



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
:477 2258665
Fax : 0477 2258012

Website : www.homcokerala.com

Email : homcokerala@gmail.com

Supplier's Copy

USER REQUIREMENT SPECIFICATION

| | | |
|-------------------------------|---|---|
| Name of the Company | : | |
| Contact Person | : | |
| Address | : | |
| Contact Details | : | |
| Department | : | Production (Mother Tincture) – Second Floor |
| Equipment and Code No. | : | 1) Supply, installation and qualification of fully automatic Mother tincture liquid filling system and its line machines. |
| Name of work | : | Supply, Installation, Commissioning & qualification of fully automatic Mother tincture filling system and its line machines at M/s. HOMCO –Kerala at Second floor production area, Mother tincture section. |
| Ref. No. | : | |
| Date | : | |
| Enclosures | : | |
| Qty. | : | 1 Nos. |



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FULLY AUTOMATIC MOTHER TINCTURE LIQUID FILLING SYSTEM AND ITS LINE MACHINES

1.0 : LIST OF EQUIPMENT'S

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

| S No | Equipment Name | Capacity | Requirement | Vendor Comments |
|------|--|---------------------|---|-----------------|
| 1.1 | Turn table | 30 to 40 per minute | For collection of the cleaned bottle before filling | |
| 1.2 | Automatic filling machine | | Mother tincture filling , should be provided with suction and dispense system | |
| 1.3 | Automatic pick & place inner cap placing machine | | For inner plug placing for bottle after filling. | |
| 1.4 | Automatic screw capping machine | | For capping & screwing for bottle after filling. | |
| 1.5 | Visual inspection machine four person model with | | For visual inspection of the bottle after filling LED 10,000 LUX | |
| 1.6 | Automatic self-adhesive labelling machine with printer | | For labelling of bottle with printing option. Four line printing option | |
| 1.7 | Turn table | | Collection of filled bottles | |
| 1.8 | Packing conveyor 6 feet | | To convey the bottle for the secondary packing activity | |

2.0 : PROCESS REQUIREMENT DETAIL

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

Mother tincture fully automatic filling machine the machine should be suitable to fill 3 type of liquid bottles 15 ml, 30 ml and 100 ml bottles.

Mother tincture will be kept in a storage vessel and storage vessel will be moved near to the filling unit, there should be a system to suck mother tincture from the storage vessel and fill in the bottle

Container type: Glass
Container shape: round



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Plug type: Plastic

Cap type: Plastic

Environment condition of the operating area: 20 to 25 °C

The process should be completely automatic. Depending on the bottle filling size necessary change parts need to be changed and program or recipe need to set in the IPC along with all required setting and machine need to run automatically.

1. Accurate filling of the Mother tincture is required.
2. Labelling machine should have printer which should be able to print the product name at the center of the label, capacity of the bottle at the top right corner, Batch number, Manufacturing date, expiry date, MRP at the left side of the label.
3. Inspection table should have adjustable lux level of the light.
4. Entire system should be servo motor based control system.
5. Entire conveyor from the machine start to end table need to be provided by the vendor.
6. Main control panel need to be kept in the **service area**. Top floor above the area.
7. **Only incoming power will be connected to the panel, all cabling from the main panel to the machine need to be done by the vendor. Required SS conduit need to be used for dropping cables and utility points.**

Note: As the filling system uses the alcohol, the entire system should be FLAMEPROOF.

Vendor Comments:

| | | |
|------------|----------|----------------------------------|
| 3.0 | : | DESIGN REQUIREMENT DETAIL |
|------------|----------|----------------------------------|

Design requirement need to be as per the Annexure I Equipment layout drawing

Vendor Comments:



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| | | |
|------------|----------|-------------------------------|
| 4.0 | : | DETAILS OF THE MACHINE |
|------------|----------|-------------------------------|

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

| S No | Description | Requirement | Vendor Comments |
|---|---|--|-----------------|
| 4.1 Volumetric Liquid Filling Machine : | | | |
| 4.1.1 | Product contact parts MOC | SS316 | |
| 4.1.2 | Other machine parts | SS 304 / entire machine visible part should be SS | |
| 4.1.3 | Change parts | Required change parts for the different filling size need to be provided / servo based automatic filling adjustment need to be provided. | |
| 4.1.4 | Filling Accuracy | ±1% | |
| 4.1.5 | Bottle transporting | Bottle Transporting On SS 304 Slat belt with SS Guides | |
| 4.1.6 | Product transfer system | Mother tincture will be available in the storage container hence, transfer system to the filling machine need to be provided. | |
| 4.2 Automatic plug and capping machine : | | | |
| 4.2.1 | Bulk cap & Plug need to place in hopper and same need to be automatically placed in the bottle. | | |
| 4.2.2 | Change parts | Required change parts for the different size of plug need to be provided. | |
| 4.2.3 | Control | Control should be through servo controls system. | |
| 4.2.4 | MOC | SS 304 | |
| 4.2.5 | Plug Shute | Vibrator Bowl | |



