



Kerala State Homoeopathic Co-Operative Pharmacy Ltd.

(sponsored by government of Kerala & aided by govt. of India)

Office: Pathirappally, Alappuzha, Kerala, India - 688 521

Phone : 477 2258012

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Website : www.homcokerala.com

Email : homcokerala@gmail.com

Supplier's Copy

USER REQUIREMENT SPECIFICATION

| | | |
|-------------------------------|---|---|
| Name of the Company | : | |
| Contact Person | : | |
| Address | : | |
| Contact Details | : | |
| Department | : | Utility – water plant |
| Equipment and Code No. | : | 1) Supply and installation of 3 TR water chiller |
| Name of work | : | Supply, Installation, Commissioning & Validation of Air cooled water chiller with capacity of 3 TR., at M/s. HOMCO –Kerala. |
| Ref. No. | : | |
| Date | : | |
| Enclosures | : | |
| Qty. | : | 1 Nos. |



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AIR COOLED WATER CHILLER 1 TR

ANNEXURE- I : BASIC DETAILS OF THE MACHINE

| DESCRIPTION | | |
|---|---|--|
| (To be specified by the supplier, if any variation) | | |
| Scope | : | Supply, Installation, Commissioning & Validation of Air cooled water chiller with capacity of 3 TR., at M/s. HOMCO –Kerala at First floor. |
| Model | : | * |
| Type | : | <ul style="list-style-type: none">Air cooled systemRefrigerant: R407c / R134a / R22 (Eco-Friendly) |
| Operating Ambient temperature | : | 15 – 45 ° C * |
| Leaving water temperature (cooling temp) | : | 8 to 12 ° C |
| Process Pump flow rate | : | Minimum 30 LPM * |
| Operating pressure | : | 2 to 4 bar * |
| Inlet & Outlet pipe size | : | 1"BSP * |
| Cooling Control accuracy | : | ± 3 °C * |
| Water tank capacity | : | 70 to 80 liters * |
| Control system | : | Temperature controller with sensor * |
| Feed water | : | Soft water / DM water. |
| Compressor: | | |
| Structure | : | Reciprocating * |
| Condenser | : | Copper tube with aluminum fin * |
| Discharge Pump | : | Multi stage centrifugal pump * |

*** To be specified and confirm by the supplier as per their equipment design**



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ANNEXURE – II & III : DESIGN & PROCESS CONTROL FEATURES

FOR WATER CHILLER

| DESCRIPTION | | |
|---|---|---|
| (To be specified by the supplier, if any variation) | | |
| Design requirement | : | <ul style="list-style-type: none">Water chiller with Air cooled system with circulation pump. water in the tank should be cooled as per the temperature set in the temperature controller (set temperature at controller will be 8 to 12 °C). Hooter alarm system should be provided, during any fault in the system hooter should be triggered. * |
| Process Control Features | : | <ul style="list-style-type: none">The water chiller is required for ointment packing machine. The chilled water should circulate in the process packing machine heating area to reduce the temperature. |
| Usage detail | : | <ul style="list-style-type: none">This water chiller is required for circulating chilled water in the ointment sealing machine.Water chiller will be placed in the first floor and ointment sealing machine will be placed at the ground floor. |

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DESCRIPTION

(To be specified by the supplier, if any variation)

ANNEXURE - IV

: OPERATIONAL & CONTROL FEATURES

FOR WATER CHILLER

DESCRIPTION

(To be specified by the supplier, if any variation)

| | | |
|--------------------|---|---|
| Controls | : | Temperature controlled system through temperature controller and sensor, High accuracy temperature controller and sensor need to be used. * |
| | | (i) Audio-visual alarm for water low level and interlock for the operation need to be provided. (ii) MCB's and contactors should be provided for all electrical operation of pump and refrigeration system. (iii) Pilot lamp to indicate operating status of the equipment. (iv) Complete internal wiring to ensure power supply at a single point on the panel. - Indication lamp for power supply is required. (viii) Pressure switch should be provided for refrigeration system. * |
| Accessories | : | Air cooling exhaust fan with drive motor * |
| | | Inlet and outlet flexible hose with connectors need to be provided * |
| | : | Proper insulation and covering for the Water tank need to be provided * |
| | : | Proper insulation for the refrigeration system required. * |
| | : | Heavy Duty Caster wheels – 04Nos with lock system need to be provided. * |

