



IMPROVEMENT THROUGH BIOTECHNOLOGY

For the beer industry

Brewing process technology



www.aeb-group.com



BREWHOUSE

Antioxin SBT

A new generation of antioxidizing agents, especially designed for the treatment of malt and unmalted cereals. It inhibits the LOX activity responsible for aldehyde and lipid oxidation or all other oxidizable functions present in the wort.

Powder

Gallobrew

A very pure gall tannin which does not cause any undesired bitter flavours in beer. The high reactivity towards enzymes (laccase, lipoxigenase) optimises the clarification of wort and safeguards the polyphenol structure of beers, thus preventing oxidation. It does not cause any alteration of colour and eliminates traces of odours and other off flavours.

Powder

Endozym® Alphamyl SB1

Bacterial alpha-amylase. It is used at higher temperatures in the brewhouse during mashing in order to facilitate the hydrolysis of starch into maltose, soluble dextrins and glucose. Some of the obvious advantages are a quick reduction of the viscosity of the cereal mash and the yield of more concentrated wort.

Powder

Endozym® Glucacel UHT

Thermostable betaglucanase with pentosanase, cellulose, xylanase and arabanase activity. It is used for the treatment of barley at the beginning of mashing. The secondary activities enable the increase of filtration cycles.

Liquid

Endozym® Glucacel AXC

A thermostable and fungal liquid enzymatic preparation of bacterial origin. It is highly concentrated in β -glucanase and hemicelluloses. It is recommended for the treatment of malt or raw grain rich in β -glucanase and arabinoxylan.

It enables an improved filterability of wort, a decrease in viscosity, a better colloidal and aromatic stability of the beer as well as optimizes the settlement of yeast at the end of fermentation.

Liquid

Endozym® AMG

Enzymatic preparation capable of hydrolyzing the glucosidic alpha-1,6 and alpha-1,4 starch links. Its application allows a complete conversion of the liquefied starch into glucose. It is used during the malting stage on cold wort, during fermentation or in the storage tank in order to facilitate starch hydrolysis and its quick transformation. It is also used in the production of light beers with a low content of residual carbohydrates.

Liquid

Endozym® Protease NP

Enzymatic preparation from a selected strain of *Bacillus subtilis*. It contains highly concentrated peptidases activities which permits the liberation of amino acids and peptides. The application of this enzyme preparation permits to hydrolyze the soluble proteins contained in the wort.

Liquid

Endozym® Brewmix Plus

Full enzymatic complex acting on all polysaccharides and sensible proteins to improve filterability, stability and yield. It decreases mash viscosity.

Liquid



Clarification

Polygel BH

Wort clarifier which acts both on average molecular weight proteins and simple polyphenols. It also acts as a combined stabilizer to improve chill haze. Preserves beer colour, aroma and taste.

Powder

Spindasol SB1

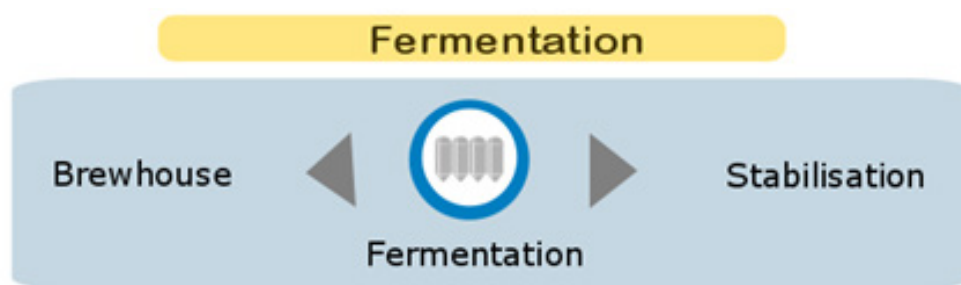
Colloidal silica sol with a selective reaction provided by technical characteristics such as surface area, particle size and charge, so as to produce heavy particles that sediment rapidly. This indirectly limits the reduction of colour and improves colloidal stability.

Liquid

Decoran

Dust-free activated carbon for colour correction for specific types of beer and premix. The high specific active surface area (900-1100 m²/g) of the product permits the adsorption of colouring substances from the beer.

Powder



FERMENTATION

Fermolager W

An Active Dry Yeast, which has been selected for bottom fermentation to produce pilsen or lager beer. Fermolager W offers a fine equilibrium of fruity and floral aromas through a production of appropriate esters and a fast diacetyl reduction.

