

HIGHEST PERFORMANCE AND RELIABILITY TO WIN THE THIRD MILLENIUM'S CHALLENGES

The latest generation of Bertoli homogenizers has been conceived and engineered to comply thoroughly with the European standards and regulations in force (Ce, FDA marks, etc...). It is our response to an increasingly competitive and demanding world-market steadily calling for higher and higher performance and reliability standards. As a result of the high technological level reached through a thirty-year long research work in harness with some of the leading companies and thanks to the big investments made in an attempt to improve our products and services, our homogenizers represent the most advanced solution in regard to:

- homogenization efficiency
- reliability and longer life
- easy installation and maintenance
- sanitation
- very low acoustic level
- energy saving



H 2007



H 1004



H 3037
H 3075



H 3045

A FULL RANGE AVAILABLE IN A VARIETY OF VERSIONS

Besides the single-stage fixed capacity hygienic version, our machines can be built, upon request, in the following versions:

- double-stage homogenization
- aseptic execution for sterilized and long-life UHT products
- two fixed capacities with two-poles motors and step-to-step gradual start-up selector
- variable capacity with different systems: mechanical (with speed-variator), hydraulic, and electronic, with A.C. motors and frequency converter.



H 3015
H 3007

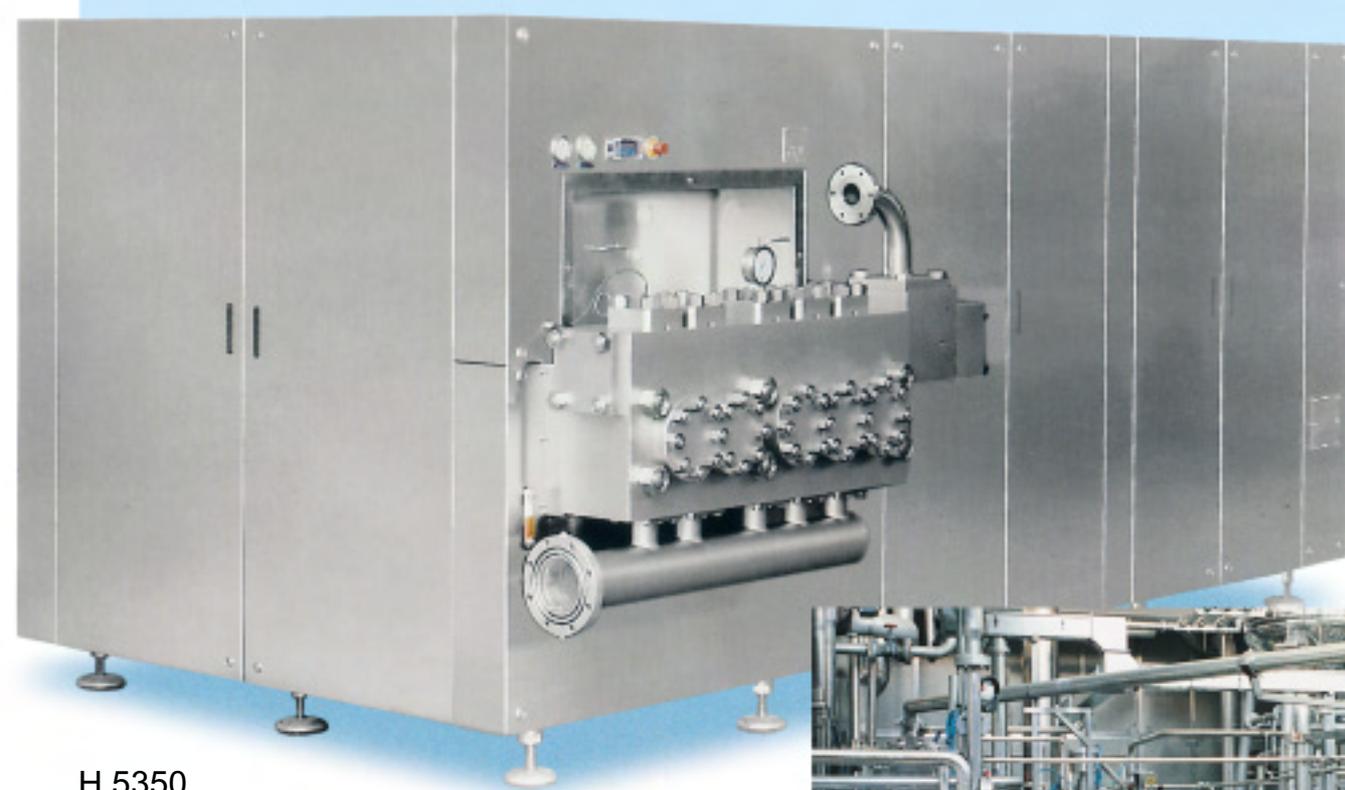


H 3110

- automatic capacity and pressure control depending on the different process requirements: pressure, temperature, viscosity, and refractometric degree.



H 5150
H 5250



H 5350

**HIGHLY
TECHNOLOGICALLY
ADVANCED DESIGN,
ENGINEERING,
AND CONSTRUCTION**



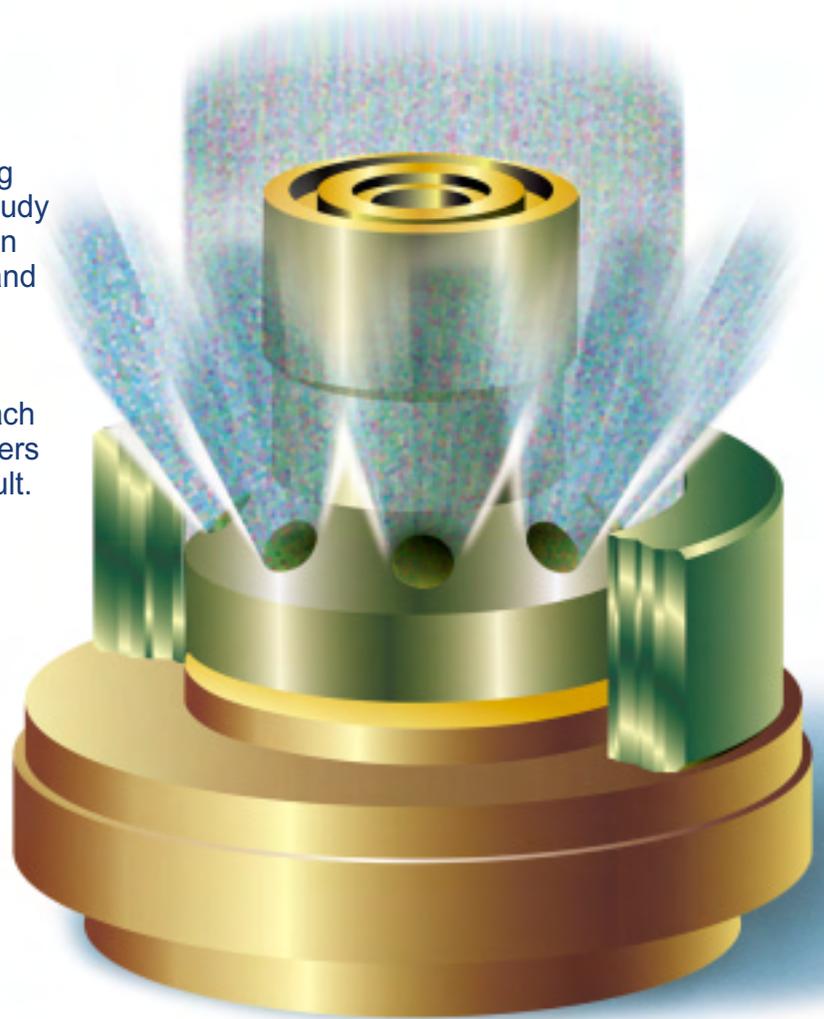
- Each single part of our machines is made from certified materials (stainless steel, special stainless steels, composite materials). All main components and parts always undergo non-destructive tests such as ultrasound tests and radiographs aimed at verifying their full conformity.
- Special care is given to the design and machining of all parts in contact with the product in view of avoiding any fouling effect caused by product deposits so as to make all washing and cleaning operations easier.
- Very strict checks are carried out all through the whole process to the final testing in compliance with ISO 9001 QUALITY SYSTEM.

