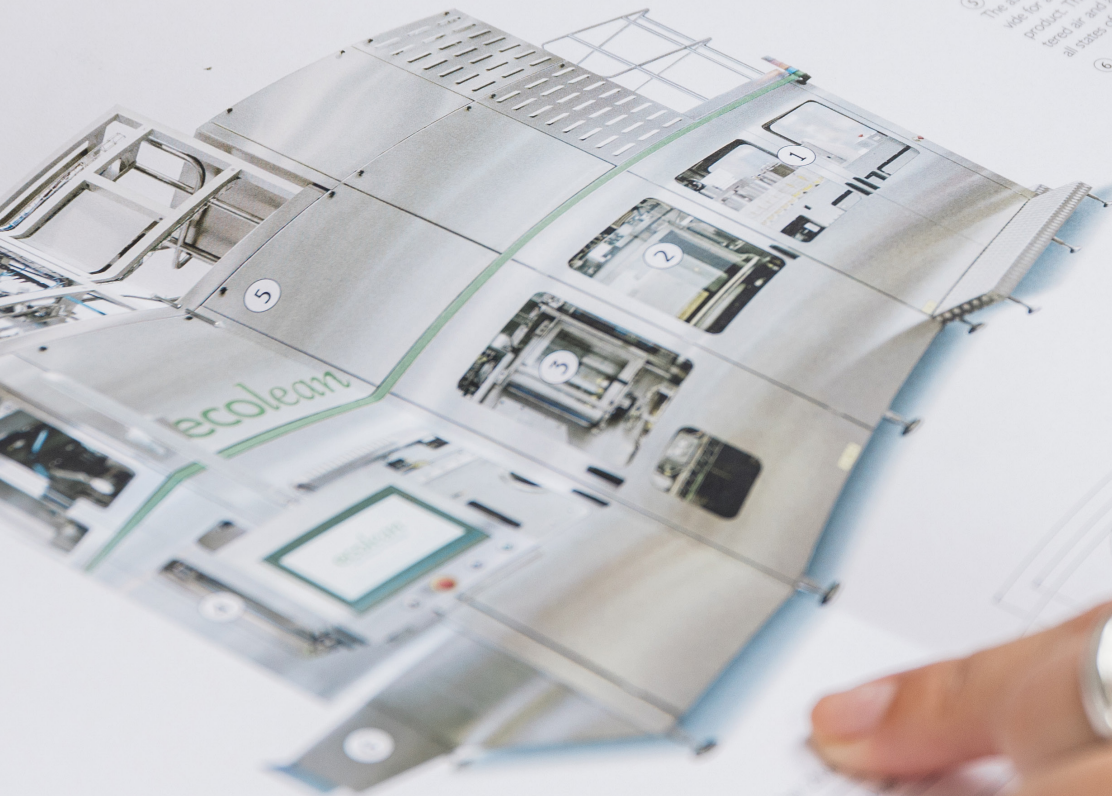


ECOLEAN FILLING LINES



- ① TDR CUT OFF
In the top of the filling zone, the filling nozzle is cut off to prevent the product from overflowing.
- ② FILLING ZONE
In the filling zone, the product is filled into the container. The filling nozzle is controlled by the filling system.
- ③ WASTE CLUSTER & AIR HANDLING
The waste cluster and air handling system is used for a clean and efficient filling of the container.
- ④ WASTE CLUSTER & AIR HANDLING
The waste cluster and air handling system is used for a clean and efficient filling of the container.
- ⑤ WASTE CLUSTER & AIR HANDLING
The waste cluster and air handling system is used for a clean and efficient filling of the container.
- ⑥ OUTFEED
Filled packages are moved to the outfeed zone.

PACKAGE SIZES



ECOLEAN FILLING LINES OVERVIEW

The heart of the Ecolean packaging system is the filling line, designed for efficient operations. When installing, setting up, operating and maintaining the Ecolean filling line, simplicity rules. Still, we offer a solid training program for all your operation and maintenance personnel. There are several types of Ecolean filling machines – filling portion-sized or family-sized packages for chilled or ambient distribution – all with a small footprint and efficient operations.