Powder

Fermo R03

Active Dry Yeast, especially developed for beer refermentation, selected for its fermentation speed and flocculation capability. Fermo R03 has an excellent acclimatation with simple sugars. Sedimentation after fermentation appears compact at the bottom of the bottle/keg. Organoleptic neutrality which maintains the main characteristics from primary fermentation, as well as flavours from raw materials such as special malts, aromatic hops and spices.

Powder

Fermolager Berlin

It is a yeast for bottom fermentation, especially selected for the production of Pils or Lager type beers. The origin is German university in Berlin. The fermentation capacity is high and characteristic for the production of Lager rich in esters with fruity characters.

Attenuation degree: approximately 80-85%.

Powder

Fermoale

Fermoale is a *Saccharomyces cerevisiae* top fermentation yeast used for the production of special beers, producing specific esters. There are many advantages for using dry yeasts in brewery, such as: reduction of contamination risks, low fermentation latency, availability after 30 min. of rehydration.

Powder

Fermoale AY3

It is a particular yeast strain applied for the top fermentation of beers. It has its origin from England. It has an excellent fermentation capacity and ferments very quickly. The final aroma is quite neutral only slightly estery. Fermoale AY3 has a very high sedimentation capacity at the end of fermentation. Fermentation time depends on the yeast amount dosed, kind of propagation and the temperature of fermentation.

Powder

Fermoale AY4

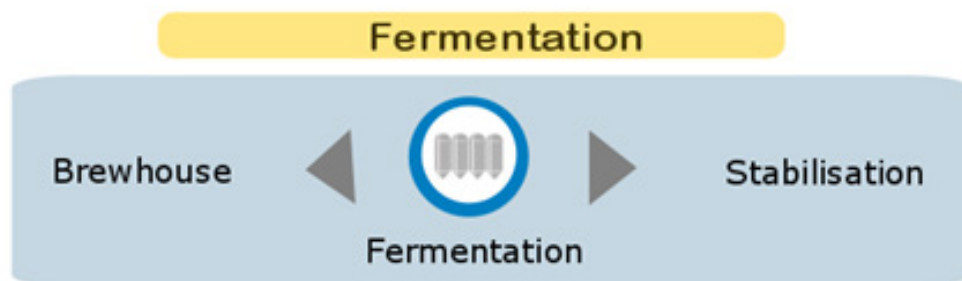
It is a particular yeast strain applied for the top fermentation of beers. It has its origin from America. It has an excellent fermentation capacity and ferments very quickly. The final aroma is very clean. Fermoale AY4 has good sedimentation properties at the end of fermentation. The sedimentation can be improved by the use of Spindasol SB3. The final attenuation degree is very high and the reduction of diacetyl is very high.

Powder

Weiss Arome+

Yeast ideal for the production of top-fermented beers such as Blanche, American Wheat and Hefeweizen. This strain gives characteristic aromas of cloves and bananas and is suitable for all types of beers produced with wheat. It has an excellent fermentation capacity and an alcohol tolerance up to 12%. This yeast has a low flocculating capacity and remains in suspension even in the finished product.

Powder



FERMENTATION

Fermocel SB

Yeast nutrient. Fermentation regulator and activator. The cellulose component facilitates the even distribution of the nutrient in the pitched slurry. This formulation supplies the yeast with the trace elements and vitamins required for a good metabolism.

Powder

Fermoplus GSH

An innovative nutrient with high antioxidising activity due to the high quantity of available glutathione. The application of this product grants protection against the oxidation of the strain and the amino acids which preserve freshness.

Powder

Batfoam 858

An effective product, based on food grade silicone, designed to cope with foaming problems in the beverage industry, for instance during the fermentation, thanks to the lowering of the surface tension, enormous dispersing powers in liquids and foam particles and integrates additives able to destroy the foam that builds again. To be used in beer fermentation tanks at the beginning when filling the tank.

Liquid

Endozym® AGP 120

Enzymatic preparation with amylo-glucosidase, alpha-amylase and pullulanase activity. For the treatment of beer mash during fermentation. It enables the hydrolysis of starch and dextrins into fermentable sugars.