A TAILOR-MADE HOMOGENIZING VALVE FOR EACH PRODUCT

The new innovative high-efficiency homogenizing valve is just an example of our commitment to study and design more and more advanced solutions in view of improving our machines' performances and granting, at the same time, the best and most reliable effect on the product to treat.

Materials, dimensions, and profiles of the homogenizing valve are studied by design for each single product taking into account such parameters as machine yield, wear resistance, and final result. Here are the main advantages achieved:

- Better and more efficient homogenization at the same pressures or same result at lower pressures if compared with traditional valves
- Highest product stability
- Better keeping qualities of the product
- Better molecular structure
- Lower content of additives
- Reduction in overall operating fees



PRESSURES UP TO 2500 BAR

Our high-pressure homogenizers both for installation in industrial plants and for laboratory research and testing duty are clear evidence of the supremacy of our know-how and of the commitment our Research & Development Division meets the innovation requirements and competitiveness of the market with.

These homogenizers have been conceived and designed to grant continuous operation performances considered up to now impossible to attain and can work at pressures as high as 2500 bar.

This opens new routes for the homogenization in all those fields that call for very high micronization standards.



WEAR-RESISTANT SELF-CENTERING PISTONS

All machines are equipped with a **patented system** that allows the self-centering of the pistons.

This system allows the pumping piston to set in the optimum work position.

Thanks to a highly accurate precision machining, any axial clearance is avoided. Yet, the piston is allowed to set radially and is not influenced by the different tolerances resulting from the mechanical machining of the parts or components involved.

This system offers a number of remarkable advantages: a higher wear resistance of the pistons chrome plating, of piston gaskets, and, last but not least, easier handling of the maintenance operations of the parts and components involved.



VALVES AND VALVE SEATS

The machines of the new generation are equipped with gasket-free conic valve seats with a metal-to-metal seal. Thanks to the construction concept they

lay on, they offer two important advantages: they can more easily stand the effects produced by temperature variations and by the resulting expansion. In addition to this, the set of special tools supplied along with the machine, allows replacing them easily.

Moreover, to better satisfy process requirements of abrasive products, special construction materials are used, the most relevant among which being stellite and tungsten carbide.

The same great care is given to the design and manufacturing of the valves: as a result they grant an excellent sealing effect and are available in a range of versions according to the characteristics of the product to be processed.

MUCH LONGER LIFE OF THE PISTON GASKETS



The result of a long research work and accurate testing, the new dynamic multi-element gasket is thoroughly made from materials fully complying with the rules and standards in force on use in contact with food products.

It can easily bear heavy work (abrasive and/or corrosive products) and can stand high temperatures and pressures.

This type of gasket used along with the self-centering pistons can bear a higher number of working hours than the one commonly used.

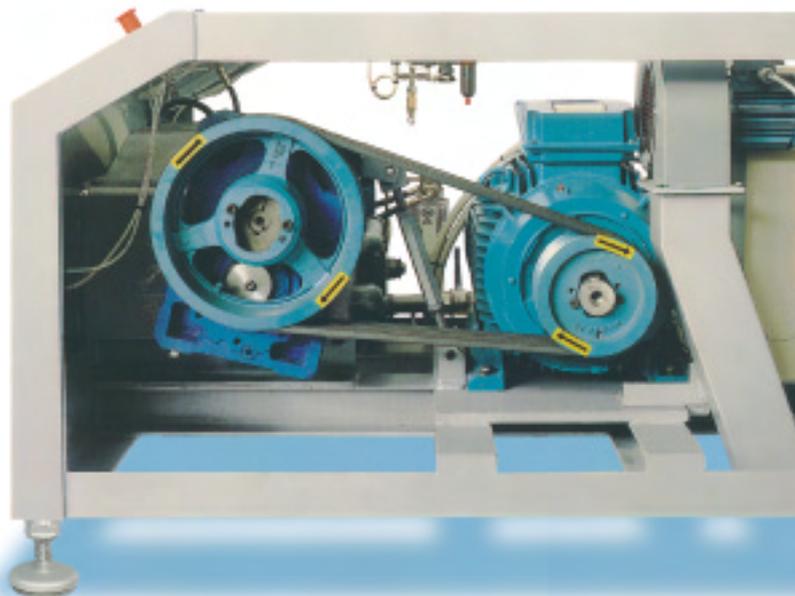
In order to exploit the advantage of a reduced number of revolutions of the crankshafts, our project engineers have designed and realized a truly innovative transmission system that makes it possible for each machine to be equipped with two different types of motion reduction:

- one equipped with belts and pulleys and placed between the electric motor and the reducer;
- the other consisting of a speed reducer directly fixed on the crankshaft.