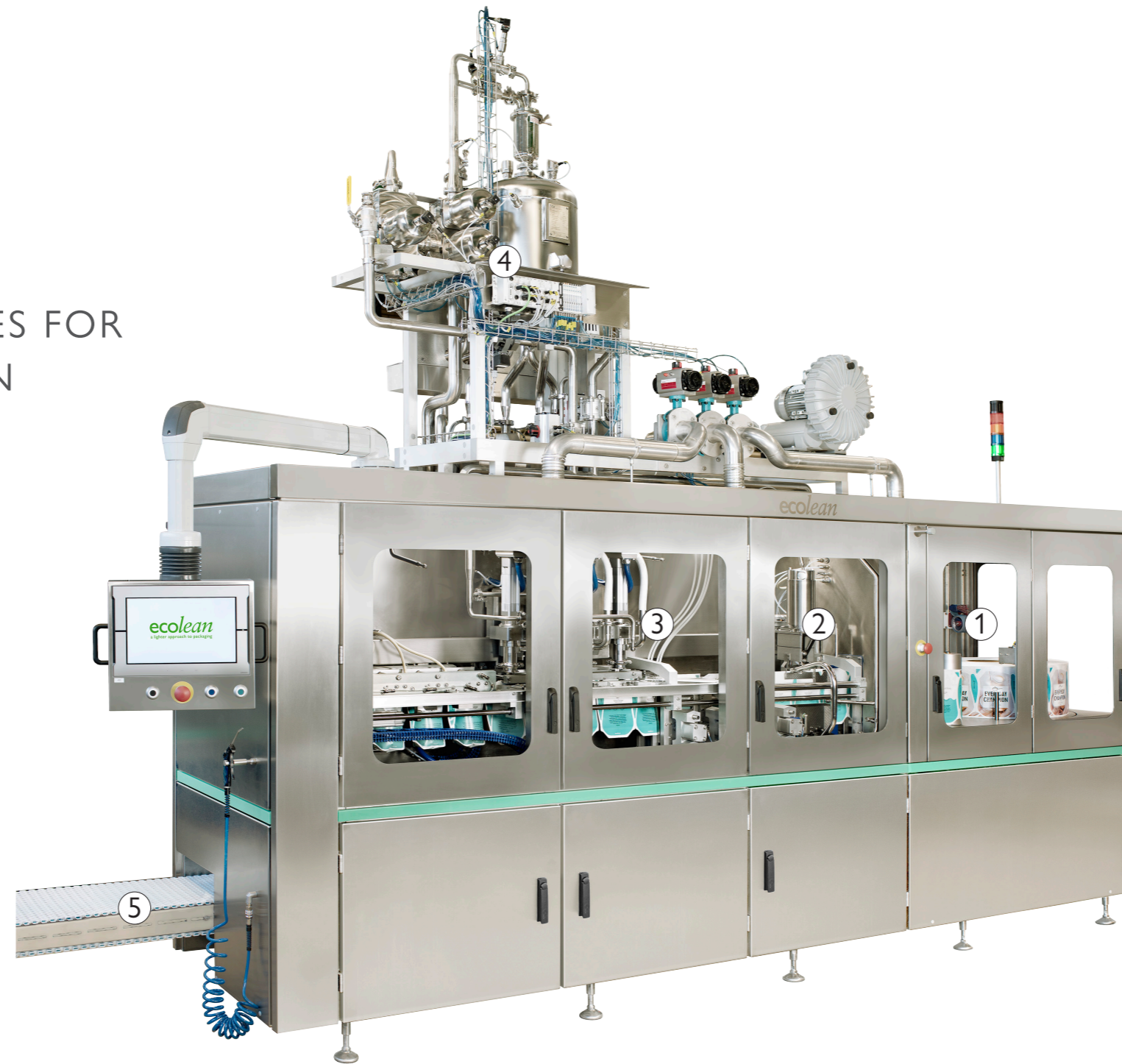
FILLING MACHINE OPTIONS

FILLING MACHINE	CAPACITY / HOUR	PACKAGE TYPE	DISTRIBUTION
▶ EL1+	Up to 7,000 packages	ECOLEAN® AIR Family-sized	Chilled distribution
▶ EL2+	Up to 12,000 packages	ECOLEAN® AIR Portion-sized	Chilled distribution
▶ EL3+	Up to 7,500 packages	ECOLEAN® AIR ASEPTIC Family-sized	Ambient distribution
▶ EL4+	Up to 12,000 packages	ECOLEAN® AIR ASEPTIC Portion-sized	Ambient distribution
▶ EL6	Up to 18,000 packages	ECOLEAN® AIR ASEPTIC Portion-sized	Ambient distribution

The filling machines portrayed throughout this brochure may be equipped with additional equipment. Capacity dependant on application presets and filling line configuration.

EL1+

FAMILY-SIZED PACKAGES FOR CHILLED DISTRIBUTION



1. UNWINDING

Reels of hermetically sealed packaging material are placed and prepared for splice in the unwinding unit. Easy and quick shifts between packaging sizes.

2. TOP CUT, SEPARATOR

In the top cut unit, the top strip of the packages is cut away to enable opening. A separator unit separates the packages.

3. FILLING ZONE

In the filling zone, packages are filled with liquid food product and sealed, in an (optional) HEPA filtered environment. The handles are inflated with air and sealed.