Liquid

Endozym® Alphamyl SB2

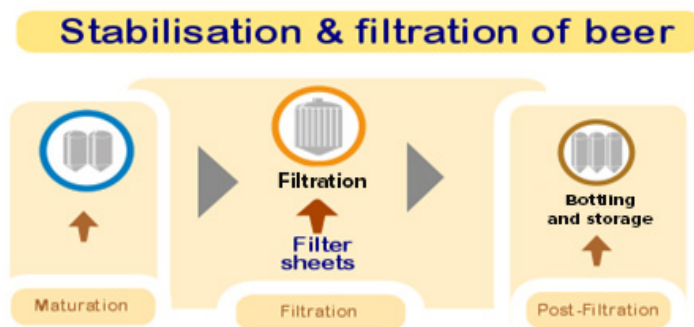
Fungal amylase which hydrolyzes the remaining starch into dextrins and produces maltose. It is used when the diastatic power of malt is insufficient, the cereals are not malted, the starch test performed on beer is positive.

Liquid

Endozym® Protease GF

Endozym Protease GF is an enzymatic solution for sensible protein degradation, to avoid chill haze. Analysis of beer after ageing demonstrate a better turbidity (EBC 90°, EBC 25°) and proteic stability (EBC Analytica 9.40 and 9.41). Thanks to its large spectrum, the degradation of protein includes gluten (Competitive Elisa, mg/L), without affecting foam stability (Nibem). Application of this preparation allows a partial or total hydrolysis of peptidic links of protein, depending on raw material quality and dosage of the enzyme (g/hL of cold wort).

Liquid



STABILISATION

Spindasol SB3

It is a specific silica sol for the clarification of beer. It improves the sedimentation of yeast in maturation. The technical properties of this product lead to a difference of performance compared to the ordinary silica sols. This leads to a more efficient and quicker sedimentation and thus limits the amount of yeast in filtration.

Liquid

Siligel S

Highly purified silica gel under humidity control as protein stabilizer. It adsorbs sensitive proteins responsible for chill haze while participating in the filtration of beer by body feeding. It can also be used in maturation to optimize flocculation.

Powder

Siligel

A stabiliser based on silica hydrogel. It maintains the right level of protein nitrogen in relation to the raw material utilized and the productive system. It adsorbs proteins selectively and stabilises beer as the colloidal haze is thoroughly adsorbed.

Powder

Polygel Plus

Very pure formulation based on PVPP for the polyphenol stabilisation of beers. It enables the adsorption of polyphenol complexes, thus optimising chill haze stability. It can be used directly during filtration or just before by either adding to the buffer tank or the dosing unit.

Powder

Polygel PS30

Protein and polyphenol beer stabiliser. The balanced blend of a formula based on PVPP and silica gel forms highly stable complexes with polyphenolic substances in beer and also adsorbs protein substances. This product preserves the colloidal stability and has a neutral effect on colour, aroma, flavour and foam.

Powder



Stabilisation & filtration of beer



FILTRATION

Fibroxcel UNI

Single pre-coat for the reduction of total filter aid volume required for pre-coating, in terms of g/hL dosage up to 30% can be achieved. It reduces the time for preparing and cleaning of the filter by 50%. Quality is improved during filtration thanks to the cellulose compound. Longer filtration runs thanks to larger admissible volume capacity.

Powder

Fibroxcel 10 and Fibroxcel 30

Chemically inert filter aids used during beer filtration for pre-coating. The product is a uniform blend of perlites, cotton fibres and cellulose which forms a honeycomb structure that remains in place throughout filtration. These filter aids have a high adsorption capacity throughout the entire filtration cycles.

Powder

Fibrosteril

Filter aid with a complex alveolar structure which is used in continuous dosing for adsorbing those substances which are difficult to be eliminated during the normal continuous dosing filtration.

Powder

Silite

Silite is a chemically inert filter aid. In continuous dosing filtration, filter aids are used for delaying the clogging of the filtering layer, forming a porous structure which remains stable throughout the entire filtration period. Filter aids deeply blend with particles building turbid matter and make the coat uncompressible.

Powder

Silite Mini Speed

A very fine perlite, with low flow-speed used for tight filtrations, especially the polishing ones.

Silite Normal Speed

Medium permeability, it is recommended for all uncomplicated filtrations. It is used for normal filtrations.

Silite High Speed

High permeability, ideal for very hazy liquids with high content of suspended solids. It is classified as a perlite for coarse filtrations.



POST-FILTRATION

Antioxin SB

A stabilizer specifically created by AEB to protect beer from oxidation for prolonged periods. The best possible protection against oxygen which enables an increased flavour stability of the beer and a decrease of oxygen.