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DESCRIPTION

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| | | |
|-------------------------|---|--|
| Instrumentation | : | |
| Water level controllers | : | Water tank level sensor / switch should be provided to avoid empty run of system* |
| Temperature controller | : | Temperature Controller for setting the desire temperature set for controlling the refrigeration system* |
| Control panel | : | 1 no. for housing at the Equipment* |
| Guarantees | : | <p>The chiller supplier should guarantee the following:</p> <ul style="list-style-type: none">• The Chiller should be guaranteed for trouble free operation for a period of 12 months form the date of satisfactory Commissioning. *• Any defect due to faulty material / bad Supply of chiller should be rectified free of cost to the entire satisfaction of the purchaser. * |

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ANNEXURE – V & VI : SAFETY & ELECTRICAL DETAILS

| DESCRIPTION | | |
|--|---|--|
| (To be specified by the supplier, if any variation) | | |
| Controls and safety | : | |
| Emergency Switch | : | Emergency switch should be provided at the control panel * |
| Safety Interlocks | : | Refrigeration system interlock for safety operation need to be provided. |
| | : | To avoid the empty run of the system tank low level interlock need to be provided. |

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DESCRIPTION

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Electrical Panel

- The control panel must be a part chiller. It should contain all necessary switchgears, safety alarms/interlocks and Temperature controller and is to be mounted on the chiller itself eliminating any cabling requirement at site. *

Standard Operating Frequency : 50 Hz

Standard Operating Voltage : 230 / 415V *

Total power consumption : *

Motor Details with rpm : *

Any other detail not mentioned above, but required also to be informed & included in the scope of supply by the vendor.

Client will provide & connect the required cable in to vendor's panel only.

From machine panel to machine and its other accessories and controls, to be supplied and connected by vendor at site.

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DESCRIPTION

(To be specified by the supplier, if any variation)

Miscellaneous:

- ❖ All the Component Makes should match the Approved Makes list provided. *
- ❖ Any deviation from this should be documented and communicated to HOMCO for approval before submitting tenders. *
- ❖ All Calibration Certificates are to be produced during Installation of Machine, without which the Installation is deemed incomplete. All the Certificates should be Traceable to National / International Standards. *
- ❖ The Validity of Calibration shall be minimum 9 months and maximum 12 months from the date of Installation. *
- ❖ All the Signal Cables should be shielded to avoid interference. *
- ❖ Complete Earthing of Equipment. *
- ❖ Complete covering of Electrical Cables and Other Connections. *

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ANNEXURE – VII : UTILITY REQUIREMENT

| DESCRIPTION | | |
|---|---|---|
| (To be specified by the supplier, if any variation) | | |
| Water | : | * |
| Compressed Air | : | * |
| Oil | : | * |
| Any other | : | * |

Note: All necessary and required utilities with any filters along with required housing and accessories should be provided by vendor.

*** To be specified and confirm by the supplier as per their equipment's design requirement with pressure and flow rate along with any valve, pipe / nozzles size required alongwith scope of supply.**



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ANNEXURE - VIII : CLEANING TECHNIQUE

| DESCRIPTION | | |
|--|---|---|
| (To be specified by the supplier, if any variation) | | |
| Mode of machine cleaning | : | * |
| Use of Lubricants | : | * |
| All contact parts should be easily dismantled and cleanable. | | |
| Easy washing and cleaning facility should be available | | |
| Drain points: Vendor should specify the pipe size and location of drain points if required as per their system's drain requirement with pipe /nozzle size, valve etc.* | | |

*** To be specified and confirm by the supplier as per their equipment design**

ANNEXURE - IX : MECHANICAL DETAILS

| DESCRIPTION | | |
|---|---|---|
| (To be specified by the supplier, if any variation) | | |
| Dimension (In mm) | : | * |
| Net Weight (In Kgs.) | : | * |
| Type of Packing | : | * |
| Case Dimension (In mm) | : | * |
| Gross Weight (In Kgs.) | : | * |
| Foundation details if required | : | * |

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ANNEXURE - X : LIST OF ANCILLARY / ACCESSORIES / OPTIONAL ITEMS

DESCRIPTION

(To be specified by the supplier, if any variation)

Vendors should inform, provide details and consider scope of supply for the following:

- Recommended Spares part list
- Essential Spares (For 1 year)
- If any items required but not included in URS, to be mentioned and submitted with unit rate and quantity * (And it can be informed to client during pre-bid meeting or before PO/WO)
- Any other ancillary or accessories or optional items not mentioned above but required for successful operation should also to be informed in advance before PO/WO
- *Any other ancillary, or accessories or optional items not mentioned also to be quoted*
 - *Details of Bought out components to be specified.*

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ANNEXURE - XI : TRAINING REQUIREMENT

- Training to all concern of M/s. HOMCO, Kerala for the Installation, Operation, Maintenance of water chiller provided by vendor and training record should be documented.
- Testing of control panel should be carried out in presence of customer/Client's representative at the place of manufacturer before delivery.
- Vendor shall support client in execution of all the Qualification Phases.