4. VALVE CLUSTER

Aseptic membrane valves with an option to add steam for sterilisation of filling system.

5. OUTFEED

Filled packages exit through the outfeed unit and are placed onto a conveyor belt.

The Ecolean packages are pre-converted and hermetically sealed at the Ecolean manufacturing plant. The ready-to-fill packages are distributed on reels.

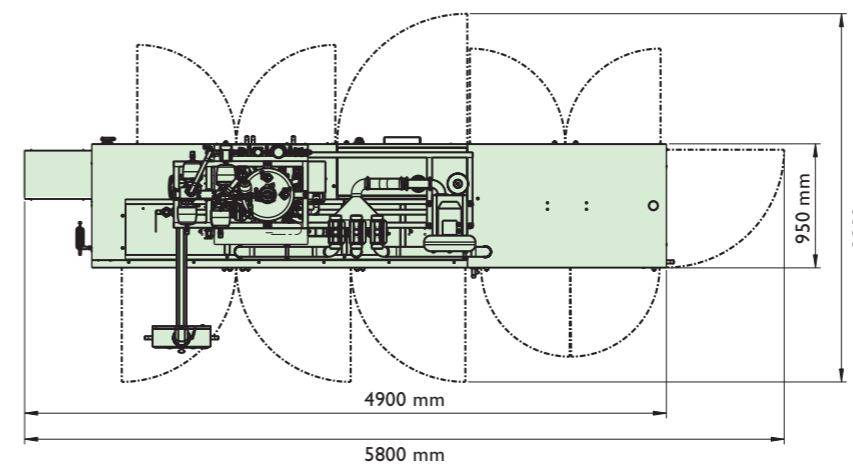


Designed for liquid food and beverage products for chilled distribution, the EL1+ filling machine opens, fills and seals Ecolean's ready-to-fill, hermetically sealed packages. The EL1+ features a filling zone with four fillers with a capacity of up to 7,000 packages per hour. The design is compact and it is easy to switch between the different packaging sizes. The EL1+ increases product safety and quality with a fully-automated cleaning system of the filling zone.

OPTION: ECOLEAN® SNAPQUICK™ APPLICATOR ERA1+

The Ecolean patented reclosing device SnapQuick™ is made of PET and weighs 0,38 g. The applicator connects to the EL1+ filling machine as an integrated part and applies the SnapQuick™ to the package prior to filling in a capacity of up to 6,000 packages per hour. The module is equipped with a reel holder for the SnapQuick™ reel and an unwinding station.

