

Annex No. 4

**Technical Specification for the Subject of Performance
for the
“Filling Line” Contract**

The contracting entity requires a fully automatic filling line (hereinafter referred to as “the Line”), which must consist of the following parts:

- 1 Rotary packing machine with scale (hereinafter referred to as “the Packing Machine”)
- 2 Salad filling machine
- 3 Liquid mix filling machine

Device requirements:

Products: To 2) Salad filling machine – various vegetable or legume salads
To 3) Liquid mix filling machine – vinegar pickle and oil, liquid flavouring mixes

Filling temperatures:

To 2) Salad filling machine – cold fill (temperature ranging from 0 to 10°C)
To 3) Liquid mix filling machine – cold or hot fill (maximum temperature 85 °C)

Packaging requirements:

Cup: Round plastic cup, diameter 116 mm, minimum height range 35–70 mm
Lid: Printed plastic sealing film from the reel with snap-on lid

Size requirements:

Maximum sizes in millimetres:

Packing Machine – width 2200 x length 2700 x height 2400 – in transportation state.

Salad filling machine, liquid mix filling machine – sizes for transport identical to the Packing Machine

Maximum sizes of the Line set in operating state – width 3400 x length 4500 x height 2400

Line production speed:

Minimum of 2800 cups/hour (= 48 cups/min.), with the maximum achievable remaining oxygen value in the cup of 0.8% for products listed in this specification.



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Line design:

A Line consisting of filling machines with a rotary packing machine with indexing operation, vacuum function and protective gas injection in the cups, double-row design.

On the Line, solid vegetable salad must be filled in the cups, the dose is weighed, dressing or sauce added, the cup is sealed by a snap-on lid with the option of inert atmosphere filled in vacuum, covered with a cover lid. Completed cups will be coming out on the output conveyor.

The Line must allow timing of the indexing movement and the respective stations for the individual filled products and packaging materials and their saving in the product menu. For this purpose, the Line must have sufficient capacity for saving at least 99 product menu items. The software must be designed to allow the operators themselves to create new product menu items by copying the existing items.

The Line structure and performance must meet the requirements of wet operation. The Line must be equipped with central deletion. The parts of the Line that are in contact with the product, the working area and the Line facing are made of stainless steel or another food-approved material, as specified in Device Requirements – Products.

The working area is surrounded by interlocked guard doors on all sides, allowing visual checks during all operations. The technical equipment of the Line must be in accordance with CE regulations, including a declaration of conformity.

The Line must be controlled by a programmable processor with a visualisation function with a text report on activities and states, including error messages on a display with a minimum diagonal size of 300 mm/12,1", with aspect ratio of 4:3.

The control system must allow for 3 access levels as minimum based on the person's qualifications and the type of the controlling steps taken.

The Line must enable remote access for service. Remote access must allow remote service for the supplier to analyse errors and solve problems online. The interface must allow access to the whole control programme including the control panel and transfer of updates or changes.



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1 Packing Machine

Design requirements:

The Packing Machine must be equipped with the following stations and functions:

- **Rotary table with cup rings:**
 - Made of stainless steel AISI 304
 - Powered by an independent servomotor
- **Cup magazine:**
 - Cups will be inserted to the carousel automatically from a manually refilled magazine. The magazine and separator must be designed in a way allowing their fast exchange if the packaging formats and sizes change.
- **Contactless monitoring of cup presence status:**
 - If there is no cup in the carousel in front of the filling position, the Packing Machine must stop automatically.
- **Open space for vegetable salad feeder attachment:**
 - Or a piston filler for pumpable delicatessen salads or pastes (option)
- **Reducing the distance between the filling mouth and the cup:**
 - During filling, the distance must be reduced and increased again/in order to ensure due product distribution in the cup. The movement must be smooth with the possibility to regulate the filling progress, at least in terms of filling speed and product amount regulation with the possibility to set both parameters and save the settings for the types of filled products.
- **Correction of specific weight of the filled material:**
 - After filling, each cup must be weighed again on the operation scale, which is a part of the Packing Machine, to establish weight differences during volume filling. The established weights will be saved and the differences corrected by an automatic adjustment of the product dose size during subsequent pouring from the liquid mix filling machine. In the event of product filling with excessive minus or plus differences, the liquid mix filler must be stopped in order for the incorrectly filled products to be identified. The difference limit must be adjustable by the users.
 - The weighing must also allow the setting of tendentious control of the vegetable salad Packing Machine to increase accuracy of the filled doses.
- **Open space for decorating station installation:**
 - The Packing Machine must allow the connection and installation of the decoration material dosing device, the decorating station for dry, free products (vibration filler) or products with vegetable cubes (chamber filler). These devices are not a part of the requested supply. The Packing Machine control system must be ready for connection or extension for the connection of such a device not included in the supply.



