



## Kerala State Homoeopathic Co-Operative Pharmacy Ltd.

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

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

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Website : [www.homcokerala.com](http://www.homcokerala.com)

Email : [homcokerala@gmail.com](mailto:homcokerala@gmail.com)

### Supplier's Copy

## USER REQUIREMENT SPECIFICATION

<b>Name of the Company</b>	:	
<b>Contact Person</b>	:	
<b>Address</b>	:	
<b>Contact Details</b>	:	
<b>Department</b>	:	QC and Microbiology – First floor
<b>Equipment and Code No.</b>	:	1) Supply, installation and qualification of Laboratory Oven, incubators, stability chamber.
<b>Name of work</b>	:	Supply, Installation, Commissioning & qualification of Laboratory Oven, incubators, stability chamber at M/s. HOMCO –Kerala at Laboratory Oven, incubators, stability chamber.
<b>Ref. No.</b>	:	
<b>Date</b>	:	
<b>Enclosures</b>	:	
<b>Qty.</b>	:	<b>Quantity as per below tabulation.</b>



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**Laboratory Oven, incubators, stability chamber**

**1.□ : LIST OF EQUIPMENT'S**

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

S No	Equipment Name	Capacity	Control parameter range
1.1	Stability Chamber	2000 liters	20°C to 60°C / 40% RH to 95% RH
1.2	Stability Chamber	2000 liters	20°C to 60°C / 40% RH to 95% RH
1.3	Stability Chamber	2000 liters	20°C to 60°C / 40% RH to 95% RH
1.4	Stability Chamber	1000 liters	20°C to 60°C / 40% RH to 95% RH
1.5	BOD incubator	1000 liters	10°C to 60°C
1.6	BOD incubator	1000 liters	10°C to 60°C
1.7	BOD incubator	400 liters	10°C to 60°C
1.8	Dual Chamber incubator	200 liter each	15°C to 60°C
1.9	Combo Refrigerator	Upper : 300 liters + lower: 165 liters	Upper Temperature Range: 2°C to 8°C Lower Temperature Range: -10°C to -25°C
1.10	Hot air oven	430 liters	50°C to 150°C
1.11	Hot air oven	430 liters	50°C to 150°C
1.12	Hot air oven	90 liters	50°C to 300°C

**Note:** Kindly find the attached Annexure I Equipment location drawing.



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### PROCESS REQUIREMENT DETAIL

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

#### **Stability chamber:**

A stability chamber is a specialized enclosed device that maintains consistent, controlled conditions of temperature, humidity, and sometimes light, to test the durability and shelf life of products like pharmaceuticals, food, and electronics. It allows manufacturers to simulate various environmental conditions to assess how a product will perform over time under different climatic exposures without needing to travel or wait for real-world conditions.

#### **BOD incubator:**

A BOD incubator (Biochemical Oxygen Demand incubator) is a specialized laboratory appliance used to maintain a stable, controlled temperature environment for the incubation of biological samples, primarily for the BOD test.

#### **Dual Chamber incubator:**

A dual chamber incubator is a laboratory equipment featuring two separate compartments, each capable of operating under independent, precisely controlled environmental conditions.

#### **Combo Refrigerator:**

Use a combination refrigerator/freezer with dual container structure to chill and freeze samples within the same unit. Each compartment can be set to a different temperature.

#### **Hot air oven:**

A hot air oven is an electrical device used for dry heat sterilization, drying, and thermal testing in laboratories and industries. It circulates hot air within an insulated, double-walled chamber to achieve uniform and controlled temperatures.



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**3.0**

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### DETAILS OF THE MACHINE

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

S No	Description	Requirement
<b>3.1 Stability chamber:</b>		
3.1.1	MOC	SS 304
3.1.2	Suitable set points	25°C / 60% RH, 30°C / 65% RH, 30°C / 75%RH, 40°C / 75% RH
3.1.3	Temperature range	20°C to 60°C
3.1.4	Temperature Accuracy	±0.5 °C
3.1.5	Temperature Uniformity	± 1.0 °C
3.1.6	Relative Humidity Range	40 to 95 % RH
3.1.7	Relative Humidity Accuracy	± 2 %RH
3.1.8	Relative Humidity Uniformity	± 3 %RH
3.1.9	Control	Automatic control of temperature and relative humidity as per the set point.
	Door Access	Numerical Door Access System
3.1.10	<b>Construction requirement:</b>	<ul style="list-style-type: none"> <li>➤ Double walled chamber with PUF insulation.</li> <li>➤ PUF thickness : 70 mm</li> <li>➤ Outer and inner part MOC should be SS 304</li> <li>➤ Double walled insulated door should be provided. The door is provided with a lock &amp; key to restrict unauthorized access.</li> <li>➤ SS S304 trays for sample loading.</li> <li>➤ Trays should be adjustable in nature for keeping as per the sample size.</li> <li>➤ Full length inner glass door to view the stored samples and other metal door with gasket, lock &amp; key.</li> <li>➤ PU wheels for easy movement with lock system.</li> <li>➤ Heater line along the door to eliminate any changes of condensation.</li> <li>➤ LED lights need for illumination.</li> </ul>