Package sizes	500ml, 1000ml
Capacity	Up to 7,000 packages/hour
Height	3.7 m



PACKAGE SIZES

Ecolean® Air



500ml



1000ml

EL2+

PORTION-SIZED PACKAGES FOR CHILLED DISTRIBUTION



1. UNWINDING

Reels of hermetically sealed packaging material are placed and prepared for splice in the unwinding unit. Easy and quick shifts between packaging sizes.

2. TOP CUT, SEPARATOR

In the top cut unit, the top strip of the packages is cut away to enable opening. A separator unit separates the packages.

3. FILLING ZONE

In the filling zone, packages are filled with liquid food product and sealed, in an (optional) HEPA filtered environment. The handles are inflated with air and sealed.

4. VALVE CLUSTER

Aseptic membrane valves with an option to add steam for sterilisation of filling system.

5. OUTFEED

Filled packages exit through the outfeed unit and are placed onto a conveyor belt.

The Ecolean packages are pre-converted and hermetically sealed at the Ecolean manufacturing plant. The ready-to-fill packages are distributed on reels.

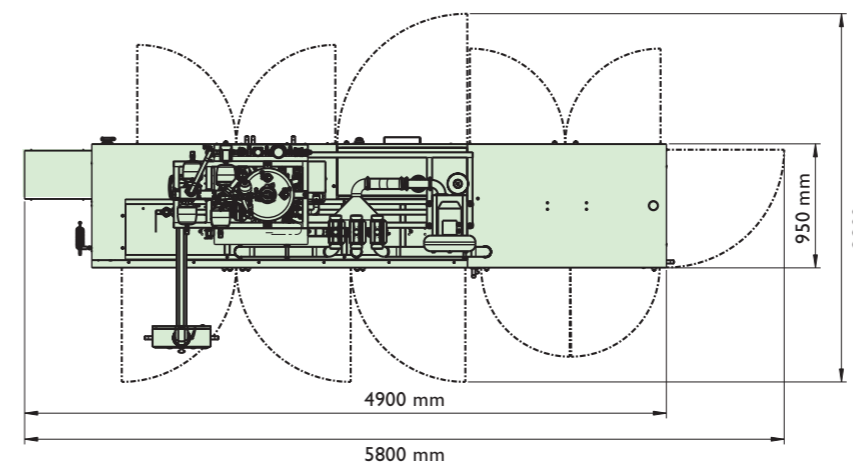


Designed for liquid food and beverage products for chilled distribution, the EL2+ filling machine opens, fills and seals Ecolean's ready-to-fill, hermetically sealed packages. The EL2+ features five fillers with a capacity of up to 12,000 packages per hour. The design is compact and it is easy to switch between the different packaging sizes.

OPTION: ECOLEAN® STRAW APPLICATOR ES4

Attach straws to Ecolean® Air portion-sized packages. Packages are fed horizontally through the standalone applicator. Dual applicator heads apply straws from a reel with hot-melt glue to the back panel of the package. No machine stops needed when changing straw reels or performing maintenance.

Package sizes	200ml, 250ml
Capacity	Up to 12,000 packages/hour
Height	3.7 m



PACKAGE SIZES

Ecolean® Air



200ml



250ml

EL3+

FAMILY-SIZED PACKAGES FOR AMBIENT DISTRIBUTION



1. UNWINDING

Reels of pre-sterilised and hermetically sealed packaging material are placed and prepared for splice in the unwinding unit. This unit contains an automatic splicing device and a buffer magazine, which enables the filler to continue full operation during reel change. Easy and quick shifts between packaging sizes.

2. PACKAGE STERILISATION

Re-sterilising the outside surface of the packages with 1% peroxide spray and UV light.

3. TOP CUT, SEPARATOR

In the top cut unit the top strip of the packages is cut away, to enable opening. The separator unit separates the packages.

4. FILLING ZONE

In the filling zone, packages are filled with liquid food product and sealed. The handles are inflated with air and sealed.