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| S No | Description | Requirement | Vendor Comments |
|--|-------------|---|-----------------|
| 4.3 Visual inspection machine : | | | |
| 4.3.1 | Requirement | Manual Inspection Table (S.S. Top) With Black & White Superior Quality Board equipped with 4 Person sitting arrangement. | |
| 4.3.2 | LUX level | Suitable LED Light with 10000 Lux (Around 90W) – Adjustable LUX | |
| 4.3.3 | MOC | SS 304 | |
| 4.3.4 | Canal | Adjustable Canal for adjusting different size of Bottle. | |
| 4.4 Turntable : | | | |
| 4.4.1 | Quantity | Based on the operation requirement, necessary turntables need to be provided. | |
| 4.4.2 | MOC | SS 304 | |
| 4.4.2 | Speed | Variable speed depending on the machine speed. | |



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| S No | Description | Requirement | Vendor Comments |
|-------------------------------|------------------------|--|-----------------|
| 4.5 Labeling machine : | | | |
| 4.5.1 | Required maximum speed | 30 to 40 containers per minute | |
| 4.5.2 | Roll OD | As per the bottle size | |
| 4.5.3 | Label Material | PAPER / FILM / PP / PE | |
| 4.5.4 | Printer | Should able to data configure and Integrated with the Machine, Printer should be able to print product name in the center, Quantity at the right top corner and Manufacture date, expire date, price at the left corner. | |
| 4.6 Packing conveyor : | | | |
| 4.6.1 | MOC | SS 304 | |
| 4.6.2 | Length | 6 feet | |
| 4.6.3 | Speed | Variable speed with VFD as per machine speed | |
| 4.6.4 | Height adjustable. | | |



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5.0 : OPERATIONAL & CONTROL FEATURES

| S No | Description | Requirement | Vendor Comments |
|-------|--------------------|---|-----------------|
| 5.1 | Controls | <ul style="list-style-type: none">(i) Sensor for No Bottle No Fill System interlock need to be provided.(ii) Bottle Jammed – Machine stop system interlock need to be provided.(iii) All graphical indication for the operation need to be provided in the machine(iv) Overall operation in single control(v) Audio–visual alarm with tower lamp need to be provided for indicating alarms.(vi) MCB's and contactors should be provided for all electrical operation.(vii) Pilot lamp to indicate operating status of the equipment.(viii) Complete internal wiring to ensure power supply at a single point on the panel.(viii) Indication lamp for power supply is required.(ix) Photo sensing device stops machine automatically in the event, if there is no Plastic cap / plug in delivery chute.(x) Capping Torque should be varied to suit different gauges and sizes of Inner caps.(xi) For Cap feeding it should be with vibrator.(xii) Fiber optic sensor for No Bottle and no Inner cap system interlock need to be provided.(xiii) Servo motor controls shall be provided. | |
| 5.1.1 | Accessories | Cooling system for main control panels need to be provided which is proposed to be placed in service area | |

Note: Bottle size, cap and plug size need to take before starting the manufacturing of the machine.



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| S No | Description | Requirement | Vendor Comments |
|------------------------------|----------------------------------|---|-----------------|
| 5.2 Instrumentation : | | | |
| 5.2.1 | HMI (Human machine interface) | 10 inch and above size HMI screen need to be provided for better operation of the Equipment at individual station. | |
| 5.2.2 | Pressure sensor/ pressure switch | Alarm should be generated, when there was compressed air pressure. | |
| 5.2.3 | Control panel | 1 no. for the Equipment | |
| 5.2.5 | Guarantees | <p>The supplier should guarantee the following:</p> <ul style="list-style-type: none">• The filling machine should be guaranteed for trouble free operation for a period of 12 months from the date of successful commissioning of the unit.• The supplier shall rectify, at their own expense, for any defects arising from defective materials or unsatisfactory performance of the Equipment, to the satisfaction of the purchaser. | |

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



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6.0 : SAFETY & ELECTRICAL DETAILS

