
15	Court no. 8	4	Ground Floor	8
16	Chamber	2	Ground Floor	4
17	Court no. 9	4	Ground Floor	8
18	Chamber	2	Ground Floor	4
19	Court no. 10	4	Ground Floor	8

<b>S.no</b>	<b>Room</b>	<b>Qty</b>	<b>Floor</b>	<b>Cooling Capacity (TR)</b>
20	Chamber	2	Ground Floor	4
21	Court no. 11	4	Ground Floor	8
22	Chamber	2	Ground Floor	4
23	Court no. 12	5	2nd Floor	10
24	Chamber	2	2nd Floor	4
25	Court no. 13	5	2nd Floor	10
26	Chamber	2	2nd Floor	4
27	Office	2	Ground Floor	4
28	Telephone Exchange	2	Ground Floor	4
29	Research & Legal Cell	2	2nd Floor	4
30	Chief Justice Secretary	2	2nd Floor	4
31	Chief Justice Private Secretary	2	1st Floor	4
	<b>Total</b>	<b>91</b>		<b>182</b>

**VRF INDOOR UNIT**

<b>VRF A/C UNIT MAKE: MIDEA</b>				
<b>S.no</b>	<b>Model no.</b>	<b>Qty</b>	<b>Location</b>	<b>Total Cooling Capacity (TR)</b>
1	MDV-V160 W/DRN1 (Capacity = 4 TR each)	7	Roof	28
2	MDV-V335 W/DRN1 (Capacity = 9.5 TR each)	2	Roof	19
3	MDV-V224 W/DRN1	1	Roof	6
4	MDV-V400 W/DRN1 (Capacity = 10 TR each)	3	Roof	30
5	MDV-V160 W/DR1	1	Roof	4
6	MDV-V400 W/RN1 (Capacity = 10 TR each)	3	Roof	30
7	MDV-V335 W/DRN1	1	Roof	9.5
8	MDV-224W/DRN2 (Capacity = 6 TR each)	2	Roof	12
9	MDV-V160 W/DRN1 (Capacity = 4 TR each)	9	Roof	36
10	MDV-V160 W/DRN1 (Capacity = 4 TR each)	2	Roof	8
11	MDV-V400 W/DRN1 (Capacity = 10 TR each)	2	Roof	20
	<b>Total</b>	<b>33</b>		<b>202.5</b>

**SINDH HIGH COURT  
NEW ANNEXY BUILDING**

**VRF A/C UNIT MAKE: MIDEA      VRF INDOOR UNITS DETAIL**

**Each Unit = 2 TR**

<b>S.no</b>	<b>Room</b>	<b>Qty</b>	<b>Floor</b>	<b>Cooling Capacity (TR)</b>
1	Court no. 1	6	Ground Floor	12
2	Chamber	2	Ground Floor	4
3	Office	1	Ground Floor	2
4	Court no. 2	6	Ground Floor	12
5	Chamber	2	Ground Floor	4
6	Office	1	Ground Floor	2
7	Court no. 3	6	Ground Floor	12
8	Chamber	2	Ground Floor	4
9	Office	1	Ground Floor	2
10	Court no. 4	6	Ground Floor	12
11	Chamber	2	Ground Floor	4
12	Office	1	Ground Floor	2
13	Court no. 5	6	1st Floor	12
14	Chamber	2	1st Floor	4
15	Office	1	1st Floor	2
16	Court no. 6	6	1st Floor	12
17	Chamber	2	1st Floor	4
18	Office	1	1st Floor	2
19	Court no. 7	6	1st Floor	12

<b>S.no</b>	<b>Room</b>	<b>Qty</b>	<b>Floor</b>	<b>Cooling Capacity (TR)</b>
20	Chamber	2	1st Floor	4
21	Office	1	1st Floor	2
22	Court no. 8	6	1st Floor	12
23	Chamber	2	1st Floor	4
24	Office	1	1st Floor	2
25	Court no. 9	7	2nd Floor	14
26	Chamber	2	2nd Floor	4
27	Office	1	2nd Floor	2
28	Court no. 10	7	2nd Floor	14
29	Chamber	2	2nd Floor	4
30	Office	1	2nd Floor	2
31	Court no. 11	7	2nd Floor	14
32	Chamber	2	2nd Floor	4
33	Office	1	2nd Floor	2
34	Court no. 12	7	2nd Floor	14
35	Chamber	2	2nd Floor	4
36	Office	1	2nd Floor	2
	<b>Total</b>	<b>112</b>		<b>224</b>