5. VALVE CLUSTER & AIR HANDLING

The aseptic valve cluster and filling system provide for a safe and efficient filling of the aseptic product. The air handling unit delivers HEPA filtered air and assures a controlled air flow during all states of operation of the filling machine.

6. OUTFEED

Filled packages exit through the outfeed unit and are placed onto a conveyor belt.

The Ecolean packages are pre-converted and hermetically sealed at the Ecolean manufacturing plant. All aseptic packages are pre-sterilised using electron beam treatment and the ready-to-fill packages are distributed on reels.



Designed for filling high- and low-acid liquid food and beverage products for ambient distribution in Ecolean® Air Aseptic family-sized packages. The easy-to-operate and compact EL3+ machine includes a package reel unwinder with automatic ultrasonic splice and reel change without machine stop. The servo driven fill-and-seal technology maintain simple operations yet with a high production level. The fully automated cleaning and sterilisation system ensures the same level of hygiene at the start of each production cycle.

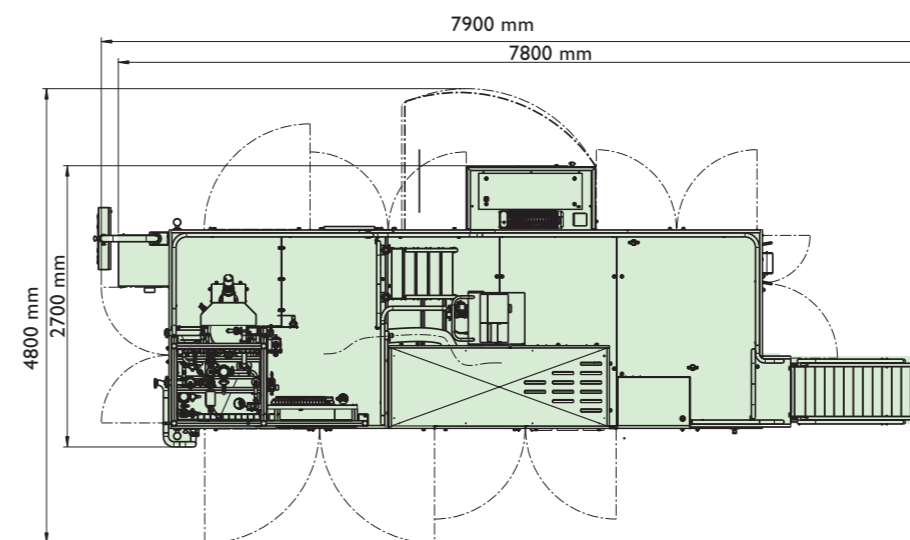
OPTION: ECOLEAN® SNAPQUICK™ APPLICATOR ERA3

The Ecolean patented reclosing device SnapQuick™ is made of PET and weighs 0,38 g. The applicator connects to the EL3+ filling machine as an integrated part and applies the SnapQuick™ to the package prior to filling. The module is equipped with a reel holder for the SnapQuick™ reel and an unwinding station.

OPTION: ECOLEAN® PACKER

The packer automatically places packages in layers of three units into erected cardboard cases or plastic crates.

Package sizes	500ml, 750ml, 1000ml
Capacity	Up to 7,500 packages/hour
Height	4.1 m



PACKAGE SIZES

Ecolean® Air Aseptic



500ml

750ml

1000ml

EL4+

PORTION-SIZED PACKAGES FOR AMBIENT DISTRIBUTION



1. UNWINDING
Reels of pre-sterilised and hermetically sealed packaging material are placed and prepared for splice in the unwinding unit. Easy and quick shifts between packaging sizes.
2. PACKAGE STERILISATION
Re-sterilising the outside surface of the packages with 1% peroxide spray and UV light.
3. TOP CUT, SEPARATOR
In the top cut unit the top strip of the packages is cut away. The separator unit separates the packages.
4. FILLING ZONE
In the filling zone, packages are opened, filled with product and sealed. The handles are inflated with air and sealed.
5. VALVE CLUSTER & AIR HANDLING
The aseptic valve cluster and filling system provide for a safe and efficient filling of the aseptic product. The air handling unit delivers HEPA filtered air and assures a controlled air flow during all states of operation of the filling machine.
6. OUTFEED
Filled packages exit through the outfeed unit and are placed onto a conveyor belt.