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ANNEXURE - XII : DOCUMENTATION

List of all Documents to be supplied along with equipment [AS APPLICABLE]

| Sr. No. | Document to be supplied | Qty | Remarks |
|---------|--|--------|---------|
| 1 | Design qualification | 2 sets | |
| 2 | SAT/FAT procedures | 2 sets | |
| 3 | Operation manual | 2 sets | |
| 4 | Maintenance manual | 2 sets | |
| 5 | Spare parts manual | 2 sets | |
| 6 | All engineering drawings (GA drawings) | 2 sets | |
| 7 | List of instruments | 2 sets | |
| 8 | Calibration certificates | 2 sets | |
| 9 | Warranty / Guarantee | 2 sets | |
| 10 | List of all components with referencing | 2 sets | |
| 11 | Civil foundation drawings- If required | 2 sets | |
| 12 | Pre installation requirements | 2 sets | |
| 13 | Installation requirements | 2 sets | |
| 14 | Installation manual | 2 sets | |
| 15 | Technical literature, data sheets and equipment catalogues | 2 sets | |
| 16 | DQ, OQ , IQ, PQ documents. | 2 sets | |
| 17 | Calibration Report of all sensors, controllers, PLC, transmitters, indicators etc. | 2 sets | |
| 18 | Test Certificates of all material of construction | 2 sets | |
| 19 | Test Certificates of the software used in machine control / monitoring system. | 2 sets | |



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ANNEXURE - XIII : TERMS AND CONDITIONS

| | | |
|--|---|--|
| Delivery Period | : | * |
| Payment Terms | : | As mentioned in tender. |
| Packaging and Forwarding | : | By Vendor |
| Un-loading at site | : | By vendor /Supplier (If required, help for the arrangements of unloading can be done by client) Installation in position by the vendor under the client's supervision |
| Excise / Taxes /GST | : | * |
| Material for Trial arrangement | : | * (To be arranged by client) |
| Installation and Commissioning | : | By Vendor |
| Response to URS and submission of quotation | : | Within 2 week |
| Submission of detail functional design specification and schematic drawings | : | Within a week after order finalization |
| Submission of FAT / SAT specification | : | 2 weeks before FAT |
| Submission of IQ AND OQ documents | : | With equipment delivery |
| Drawings / diagrams | : | With equipment delivery |
| The supplier should notify customer 2 weeks in advance of the beginning of FAT | | |
| Catalogue, Equipment drawing, List of clients and year of establishment to be submitted alongwith quotation. | | |
| <i>Any other terms, not mentioned above, also to be specified.</i> | | |

*** To be specified by the supplier**



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ANNEXURE - XIV : ABBREVIATION

| | | | |
|-----|-------|---|---|
| 1. | URS | : | User Requirement Specification. |
| 2. | KSDPL | : | Kerala State Drugs & Pharmaceuticals Ltd. |
| 3. | DQ | : | Design Qualification |
| 4. | IQ | : | Installation Qualification |
| 5. | OQ | : | Operational Qualification |
| 6. | PQ | : | Performance Qualification |
| 7. | SS | : | Stainless Steel |
| 8. | RHS | : | Right Hand Side |
| 9. | MOC | : | Material of Construction |
| 10. | KW | : | Kilo Watt |
| 11. | HP | : | Horse Power |
| 12. | RPM | : | Rotation Per Minute |
| 13. | FLP | : | Flame Proof |
| 14. | cGMP | : | Current Goods Manufacturing Practices |
| 15. | O&M | : | Operation and Maintenance |
| 16. | GA | : | General Arrangement |
| 17. | SLD | : | Single Line Diagram |
| 18. | HOD | : | Head of Department |
| 19. | QA | : | Quality Analysis |
| 20. | MRP | : | Maximum Retail Price |
| 21. | NMT | : | Not more than |
| 23. | TR | : | Ton of refrigeration |

Any other details, not mentioned in Annexure I to XIII, to be specified in the quotation/specification by the vendor.