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S No	Description	Requirement
3.1.11	<p><b>Operational Mechanical construction:</b></p> <ul style="list-style-type: none"> <li>➤ Circulation Blower to ensure forced air circulation &amp; thus, uniformity of conditions throughout the Chamber.</li> <li>➤ Cooling System: CFC free cooling system consisting of hermetically sealed compressor coupled with evaporation coil and fan-cooled condenser to provide efficient cooling in the chamber. The compressor is safeguarded with time delay and overload protection circuit.</li> <li>➤ A fully functional cooling system should be provided as standby (for 430L &amp; above). It comes into operation automatically on detecting faults with a regular system.</li> </ul> <p>Additional features:</p> <ul style="list-style-type: none"> <li>● Detection of HP/LP and internal fault</li> <li>● Scheduled &amp; Manual changeovers</li> </ul> <ul style="list-style-type: none"> <li>➤ Heating system: Long lasting U-shaped Stainless Steel tubular heaters are used as a heating element. These heaters are provided with fins for better heat transfer.</li> <li>➤ Cooling achieved by a thermoelectric module based on the principles of Peltier Technology.</li> <li>➤ Humidity System: The Humidifier tank consists of 2 independent humidifier units – one works as a primary and the other as standby. The tank is self-sufficient with a float valve (for maintaining the water level) &amp; safety float switch for low water-level alarm.</li> <li>➤ Upon detection of fault, the system automatically switches over to the other humidifier unit &amp; raises an alarm. Design to ensure minimal use of the Humidity System &amp; leverage on the available ambient Humidity.</li> </ul>	
3.1.12	<p><b>Operational Electrical construction:</b></p> <ul style="list-style-type: none"> <li>➤ The controlling system should be fully PLC based system. It consists of PLC controller, HMI, Relays, Contactors, Overload trip devices, Surge Arresters, Pilot lamps, Mains MCB etc. The control panel has IP22 protection.</li> </ul> <p><b>PLC (Programmable Logic Controller)</b></p> <ul style="list-style-type: none"> <li>▪ Records temperature and humidity readings of all connected sensors</li> <li>▪ Operates the safety devices</li> </ul>	



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- Controls operations of standby systems with auto switchover upon fault
- Ethernet communication port for PC communication
- Completely modular system
- Standard hardware available globally
- Generates alarms upon utility failures, fault and deviation in control parameters
- Alarm transmission to multiple locations
- Data storage of up to 1000 readings. If data-logging interval is of 30 mins then data up to 20 days is to be stored on the PLC itself for safety purpose in case of any communication issue with the server.
- Data Storage to be inbuilt in the PLC itself without additional external hardware.
- HMI: 7" or higher Colour touch screen display.
- Surge Arresters
  - Removes second and third harmonics from the supply line.
  - Increases the life of control panel components and electrical components connected to control panel.
  - Protects electrical components of chamber from incoming surges and harmonics.
- High-Quality / Accuracy Temperature and Humidity combo sensor with universal 4-20mA output.
- Temperature is displayed in °C with 0.1°C resolution. Humidity is displayed in %RH with 0.1%RH resolution.
- Temperature and Humidity scanner: should have of 4 T/Rh probes (including 1 no. Controlling Sensor & 1 no. Standby controlling sensor) is provided to monitor various parts of the equipment.
- Standby Controlling Sensor: Automatic & Immediate Switchover from Primary Controlling Sensor to Standby Controlling Sensor in the event of failure of Primary.
- PLC/HMI to ensure change over to standby cooling system in following ways.
  - Scheduled
  - Manually selected
  - Automatic in case of failure of regular system
- Working hours calculation of following components for maintenance schedule
  - Circulation motor
  - Compressors
  - Dry Heater
  - Humidifier