The Ecolean packages are pre-converted and hermetically sealed at the Ecolean manufacturing plant. All aseptic packages are pre-sterilised using electron beam treatment and the ready-to-fill packages are distributed on reels.



Designed for high- and low-acid liquid food and beverage products for ambient distribution, the EL4+ filling machine opens, fills and seals Ecolean's ready-to-fill, hermetically sealed packages. The easy-to-operate and compact EL4+ machine includes a package reel unwinder with automatic, ultrasonic splicing and reel change without machine stop, four filling stations, a fully automated cleaning and sterilisation system ensuring the same level of hygiene at the start of each production cycle.

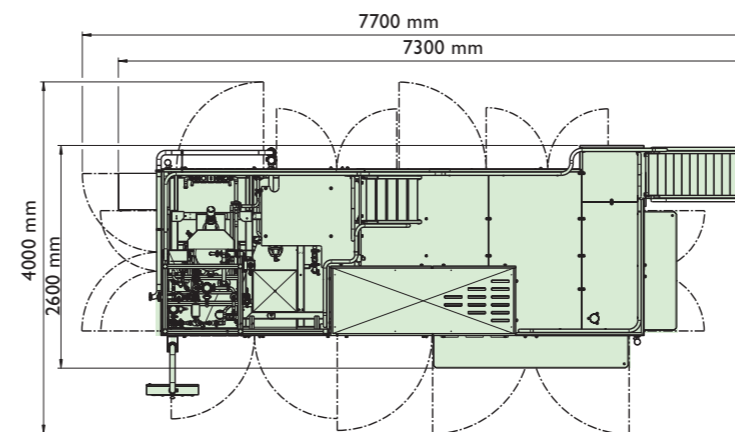
OPTION: NITROGEN (N₂)

Replacing air with nitrogen in the head space of the package, to protect oxygen sensitive products.

OPTION: ECOLEAN® STRAW APPLICATOR ES4

Attach straws to Ecolean® Air Aseptic portion-sized packages. Packages are fed horizontally through the standalone applicator. Dual applicator heads apply straws from a reel with hot-melt glue to the back panel of the package. No machine stops needed when changing straw reels or performing maintenance.

Package sizes	125ml, 200ml, 250ml
Capacity	Up to 12,000 packages/hour
Height	4.3 m



PACKAGE SIZES

Ecolean® Air Aseptic



125ml

200ml

250ml

EL6

PORTION-SIZED PACKAGES FOR AMBIENT DISTRIBUTION



1. UNWINDING
Reels of pre-sterilised and hermetically sealed packaging material are placed and prepared for splice in the unwinding unit. Easy and quick shifts between packaging sizes.
2. PACKAGE STERILISATION
Re-sterilising the outside surface of the packages with 1% peroxide spray and UV light.
3. TOP CUT, SEPARATOR
In the top cut unit the top strip of the packages is cut away. The separator unit separates the packages.
4. FILLING ZONE
In the filling zone, packages are opened, filled with product and sealed. The handles are inflated with air and sealed.
5. VALVE CLUSTER & AIR HANDLING
The aseptic valve cluster and filling system provide for a safe and efficient filling of the aseptic product. The air handling unit delivers HEPA filtered air and assures a controlled air flow during all states of operation of the filling machine.
6. OUTFEED
Filled packages exit through the outfeed unit and are placed onto a conveyor belt.

The Ecolean packages are pre-converted and hermetically sealed at the Ecolean manufacturing plant. All aseptic packages are pre-sterilised using electron beam treatment and the ready-to-fill packages are distributed on reels.



