

Minutes of Meeting for

GLOBAL TENDER FOR SUPPLY AND INSTALLATION OF FILLING MACHINE FOR LANKA IOC
PLC, TRINCOMALEE OIL TERMINAL CHINABAY, TRINCOMALEE

THOSE PRESENT:

A. LIOC

1. Mr. Thangallurai Yogeswaran (Asst. Manager Engg.)
2. Mr. S. Nishanth Junior Executive Lube Operations.

B. Parties:

1. M/s MSN Engineering Pvt (Ltd)
2. M/s Techmast Automation Pvt. Ltd.

POINTS CLARIFIED:

1. The following points stands revised as per **Annex A** attached.

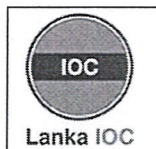
Note:

Kindly submit signed copy of the meeting minutes along with technical bid for stating your acceptance to amendments mentioned in Annex A.


22.08.2023

(Buwaneka Abeyesundera)
Jnr. Exec. (E)


SVP (ENGG)



TECHNICAL SPECIFICATIONS – Packed Filling line (0.5-6 ltrs)

DEPT.	LOCATION	DOC NO	DATE
LUBES	TRINCOMALEE OIL TERMINAL	CB/LIOC/LBP	01.08.2022

Technical Specifications

The baseline requirements for the new filling line are described in this document. The purpose of this list of requirements is to help find relevant solutions and bids; it is not meant to be an exhaustive list. **LIOC holds the right to change its specifications at any moment.**

Proposed working principal and operation details

The three conveyor sections of the proposed system are the incoming filling conveyor (CONVO-IN), the outgoing checkweigher (CONVO-CHCK), and the merging conveyor for the capping section (CONVO-MERG)

The objective of the incoming conveyor is to use empty bottles and to construct an array. The filling operator keeps empty bottles here or merges them into the end of the bottle sticker pasting machine. These stored bottles will be arranged in sets of six and kept close to one another so that they will touch as they enter the filling nozzle area. This is done by pneumatically actuated pushers. Sensor points are attached to the relevant regions to regulate the bottle grouping process and monitor production data.

The filling machine's body should be completely encased by transparent doors with safety interlocks so that the inside operation may be observed. The filling head array will descend after the group of six bottles has arrived at its allotted filling nozzle so that the filling nozzle may enter the bottle and the filling activity can begin smoothly without any oil dripping over the bottle neck. When each bottle has the desired weight, the filling process stops, the filling head array rises, and the bottles are indexed through the checkweigher to keep track of their individual weights. Filled bottles will be sent through an outgoing, curved merging conveyor to an existing capping station.

High Accuracy weighing system are utilized in the filling process to accurately measure the weight of the liquid dispensed from each filling nozzle. With its ability to be adjusted both horizontally and vertically, the filling head can accommodate bottles ranging in size from 500ml to 6L. There is a separate on/off valve for each filling head, both mechanical and electrical.

Six moveable and adjustable filling nozzle components make up the filling head array. Six different filling heads receive oil from the Machine Overhead Tank, which is subsequently dispersed to them. For this filling machine, the single pipe is regarded as the primary oil input line. An electrically operated ball valve, manual valves, a bypass line, a pressure relief valve for safety reasons, and a pressure control valve specifically make up the main oil input line. The entire system has a common oil drain out, and all nozzle heads have the option of an oil flush when necessary.

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General

1. New Filling Line (0.5 L – 06 L)
 - a. Fully Automated enclosed Filling system (inline automatic six nozzle)
 - b. Individually controllable filling nozzles
 - c. One Touch oil capacity adjustment (HMI facility with option - *momentous)
 - d. Weight-based filling operation (High accuracy level)
 - e. Incorporates weight adjustment based on other fluctuations for enhanced precision
 - f. Zero oil spillage
 - g. Flushing facility for all nozzles (individually controllable)
 - h. Low product change over time
 - i. User friendly operating mechanism
 - j. Refined OEE

2. Compatibility: All the line machines should have compatibility in speed. The downstream line after the machine should take care of speed variation.