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3.1.12	<ul style="list-style-type: none"><li>➤ Booster Cooling: If the chamber temperature deviation is 2°C more than the set value then both the primary and stand by cooling system switch on together to bring the temperature within range.</li><li>➤ Alarms for deviation required for<ul style="list-style-type: none"><li>• Temperature all sensors (High &amp; Low)</li><li>• Humidity all sensors (High &amp; Low).</li></ul></li><li>➤ Other required alarms for<ul style="list-style-type: none"><li>• Door opening</li><li>• Chamber Mains/power supply failure</li><li>• Water Supply Failure</li><li>• Major Component Failure, Circuit Failure.</li></ul></li><li>➤ Sensors, data acquisition systems and alarms systems need to be under UPS.</li><li>➤ Auto start after recovery of power as per set parameters.</li></ul>
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\* To be specified and confirm by the supplier as per their equipment design



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S No	Description	Requirement
<b>3.2 BOD incubator / Dual Chamber Incubator:</b>		
3.2.1	MOC	SS 304
3.2.2	Temperature range	10°C to 60°C
3.2.3	Temperature Accuracy	±0.5 °C
3.2.4	Temperature Uniformity	± 1.0 °C
3.2.5	Control	Automatic control of temperature as per the set point.
3.2.6	Power failure	Auto start after recovery of power as per set parameters.
3.2.7	<b>Construction requirement:</b>	<ul style="list-style-type: none"> <li>➤ Double walled chamber with PUF insulation.</li> <li>➤ PUF thickness : 70 mm</li> <li>➤ Outer and inner part MOC should be SS 304</li> <li>➤ Double walled insulated door should be provided. The door is provided with a lock &amp; key to restrict unauthorized access.</li> <li>➤ SS S304 trays for sample loading.</li> <li>➤ Trays should be adjustable in nature for keeping as per the sample size.</li> <li>➤ Full length inner glass door to view the stored samples and other metal door with gasket, lock &amp; key.</li> <li>➤ PU wheels for easy movement with lock system.</li> <li>➤ LED lights need for illumination.</li> </ul>
3.2.8	<b>Operational Mechanical construction:</b>	<ul style="list-style-type: none"> <li>➤ Circulation Blower to ensure forced air circulation &amp; thus, uniformity of conditions throughout the incubator.</li> <li>➤ Cooling System: CFC free cooling system consisting of hermetically sealed compressor coupled with evaporation coil and fan-cooled condenser to provide efficient cooling in the chamber. The compressor is safeguarded with time delay and overload protection circuit.</li> <li>➤ A fully functional cooling system should be provided as standby (for 430L &amp; above). It comes into operation automatically on detecting faults with a regular system.</li> </ul> <p>Additional features:</p> <ul style="list-style-type: none"> <li>● Detection of HP/LP and internal fault</li> </ul>



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- Scheduled & Manual changeovers

### **Operational Electrical construction:**

- The controlling system should be fully PLC based system. It consists of PLC controller, HMI, Relays, Contactors, Overload trip devices, Surge Arresters, Pilot lamps, Mains MCB etc. The control panel has IP22 protection.

#### **PLC (Programmable Logic Controller)**

- Records temperature readings of all connected sensors
- Operates the safety devices
- Controls operations of standby systems with auto switchover upon fault
- Ethernet communication port for PC communication
- Completely modular system
- Standard hardware available globally
- Generates alarms upon utility failures, fault and deviation in control parameters
- Alarm transmission to multiple locations

3.2.9

- Data storage of up to 1000 readings. If data-logging interval is of 30 mins then data up to 20 days is to be stored on the PLC itself for safety purpose in case of any communication issue with the server.

- Data Storage to be inbuilt in the PLC itself without additional external hardware.
- HMI: 7" or higher Color touch screen display.
- Surge Arresters
  - Removes second and third harmonics from the supply line.
  - Increases the life of control panel components and electrical components connected to control panel.
  - Protects electrical components of chamber from incoming surges and harmonics.
- High-Quality / Accuracy Temperature sensor PT-100 RTD sensor.
- Temperature is displayed in °C with 0.1°C resolution.
- Temperature scanner: should have of 4 T/Rh probes (including 1 no. Controlling Sensor & 1 no. Standby controlling sensor) is provided to monitor various parts of the equipment.
- Standby Controlling Sensor: Automatic & Immediate Switchover from Primary Controlling Sensor to Standby Controlling Sensor in the event of failure of Primary.
- PLC/HMI to ensure change over to standby cooling system in following ways.
  - Scheduled



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- Manually selected
- Automatic in case of failure of regular system
- Working hours calculation of following components for maintenance schedule
  - Circulation motor
  - Compressors
- Booster Cooling: If the chamber temperature deviation is 2°C more than the set value then both the primary and stand by cooling system should switch on together to bring the temperature within range.
- Alarms for deviation required for Temperature all sensors (High & Low).
- Other required alarms for
  - Door opening
  - Chamber Mains/power supply failure
- Sensors, data acquisition systems and alarms systems need to be under UPS.