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- **Sealing and cutting station with a vacuum chamber:**
 - There must be a possibility to suck the air out from the filled cups, followed by inert gas injection. The residual oxygen value in the inert gas must not exceed 0.8%.
 - The filled cups must be sealed by a tearable printed foil lid, the print placement accuracy in relation to the cup being ± 0.5 mm. The lids will be cut off the foil reel with print marks.
- **Snap-on lid station:**
 - Cover lids will be placed and snapped automatically on the sealed cups from manually refilled magazines. If a lid is missing at the feeder, the Packing Machine will stop. The lid station must allow fast exchange for a potential format change.
- **Output conveyor:**
 - The minimum output conveyor length is 1800 mm.
 - The finished packaging will be moved to the output conveyor with a continuously adjustable speed with a clocking option to ensure minimum gaps between the cups. The cups will be moved in a row, one after another, to a follow-up device, which is not a part of the supply.
- **Cup height setting:**
 - Automatic selection of cup type on the control panel for cup height setting.
 - Values for all cups used must be saved in the Packing Machine controls.
- **Quick-change system for rotary table:**
 - Rotary table with quick-change cup slats. Cup slats can be exchanged manually without any tools.
- **Drainage channels around the Packing Machine table:**
 - To retain rinse water, the Packing Machine case must be equipped with drainage channels leading into corner post drains.
- **Protective cover:**
 - The Packing Machine must be completely covered in conformity with CE regulations. All packing materials must allow cup magazine and cover lid magazine refill without the Packing Machine stopping.
- **Packing material loading:**
 - The cup and cover lid stations are positioned in such a way that the refill of the cup magazine and cover lid magazine is possible from one loading position.
- **Control box in hygienic design:**
 - Suitable for wet rooms – at least IP65.

All Packing Machine mechanics must be in-built in a case placed under the carousel plate to ensure good protection and easy access. The case must also be sealed from the bottom to prevent contamination or water coming in, rebounding off the floor.



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2 Salad Filling Machine

The salad filling machine must be connected to the Packing Machine during production, allowing disconnection, equipped with wheels on pivots for easier manipulation.

Design requirements:

- **Main portable filling machine frame:**
 - Made of stainless steel AISI 304, suitable for wet environments.
- **Double-row filling station:**
 - **Minimum dosage range of 100–530 ml,**
 - With motorized volume setting.
- **Product feeder:**
 - Minimum effective volume of 230 l,
 - Product feeder prepared for top filling from transport containers (in accordance with DIN 9797) using a tilter.
- **Cleaning:**
 - Manual.
- **Controls:**
 - Control box with a touch panel and separate control, with a colour touch panel.

Weight accuracy of the filler with standardized specific salad weight: max. +/- 2%.
Filling must be careful, the vegetable and legume bits in the cup must not be damaged, maintaining their shape and consistency.

3 Liquid Mix Filling Machine

Design requirements:

- **Sauce filler:**
 - **Minimum dosage range of 30–200 ml,**
 - Piston dosage pump with an adjustable, automatically sealable non-drip mouth with a nozzle for salad dressing or pickle filling with a conic funnel
 - Minimum effective funnel volume of 40 l,
 - Parts coming in contact with the product must be made of stainless steel – AISI 304 or AISI 316, possibly AISI 316L.
 - Each dosing piston must be powered by an independent servomotor:
 - The piston movement must allow optimization and saving for each product and line so that the pickle filling spot can be adjusted based on the result of the previous weighing.
 - The required dose volume must be adjustable on the Filling Machine control panel, with the possibility to save the required filling volume.
 - The filler must be easy to disassemble and assemble for cleaning and sanitation.
 - Maximum final packaging deviations (vegetable salad + pickle): +/- 0.5%.



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- **Pickle filler level check:**

- The filler tank level probe must monitor the filling level and control the filling pump operation (start/stop). 3-level check:
 - maximum/minimum/empty tank

In Hodonín, November 12th, 2018

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