Designed for high- and low-acid liquid food and beverage products for ambient distribution, the EL6 filling machine opens, fills and seals Ecolean's ready-to-fill, hermetically sealed packages. Featuring six fillers the EL6 is Ecolean's fastest filling machine, filling 18,000 portion-sized packages per hour. The EL6 uses up to 30% less air, water and energy during both production and cleaning, compared to EL4+. To complete the EL6 filling line, optional equipment include a CIP-unit, straw applicator, package buffer unit and package conditioning unit as well as easy configuration to secondary packaging solutions.

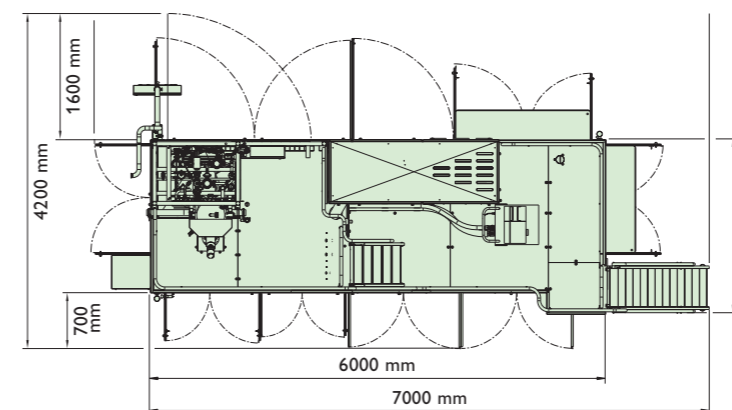
OPTION: NITROGEN (N₂)

Replacing air with nitrogen in the head space of the package, to protect oxygen sensitive products.

OPTION: ECOLEAN® STRAW APPLICATOR ES4

Attach straws to Ecolean® Air Aseptic portion-sized packages. Packages are fed horizontally through the standalone applicator. Dual applicator heads apply straws from a reel with hot-melt glue to the back panel of the package. No machine stops needed when changing straw reels or performing maintenance.

Package sizes	125ml, 200ml, 250ml
Capacity	Up to 18,000 packages/hour
Height	4.3 m



PACKAGE SIZES

Ecolean® Air Aseptic



125ml

200ml

250ml

AUXILIARY EQUIPMENT



ECOLEAN® STRAW APPLICATOR (ES4)

- Provides filled portion-sized packages with straws, using hot-melt glue to the package back.
- Dual applicator heads reduce the risk of line stop and enable maintenance of one applicator head at a time during full production.
- Capacity: 18,000 packages per hour
- Exterior dimensions: H 2.5m, W 3.7m, L 1.4m.

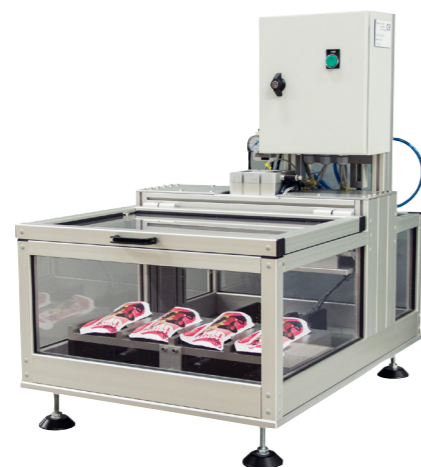
ECOLEAN® PACKAGE BUFFER UNIT (EMA4)

- Placed between filling machine and downstream equipment to eliminate unnecessary waste caused by a quick stop.
- Exterior dimensions: H 1.2m, L 1.2m, W 2.4m.



ECOLEAN® CIP UNIT (ECIP1)

- Automatic CIP unit designed for Ecolan filling machines.
- Maintains cleaning time, detergent temperature, flow and concentration.
- User-friendly and cost-effective.
- Exterior dimensions: H 1.8m, W 0.8m, L 1.2m.