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S No	Description	Requirement
<b>3.3 Combo refrigerator:</b>		
3.3.1	MOC	SS 304
3.3.2	Temperature range	Upper Temperature Range: 2°C to 8°C Lower Temperature Range: -10°C to -25°C
3.3.3	Temperature Accuracy	± 3 °C
3.3.4	Temperature Uniformity	± 5.0 °C
3.3.5	Control	Automatic control of temperature as per the set point.
3.3.6	Power failure	Auto start after recovery of power as per set parameters.
3.3.7	<b>Construction requirement:</b>	<ul style="list-style-type: none"> <li>➤ Double walled chamber with PUF insulation.</li> <li>➤ PUF thickness : 80 mm</li> <li>➤ Outer MOC should be SS 304 and inner part MOC should be SS 304</li> <li>➤ Double walled insulated door should be provided. The door is provided with a lock &amp; key to restrict unauthorized access.</li> <li>➤ SS S304 trays for sample loading.</li> <li>➤ Trays should be adjustable in nature for keeping as per the sample size.</li> <li>➤ Full length inner glass door to view the stored samples and other metal door with gasket, lock &amp; key.</li> <li>➤ PU wheels for easy movement with lock system.</li> <li>➤ LED lights need for illumination.</li> </ul>
3.3.8	<b>Operational Mechanical construction:</b>	<ul style="list-style-type: none"> <li>➤ 2 Circulation Blower for each chamber to ensure forced air circulation &amp; thus, uniformity of conditions throughout the cabin.</li> <li>➤ Cooling System: CFC free cooling system consisting of hermetically sealed compressor coupled with evaporation coil and fan-cooled condenser to provide efficient cooling in the chamber. The compressor is safeguarded with time delay and overload protection circuit.</li> <li>➤ A fully functional cooling system should be provided as standby (for 430L &amp; above). It comes into operation automatically on detecting faults with a regular system.</li> </ul> <p>Additional features:</p> <ul style="list-style-type: none"> <li>● Detection of HP/LP and internal fault</li> </ul>



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### **Operational Electrical construction:**

- The controlling system should be fully PLC based system. It consists of PLC controller, HMI, Relays, Contactors, Overload trip devices, Surge Arresters, Pilot lamps, Mains MCB etc. The control panel has IP22 protection.

#### **PLC (Programmable Logic Controller)**

- Records temperature readings of all connected sensors
- Operates the safety devices
- Controls operations of standby systems with auto switchover upon fault
- Ethernet communication port for PC communication
- Completely modular system
- Standard hardware available globally
- Generates alarms upon utility failures, fault and deviation in control parameters
- Alarm transmission to multiple locations

- Data storage of up to 1000 readings. If data-logging interval is of 30 mins then data up to 20 days is to be stored on the PLC itself for safety purpose in case of any communication issue with the server.

- Data Storage to be inbuilt in the PLC itself without additional external hardware.

- HMI: 7" or higher Color touch screen display.

- Surge Arresters

- Removes second and third harmonics from the supply line.
- Increases the life of control panel components and electrical components connected to control panel.
- Protects electrical components of chamber from incoming surges and harmonics.

- High-Quality / Accuracy Temperature sensor PT-100 RTD sensor.

- Temperature is displayed in °C with 0.1°C resolution.

- High-Quality PT-100 sensor (1 for each compartment).

- Standby Controlling Sensor: Automatic & Immediate Switchover from Primary Controlling Sensor to Standby Controlling Sensor in the event of failure of Primary.

- PLC/HMI to ensure change over to standby cooling system in following ways.

- Scheduled

- Manually selected

3.3.9



HLL Lifecare Limited  
(A Government of India Enterprise)



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- Automatic in case of failure of regular system
- Working hours calculation of following components for maintenance schedule
  - Circulation motor
  - Compressors
- Booster Cooling: If the chamber temperature deviation is 2°C more than the set value then both the primary and stand by cooling system should switch on together to bring the temperature within range.
- Alarms for deviation required for Temperature all sensors (High & Low).
- Other required alarms for
  - Door opening
  - Chamber Mains/power supply failure
- Sensors, data acquisition systems and alarms systems need to be under UPS.