**SINDH HIGH COURT  
NEW ANNEXY BUILDING****VRF A/C UNIT MAKE: MIDEA VRF OUTDOOR UNITS DETAIL**

<b>S.no</b>	<b>Model no.</b>	<b>Qty</b>	<b>Location</b>	<b>Total Cooling Capacity (TR)</b>
1	MVS-X560 W/V2GN1 (Capacity = 16 TR)	4	Roof	64
2	MDV-V224 W/DRN1 (Capacity = 6 TR)	12	Roof	72
3	MDV-V450 W/DRN1 (Capacity = 17 TR)	8	Roof	136
	<b>Total</b>	<b>24</b>		<b>272</b>

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**SECTION 23 01 13 OPERATION AND MAINTENANCE**
**1.1 ONE MONTH TEST RUN**

The Contractor shall be required to carry out test run(s) as specified in the Memorandum of Tender after the issue of the Certificate of Substantial Completion for the complete works by the Engineer. The period for the test run(s) would be designated in writing by the Engineer. The test run observations shall be recorded in duplicate by the Contractor on printed log sheets approved by the Consultant. The Contractor shall depute an experienced Site Engineer and sufficient skilled labor for taking and recording test run observations. The normal plant operation shall be carried out by the Employer's Operators. The Employer shall only provide without charge to the Contractor water, electricity and fuel for the test run(s) and the Contractor shall be responsible for the supply of all tools and instruments etc. required to take and record the test run observations. The log sheets shall be jointly signed by the Employer's Representative and Contractor's Site Engineer. The Contractor shall hand over one set of log sheets to the Employer's Representative every day. The Contractor's Project Engineers shall check and prepare a summary of observations on printed forms approved by the Consultant in quadruplicate at the end of each test run week. One set each shall be supplied to the Engineer, Consultant and Employer's Representative within one week of the conclusion of the corresponding test run week. The Engineer shall check the performance of the plant(s) during the test run(s). If the plant(s) performance meets the specified requirements, the Engineer shall issue a Certificate of satisfactory completion of test run(s) to the Contractor.

**1.2 MAINTENANCE**

The Contractor shall be responsible without additional charge to the Employer for maintenance and servicing of the complete plant during the period of maintenance named in the Memorandum after the issue of the Certificate of Substantial Completion by the Engineer. The Contractor shall be responsible for arranging all tools, instruments and Technical Staff including Specialist Technicians/Engineers required for the work. The Employer shall be responsible to supply all materials and spare parts required for the work excluding parts defective due to manufacturing defect which shall be replaced by the Contractor under the terms of the contract. The Contractor shall service the complete plant regularly according to the Schedule of Servicing and Maintenance as approved or amended by the Consultant but not less than once a month during the operational seasons. The servicing and maintenance shall be carried out by competent skilled labor under supervision of a qualified Engineer. The Contractor shall take a certificate of satisfactory completion of monthly servicing from the Employer's Representative. The Contractor shall carry out annual servicing, maintenance and overhauling of the complete plant at the end of the operational season and make the plant ready for operation in all respects well before the commencement of the next operational season. On receiving notification from the Contractor that annual servicing, etc. is nearing completion, the Consultant shall check the work carried out and give directions to the Contractor for completion of outstanding work, if any. On satisfactory completion of annual servicing, maintenance and overhauling of the complete plant, the Engineer shall issue a Certificate of satisfactory completion to the Contractor.

**1.3 SPECIAL TOOLS AND INSTRUMENTS FOR MAINTENANCE**

The Contractor shall supply to the Employer all necessary special tools and instruments required for proper operation, servicing and maintenance of the complete plant. The tenderer shall give a complete List of special tools and instruments included in his tender. Amongst others, following shall be included without limitation:

- i. Tong Tester of suitable range with Amp, Volt and ohm scales.
  - ii. Phase Tester.
  - iii. Sling psychomotor with 140mm long 0-50°C range thermometers.
  - iv. Electric motor driven high pressure air blower for cleaning.
  - v. One set each of open end, ring and adjustable spanners.
  - vi. One set each of flat and Philips head screw drivers.
  - vii. Set of hammers.
  - viii. Two pliers with flat and pointed nose.
  - ix. One set of cleaning and washing tanks for air filters.
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