ECOLEAN® PACKAGE TESTING UNIT (EPTU3)

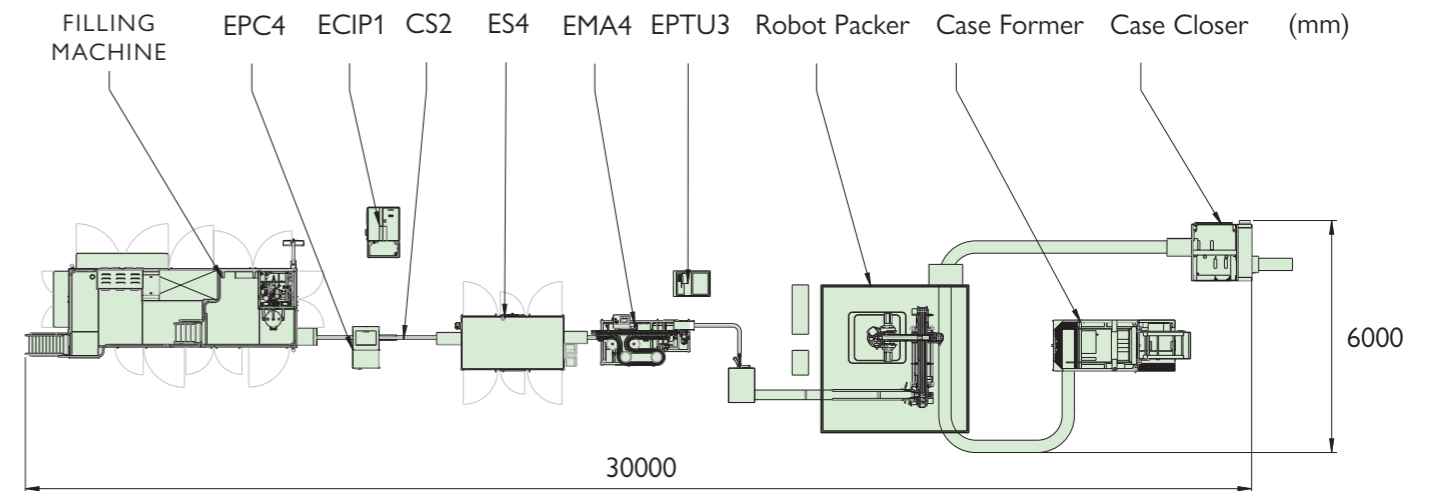
- Quick and easy quality control of package integrity.
- Precise force application provides accurate testing.
- Exterior dimensions: H 0.8m, W 0.5m, L 0.8m.



ECOLEAN® PACKAGE CONDITIONING UNIT (EPC4)

- Ensures that the external surface of the package is clean and dry, prior to secondary packaging, including automatic conveyor cleaning.
- Featuring a compact design and enclosed cleaning area.
- Exterior dimensions: H 1.7m, W 1.0m, L 0.7m.

FILLING LINE SOLUTIONS



ECOLEAN HELPS YOU FIND THE BEST POSSIBLE SOLUTION AND CONFIGURATION FOR YOUR COMPLETE FILLING LINE

This support division discusses, evaluates and fulfils every customer need, when it comes to finding the most suitable equipment for your filling line. Ecolan line solutions give tested recommendations for different package sizes and types, as well as suggestions to secondary packaging solutions.

LINE DESIGN

We believe in providing the best possible line solution for every customer and can assist in line design, line configuration and line performance. For example by recommending tested packer systems, marking and labeling equipment, weighing format checks, conveyor solutions, palletizers, stretch wrapping or pallet labeling among other equipment solutions.

SECONDARY PACKAGING

Customised secondary packaging solutions, both cardboard boxes and plastic crates, available upon request. Tested and verified integration with both the Ecolan packaging format and the Ecolan filling lines. Detailed overview of all secondary packaging solutions available for the Ecolan filling machines, and take shipping, display, multipack and shelf ready needs into consideration.

- Regular Slotted Case
- Tray & Hood
- Wrap Around



ECOLEAN FILLING LINES

We make it easy for our customers in a number of ways. Like how our filling lines and line equipment are designed and how we can offer complete line solutions perfectly fitted to your operations.

With a small footprint yet high capacity, easy operations yet advanced technology, Ecolean offers a lighter solution.

Ecolean Group, 2022-10-10

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