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S No	Description	Requirement
<b>3.4 Hot Air Oven :</b>		
3.4.1	MOC	SS 304
3.4.2	Temperature range	50 °C to 300 °C
3.4.3	Temperature Accuracy	± 3 °C
3.4.4	Temperature Uniformity	± 5.0 °C
3.4.5	Control	Automatic control of temperature as per the set point.
3.4.6	Power failure	Auto start after recovery of power as per set parameters.
3.4.7	<b>Construction requirement:</b>	<ul style="list-style-type: none"> <li>➤ Double walled chamber with Rockwool insulation.</li> <li>➤ Rockwool thickness : 55 mm</li> <li>➤ Outer MOC and inner part MOC should be SS 304</li> <li>➤ Deep Metal door should be provided. The door is provided with a lock &amp; key to restrict unauthorized access.</li> <li>➤ SS S304 trays for sample loading.</li> <li>➤ Trays should be adjustable in nature for keeping as per the sample size.</li> <li>➤ Full length inner glass door to view the stored samples and other metal door with gasket, lock &amp; key.</li> <li>➤ PU wheels for easy movement with lock system for bigger and for small oven stand need to be provided.</li> <li>➤ LED lights need for illumination.</li> </ul>
3.4.8	<b>Operational Mechanical construction:</b>	<ul style="list-style-type: none"> <li>➤ Circulation Blower to ensure forced air circulation &amp; thus, uniformity of conditions throughout the Oven.</li> <li>➤ Heating system: Long lasting U-shaped Stainless Steel tubular heaters are used as a heating element. These heaters are provided with fins for better heat transfer.</li> <li>➤ The Controller is a PID-based with 2-line alpha numerical LCD Display. The Controller: <ul style="list-style-type: none"> <li>▪ Records temperature readings of all connected sensors</li> <li>▪ Operates the safety devices</li> <li>▪ Ethernet communication port for PC communication</li> <li>▪ Online Print facility</li> <li>▪ Standard hardware available readily</li> </ul> </li> </ul>



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3.4.9	<p><b>Operational Electrical construction:</b></p> <ul style="list-style-type: none"><li>➤ Data Storage to be inbuilt in the PLC itself without additional external hardware.</li><li>➤ HMI: 7" or higher Color touch screen display.</li><li>➤ Surge Arresters<ul style="list-style-type: none"><li>▪ Removes second and third harmonics from the supply line.</li><li>▪ Increases the life of control panel components and electrical components connected to control panel.</li><li>▪ Protects electrical components of chamber from incoming surges and harmonics.</li></ul></li><li>➤ High-Quality / Accuracy Temperature sensor PT-100 RTD sensor.</li><li>➤ Temperature is displayed in °C with 0.1°C resolution.</li><li>➤ High-Quality PT-100 sensor.</li><li>➤ Sensors, data acquisition systems and alarms systems need to be under UPS.</li></ul>
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### 4.0

### : SAFETY & ELECTRICAL DETAILS

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

#### **Temperature Safety:**

High Temperature safety relay and thermostat which cut off supply of heaters in case of temperature overshoot. When error is rectified, the safety device is reset automatically.

Low temperature safety relay and thermostat which cut off supply of cooling system in case of temperature undershoot. When error is rectified, the safety device is reset automatically.

#### **Component Safety:**

Delay Timer & overload protection circuit to safeguard the compressor  
MCB to cut off over current supply  
Surge arrester to filter electrical noise

#### **Working hour Calculation:**

Working Hours of all the major components (Circulation Motor and Compressor) are calculated by the Controller. This is for guidance during Preventive Maintenance. Once the life span of components is determined, proactive maintenance can be carried out to avoid unplanned breakdowns.

#### **Sensor Safety:**

Automatic & Immediate Switchover from Primary Controlling Sensor to Standby Controlling Sensor in the event of failure of Primary. Thus chamber breakdown is avoided. When error is rectified, controlling switches over to the controlling sensor automatically.

#### **Door Access System (Stability chamber):**

Numerical Door Access System: The Numerical Door Access System restricts access to the chamber to authorized persons only. In this system, the user has to give his/her password on the HMI (i.e. Display). The door opens only upon authentication of the password.

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



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**5.0**

:

### ALARM DETAILS / REMOTE MONITORING SYSTEM

Remote monitoring system with HMI audio visual alarm need to be provided , which will be placed at the security gate / BMS room for continuous monitoring of the chambers for any discrepancy . Should be able to connect all the system in the single HMI. **10 inch HMI screen** need to be provided.