Powder

Arabinol® Multinstant

Arabinol Multinstant is a natural polysaccharide used to stabilize the softness and persistence of beer foam; its action is much higher than all other products based on liquid gum arabic. After dissolution in water, the solution can be added to the beer before bottling.

Powder

TAN WBT

TAN WBT is a selected tannin, especially developed by AEB Group for «White» or «Weiss» beer. Exclusively composed of natural tannin, this technological auxiliary is added between maturation and bottling. TAN WBT is manufactured from grinded wood, then extracted with water at 100°C, finally concentrated and dried through atomisation; it brings to beer the appropriate polyphenol equilibrium.

Powder



DETERGENTS

Celon

Applied in the elimination of beer stone (Bierstein) from stainless steel kegs, tanks, dispensing equipment and for the removal of limestone from condensators and evaporators.

Reaction: acid **pH (1% Sol.):** 2,1±0,5
Liquid

Celon Special

Formulation based on nitric and phosphoric acid, enabling to obtain a solution with a high descaling power able to remove inorganic residues from surfaces. It also acts as passivation agent of stainless steel surfaces, and is able to remove the beer stone. Its low foaming makes it suitable also for CIP applications.

Reaction: acid **pH (1% Sol.):** 1,8±0,5
Liquid

Idrosan

Chlorine, decolorizing detergent and sanitizer, suitable for: storage tanks, filters, pipes, fillers and various bottling equipment.

Reaction: alkaline **pH (1% Sol.) :** 11,2±0,5
Liquid

Removil Liquid

Caustic detergent for CIP plants and in-line cleaning such as: pipes, casks, stainless steel tanks, whirlpool, coolers, bottling lines.

Reaction: alkaline **pH (1% Sol.):** 12,5±0,5
Liquid

Peracid

Sanitizer based on peracetic acid with a wide range of action. It can be used for all closed circuits and for the disinfection of polypropylene cartridges.

Reaction: acid **pH (1% Sol.):** 2,7±0,5
Liquid



Nerlik Liquid

A detergent for bottle washing machines and stainless steel kegs washing. It has an anti-calcareous action even in the presence of very hard waters and an anti-pulping action thus avoiding the clogging of pumps and filters. It is easy to be rinsed and to be used.

Reaction: alkaline **pH (1% Sol.):** 12,5±0,5
Liquid

Adix Liquid

For bottle washing; alkaline washing cycle for C.I.P plants. It optimally eliminates foam that inevitably builds because of the saponification of the organic substance. It possesses an anti-scale action, facilitates rinsing and is easy to be used.

Reaction: acid **pH (1% Sol.):** 6,94±0,5
Liquid

X5S/S

A monophase alkaline formulation with a high sequestering power, capable of carrying out an efficacious detergent action, by removing both organic substances and inorganic residues. It is ideal for the washing of brewhouse, cooling circuits and for the periodic regeneration treatments of fermentation and filtered beer tanks.

Reaction: alkaline **pH (1% Sol.):** 12,1±0,5
Liquid

Neutrosan DB

Liquid product, effective against odors and easy to use. It is the ideal hygienizer thanks to its high activity at room temperature. The product is also non-foaming and neutral. It is especially recommended in the presence of organic residues, as its hygienizing activity remains practically unaltered even with numerous microbial populations.

pH (1% Sol.): 7,0±0,5
Liquid

Spindosan H

Chlorine-active alkaline liquid formulation, suitable for the automatic or manual detergency and sanitizing of plants and equipment. It also confers a bleaching and deodorizing effect and is particularly suitable for washing performed with a medium hardness water (good sequestering action), also by recycling (CIP), as it is non-foaming.

Reaction: alkaline **pH (1% Sol.):** 11,9±0,5
Liquid

Membran

Alkaline liquid detergent based on caustic potash, suitable for the detergency of UF and MF membranes. It is able to easily remove organic residues from the membranes by restoring the normal flow levels, and it can also be used for the removal of organic contaminations.

Reaction: alkaline **pH (1% Sol.):** 12,4±0,5
Liquid

Please contact us for an extensive list of detergents available for the hygiene in the Beer industry.