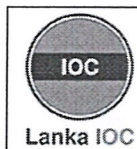
3. Automatic filling machine must ensure Drip-free operation.

4. Automatic filling machine must stop in case there are not containers on the conveyor

5. PLC/CONTROLS: A built-in control panel for the filling machine should have a PLC, an AC frequency drive, and other electrical and electronic components put in it. A control panel should have IP 55 protection and be weatherproof, shockproof, dustproof, etc. The front control panel should be easily reachable so that it may be used in an emergency. To prevent malfunctions and accidents, the machine should be equipped with all safety devices, interlocks, operators' safety devices, and automatic fault display units controlled by PLC.

6. All machine components should be built with a very sturdy and robust design. Only pre-buffed stainless steel may be used for all major components, contact parts, claddings, coverings, guards, and other items. Mild steel framework must be painted or powder coated in accordance with the manufacturer's instructions.

7. Conveyor facility - Along with drives, motors, control panels, and all hardware, the vendor is responsible for designing the conveyors needed at the machine's inlet, output, and intermediate points to ensure a smooth flow of containers and prevent frequent "no bottle" situations. The site conditions will determine the conveyor's length.



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8. Space - After the order is finalized, the vendor must create a complete GA drawing of the machine, including a plan and elevation and any pertinent details required by the site. It will be the vendor's responsibility to match the machines he offers with the other machines and space that are already on the property.

9. Product characteristics& other details:

Product to be handled : Lubricants

Product quality : Non-Foaming, Non- Corrosive

Density (g/cm³) : 0.80 – 0.99

Filling Temperature : 10-45 Degree Centigrade

Viscosity (cSt) : 20-600 at 40 degree C

Containers to be filled : 0.5 ltr to 6 ltr. HDPE containers

Air Supply Available : 4 to 7 bar

Ambient temperature : 10 to 45 degree C, Relative humidity: 80 to 99%

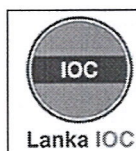
Operating Power supply : 3Ph, 415VAC, 50Hz

Performance Requirement :24 containers per minute (for 1ltr container)

Filling accuracy : +/- 0.30%

WARANTY / WEARABLE SPARES / AMC / TRAINING:

- All the equipments and their components shall be fully guaranteed against any manufacturing defects / poor workmanship / inferior design or quality etc. for warranty period. During this period, vendor will arrange to repair / replace any defective parts free of cost or replace complete set, if required. Party to give warranty for 18 months from date of supply or 12 months from date of commissioning whichever is earlier.
- In the presence of the LIOC engineer in charge, the vendor must test the machine and demonstrate its performance against the specified specifications. For the machine to be operated and maintained properly on site, the vendor must carry out the testing and teach LIOC's operators and fitters. If necessary, the vendor must send out an engineer technician to open the equipment and give first training for at least 10 working days following successful commissioning. All of these components must be included in the installation and commissioning rates that are quoted. No account will receive an additional payment.
- **Vendor shall provide free AMC services during guarantee period**



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- **TOOL BOX:** Party to give warranty for 18 months from date of supply or 12 months from date of commissioning whichever is earlier. For delay in commissioning due to party's fault, the warranty date will be accordingly adjusted shall give one set of tool box covering complete components with each machine for routine service / maintenance and to be delivered along with the machine. No separate payment will be made for tool box.
- **DOCUMENTATION:** Party shall submit the 3 sets of complete documentation for each machine components including preventive maintenance schedule, operation manual, system flow charts, drawings, PLC software details and other relevant details required for the unit.
- **SITE VISIT:** It is recommended to conduct a preliminary Site visit for understanding the site-specific constraints & space availabilities. In case physical site visit is not feasible, concerned vendor/party must request for a virtual video tour of the space where the new installation is planned to be incorporated.
- **PICTORIAL ILLUSTRATION OF FILLING LINE HEAD:** A Conceptual Sketch of Filling Head is appended below.