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

| S No | Description | Requirement |
|--|------------------------------|--|
| 6.1 Controls and safety : | | |
| 6.1.1 | Emergency Switch | Emergency switch should be provided at the all machines control panel for operator ease access. |
| 6.1.2 | Safety Interlocks | Machine to machine interlock should be provided machine should operate at required set speed. |
| | | Proximity sensor or door limit switches need to be provided to all moving parts doors. Machines should stop when the doors are open. |
| 6.1.3 | Guards | Safety tough glass guard need to be provided for all major moving parts. |
| 6.2 Electrical Panel : | | |
| <ul style="list-style-type: none"> Single control panel must be provided for the system. It should contain all necessary switchgears, safety alarms/interlocks, sensors. SS conduit for bringing power supply, compressor line need to be provided by the vendor. | | |
| 6.2.1 | Standard Operating Frequency | 50 Hz |
| 6.2.2 | Standard Operating Voltage | 230 / 415V |
| 6.2.3 | Total power consumption | |
| 6.2.4 | Motor Details with rpm | |
| <p>Any other detail not mentioned above, but required also to be informed & included in the scope of supply by the vendor.</p> <p>Client will provide & connect the required cable in to vendor's panel only.</p> <p>From machine panel to machine and its other accessories and controls, to be supplied and connected by vendor at site.</p> | | |

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



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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.
- ❖ All required spare kit need to be provided along with the supply.

Approved Make :

1. PLC / HMI : Mitsubishi / Siemens / ABB



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7.0 : UTILITY REQUIREMENT

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

| S No | Description | Requirement |
|------|----------------|-------------|
| 7.1 | Water | |
| 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 | : | |

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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) need to be quoted along with the machine.
- 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 POWO)
- Any other ancillary or accessories or optional items not mentioned above but required for successful operation should also to be informed in advance before POWO
- Any other ancillary, or accessories or optional items not mentioned also to be quoted
- Details of Bought out components to be specified.

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, and Maintenance of liquid filling 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 | Vendor Remarks |
|---------|--|--------|----------------|
| 12.1 | Design qualification | 1 sets | |
| 12.2 | SAT/FAT procedures | 1 sets | |
| 12.3 | Operation manual | 1 sets | |
| 12.4 | Maintenance manual | 1 sets | |
| 12.5 | Spare parts manual | 1 sets | |
| 12.6 | All engineering drawings (GA drawings) | 1 sets | |
| 12.7 | List of instruments | 1 sets | |
| 12.8 | Calibration certificates | 1 sets | |
| 12.9 | Warranty / Guarantee | 1 sets | |
| 12.10 | List of all components with referencing | 1 sets | |
| 12.11 | Civil foundation drawings- If required | 1 sets | |
| 12.12 | Pre installation requirements | 1 sets | |
| 12.13 | Installation requirements | 1 sets | |
| 12.14 | Installation manual | 1 sets | |
| 12.15 | Technical literature, data sheets and equipment catalogues | 1 sets | |
| 12.16 | DQ, IQ, OQ, PQ documents. | 1 sets | |
| 12.17 | Calibration Report of all sensors, controllers, PLC, transmitters, indicators etc. | 1 sets | |
| 12.18 | Test Certificates of all material of construction | 1 sets | |
| 12.19 | Test Certificates of the software used in machine control / monitoring system. | 1 sets | |



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13.0 : TERMS AND CONDITIONS

| S No | Description | Requirement | Vendor Comments |
|------|---|--|-----------------|
| 1. | Delivery Period | Required details from vendor | |
| 2. | Payment Terms | As mentioned in tender. | |
| 3. | Packaging and Forwarding to the site | By Vendor | |
| 4. | Un-loading at site and positing the machine at the required area where the machine need to be installed (second floor mother tincture filling area & control panel at service area) | By vendor /Supplier (cost & man power arrangement need to be done by the vendor) During unloading and positioning a representative from Vendor need to be at the site. under the client's supervision | |
| 5. | Excise / Taxes /GST | Required details from vendor | |
| 6. | Material for Trial arrangement | (To be arranged by client) | |
| 7. | Installation and Commissioning, support need to be provided till the 3 trail with product at the PQ stage. | By Vendor | |
| 8. | Response to URS and submission of quotation | Within 2 week | |
| 9. | Submission of detail functional design specification and schematic drawings | Within a week after order finalization | |
| 10. | Submission & Execution of FAT / SAT specification | 2 weeks before FAT document need to be provided Complete operation of the machine need to be made trail at the vendor factory after satisfactory FAT, client will provide the clearance for dispatch. | |



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| S No | Description | Requirement | Vendor Comments |
|------|---|--|-----------------|
| 11. | Submission and Execution of IQ AND OQ documents | With equipment need to be delivered, Engineer need to be assigned for performing the IQ, OQ test and PQ. Engineer should be assigned to coordinate with the client and perform the PQ test of the machine. All Supporting documents for the IQ and OQ need to be provided by the vendor. | |

The supplier should notify customer 2 weeks in advance of the beginning of FAT, customer visit the factory for FAT test, based clearance machine can be dispatched.

Any other terms, not mentioned above, also to be specified.



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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.