EQUIPMENT

Reactiveur 60 B

Reactiveur 60 B allows rehydrating the active dry yeast in complete safety and simplicity. It also allows managing in a semiautomatic way not only the stages of water filling, heating, yeast rehydration and emptying of the tank, but also rinsing and sanitizing of the equipment. The processing is completely customizable and the parameters can be set according to the needs through a convenient touch screen display. The Reactiveur 60 B range is able to reduce yeast latency times, by ensuring extremely regular alcoholic fermentations and by improving fermentation kinetics, even when the microbiological conditions of the musts and the hygienic conditions of the brewery are not ideal. They are also able to reactivate stuck fermentations and to produce wort-yeast to be used in refermentations. All operations are carried out in a tightly closed and previously sanitized container, in order to avoid any contamination. In particular, Reactiveur 60/100 B is an equipment for the reactivation of small amounts of yeast (rehydration from 1 to 5 kg of dry yeast).



Reactiveur 60/500 B

Models	Quantity of rehydratable yeast (kg)
Reactiveur 60/100 B	Up to 5
Reactiveur 60/500 B	Up to 20
Reactiveur 60/1000 B	Up to 40
Reactiveur 60/1200 B	Up to 50

Lubimatic Control Dry

The Lubimatic Control Dry range comprises 3 models, each consisting of a central plant for the automatic supply of dry lubricants with programmable timed system. The control unit has to be coupled to dripless pneumatic lubrication nozzles, able to ensure the nebulization of the product on the entire surface of the conveyor belt. The system is able to handle up to 80 nozzles.

Models	Manageable systems
Lubimatic Control Dry ECO	Small-sized system
Lubimatic Control Dry 2 zones	Medium-sized system
Lubimatic Control Dry 5 zones	Large-sized system



Lubimatic Control Dry 2 zones



Easyfoam

Easyfoam is a patented system for the supply of foam detergents with compressed air. All models have a compact size but provide high performances and are ideal for cleaning vertical surfaces and ceilings. Thanks to the total absence of vaporization, they are suitable to be used in complete safety with very high alkalinity foam detergents.

Easyfoam Mix and Easyfoam Mix with wheels enable to supply at the same time also an additive with sanitizing action.

Models	Supplied product/s
Easyfoam P 15 mt	Foam detergent
Easyfoam P 20 mt	Foam detergent
Easyfoam Mix	Foam detergent + additive
Easyfoam Mix with Wheels*	Foam detergent + additive

**This model is equipped with wheels.*



Easyfoam Mix

Multifoam

Multifoam is a low-pressure foaming nebulizer, used for multiple washing applications, in particular for: cleaning with foam detergents, washing with nebulization of traditional detergents and environmental hygiene with nebulization of sanitizers and sanitizing detergents. The equipment is also available in stainless steel 18/8 AISI 316.

Models	Tank capacity (L)
Multifoam V/R	24 or 50
Multifoam Inox	24 or 50



Multifoam Inox



CIP 9000

CIP 9000 is a specific equipment for fillers with 1.000 litre tank capacity and maximum washing flow of 9.000 L/hr. It is entirely built in stainless steel A304 and it is automatic: once set the cycle times, the dosage of detergent and sanitizer and the water heating temperature, it is enough to press a button to start a full automatic cycle.



Dosaprop

Dosaprop is a doser ensuring additions of liquid products proportionally to the flow and it provides a perfect homogenization. Its operation is based on a sensor detecting the quantity of liquid flowing inside the pipe, by sending to the dosing system the impulse for the addition. The product quantity is easily manageable thanks to a micro-push button.

Models	Detectable (L/min)	Quantity of product to be dosed (L/h)
Dosaprop 2010 P 15 Low	From 10 to 100	From 2 to 15
Dosaprop 2010 P 15 Med	From 30 to 350	From 2 to 15
Dosaprop 2010 P 55 Low	From 10 to 100	From 7 to 55
Dosaprop 2010 P 55 Med	From 30 to 350	From 7 to 55

All models are also available with double dosing pump.



Dosaprop 2010 P 15 Low



Housing

The housings represent a combination of plants, equipment and accessories for housing and commissioning the different ranges of cartridges and lenticular modules. The materials are all certified and in accordance for an utilization in complete safety.

Series	Number of modules/cartridges per housing	Cartridge height range
FLM (for lenticular modules)	From 1 to 4	From 12'' to 16''
FHC (for filter cartridges)	From 1 to 30	From 10'' to 40''



Housing FHC

Filter cartridges

The beer production involves three main stages: brewhouse, fermentation and clarification. During this third stage, the filtration technology has a role of increasing importance for the obtainment of a superior and quality product. The membrane filtration is an alternative technology to pasteurization, guaranteeing the cold stabilization of the beer by keeping its freshness and authenticity. Filtration is needed to retain diatomaceous earth and PVPP particles after the stabilization stage. AEB is able to provide the industry with a complete range of solutions in complete safety; the absence of particles and microorganisms is essential for the beer quality.