All alarms should trigger in the remote monitoring or viewing system.

**6.0**

:

### SCADA / REPORT

Centralized server based SCADA software need to be configured.

Users should be able to view and download the report from the client PC through web based system or client software.

Single 21 CFR compliance software for all Equipment, which should have data recording at the interval of minimum 5 minutes, System should calculate the MKT valve for required readings, User management, Alarm and Audit trail recording. All data, alarm and audit trail reporting.

Should have access for minimum 5 client system access.

All report should be generated in PDF format and META data back need to be generated at the server and same need to back up by user for safe data backup.

Server will be provided by the HOMCO, rack mounted server specification need to be provided by vendor during tender application.

**7.0**

:

### PERFORMANCE TEST

All Power failure study / door open study / mapping of chamber at no load and load condition need to be performed. Minimum for 72 hours each.



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**7.0**

**: UTILITY REQUIREMENT**

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

S No	Description	Requirement
7.1	Water	<b>Potable water</b>
7.2	Compressed Air	*
7.3	Oil	*
7.4	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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### 8.0

### 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**

### 9.0

### MECHANICAL DETAILS

#### DESCRIPTION

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

Dimension (In mm)	:	Should be limited below are equal to as per the annexure 1 drawing *
Net Weight (In Kgs.)	:	*
Type of Packing	:	*
Case Dimension (In mm)	:	*
Gross Weight (In Kgs.)	:	*
Foundation details if required	:	*

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



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10.0

### 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

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

11.0

### TRAINING REQUIREMENT

- Training to all concern of M/s. HOMCO, Kerala for the Installation, Operation, Maintenance of bulk packing machine 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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### 12.0 : DOCUMENTATION

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

Sr. No.	Document to be supplied	Qty	Remarks
12.1	Design qualification	2 sets	
12.2	SAT/FAT procedures	2 sets	
12.3	Operation manual	2 sets	
12.4	Maintenance manual	2 sets	
12.5	Spare parts manual	2 sets	
12.6	All engineering drawings (GA drawings)	2 sets	
12.7	List of instruments	2 sets	
12.8	Calibration certificates	2 sets	
12.9	Warranty / Guarantee	2 sets	
12.10	List of all components with referencing	2 sets	
12.11	Civil foundation drawings- If required	2 sets	
12.12	Pre installation requirements	2 sets	
12.13	Installation requirements	2 sets	
12.14	Installation manual	2 sets	
12.15	Technical literature, data sheets and equipment catalogues	2 sets	
12.16	DQ, IQ , OQ, PQ and <b>Computer system validation SCADA documents.</b>	2 sets	
12.17	Calibration Report of all sensors, controllers, PLC, transmitters, indicators etc.	2 sets	
12.18	Test Certificates of all material of construction	2 sets	
12.19	Test Certificates of the software used in machine control / monitoring system.	2 sets	



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### 13.0

### TERMS AND CONDITIONS

Delivery Period	:	*
Payment Terms	:	As mentioned in tender.
Packaging and Forwarding	:	<b>By Vendor</b>
Un-loading at site	:	By vendor /Supplier , Installation in position by the vendor under the client's <b>supervision</b>
Excise / Taxes /GST	:	*
Material for Trial arrangement	:	* (To be arranged by client)
Installation and Commissioning	:	<b>By Vendor</b>
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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### 14.0 : ABBREVIATION

14.1	URS	:	User Requirement Specification.
14.2	DQ	:	Design Qualification
14.3	IQ	:	Installation Qualification
14.4	OQ	:	Operational Qualification
14.5	PQ	:	Performance Qualification
14.6	SS	:	Stainless Steel
14.7	RHS	:	Right Hand Side
14.8	MOC	:	Material of Construction
14.9	KW	:	Kilo Watt
14.10	HP	:	Horse Power
14.11	RPM	:	Rotation Per Minute
14.12	FLP	:	Flame Proof
14.13	cGMP	:	Current Goods Manufacturing Practices
14.14	O&M	:	Operation and Maintenance
14.15	GA	:	General Arrangement
14.16	SLD	:	Single Line Diagram
14.17	HOD	:	Head of Department
14.18	QA	:	Quality Analysis
14.19	MRP	:	Maximum Retail Price
14.20	NMT	:	Not more than
14.21	BPM	:	Bottles per minutes

**Any other details, not mentioned in section 1.0 to 14.0, to be specified in the quotation/specification by the vendor.**