Recommended cartridge ranges of for the filtration of beer: **Fluidclean Large, Fluidclean Pes, Fluidclean PP, Vinpore Pre-Inox, Vinpore Final Gas.**



Vinpore Pre-Inox



Fluidclean Large

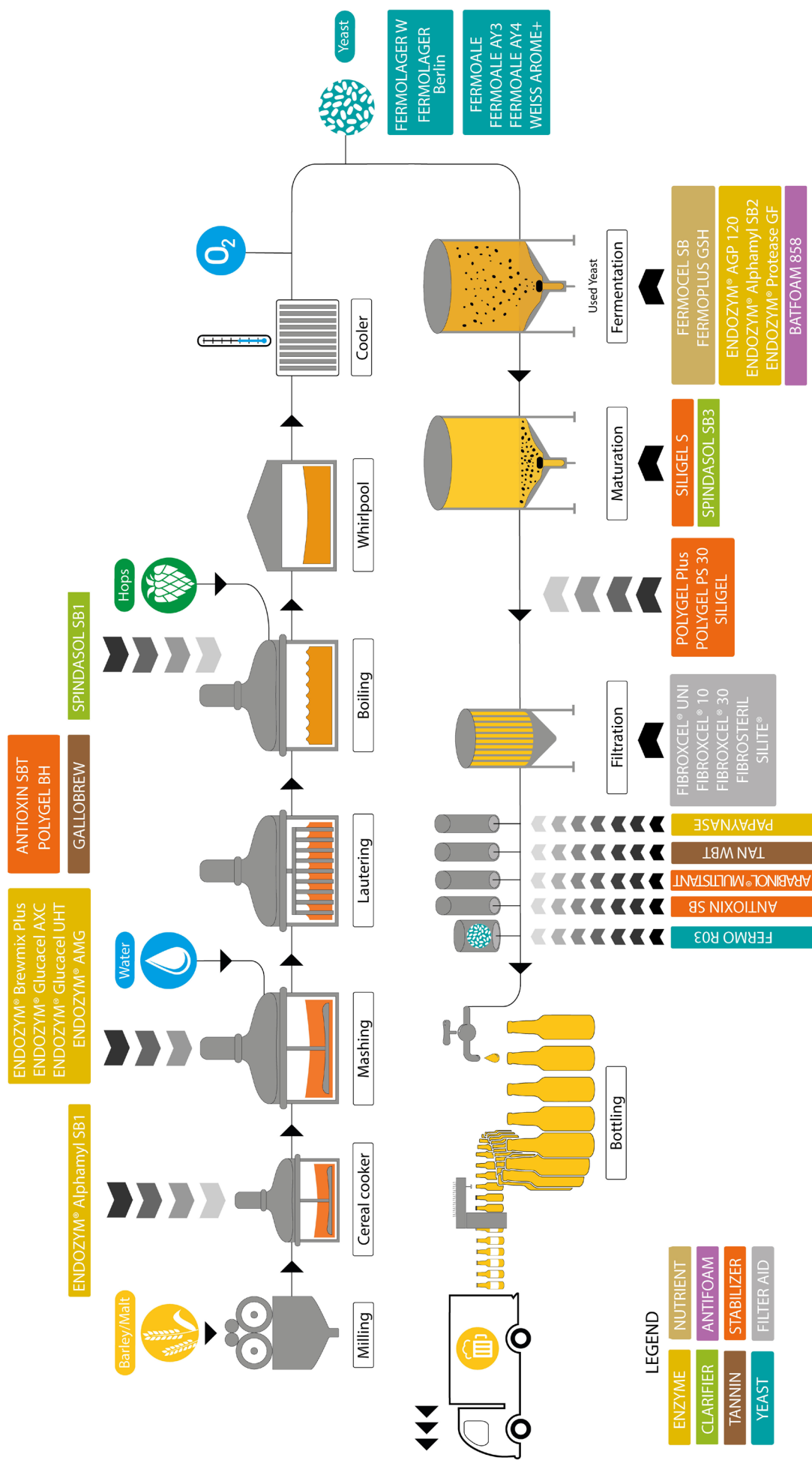


Fluidclean PP



Fluidclean Pes

YOUR PARTNER FOR BEER PRODUCTION





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