Here are the most remarkable advantages achieved:

- use of 4-poles (1450 rpm) electrical motors that can easily be found on any local market;
- A flexible and lighter transmission system that requires fewer and smaller-section belts.
- longer life of both motor and crankshaft bearings.

AN INNOVATIVE TRANSMISSION SYSTEM



DIRECT TRANSMISSION SYSTEM

In an attempt to solve the problems emerging from the utilization of high installed powers, our homogenizer mod. H5350 is equipped with a direct transmission system. The motion from the electric

motor to the gear reducer is transmitted by means of a rigid toothed joint while the motion from the gear reducer to the crankshaft is transmitted by means of a flexible coupling. All the motion parts are brought into line on the same platform.



HIGHEST SAFETY STANDARDS

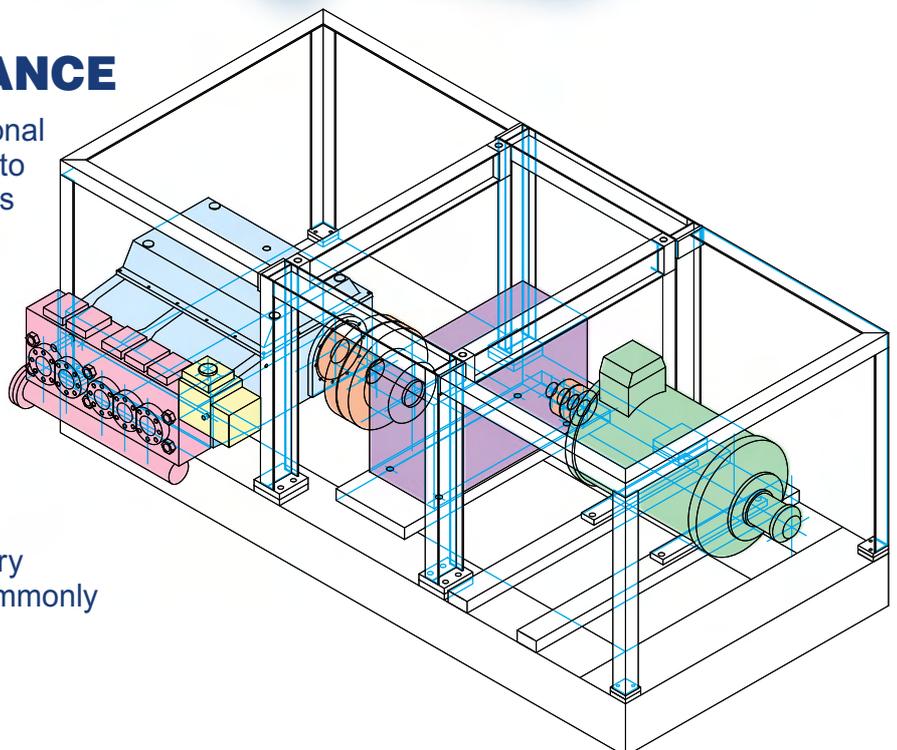
The three main units of our machines are equipped with three different safety systems - electrical, pneumatic, and electro-pneumatic - purposely designed to grant the highest safety level even in case of wrong maneuvers by the operator.

VERY LOW SOUND LEVEL

The noise level of all our standard machines always keeps below 75dB A.

VERY EASY MAINTENANCE

- Thanks to their dimensions, to the rational internal arrangement of the parts, and to their standardization, our homogenizers need little maintenance, and offer the great advantage of a remarkable labor hours saving.
- They are very easy to inspect and access to all their parts, including the mechanical transmission reducer, is absolutely trouble-free.
- Cleaning and sterilization can be easily carried out in a closed circuit, at the required temperature (also at very high temperatures), using the most commonly sold detergents.



THE TOP SOLUTION FOR THE MOST WIDE-RANGING FIELDS

Designed and engineered according to the different product features and in line with the technological requirements of our Customers, our homogenizers can be employed in a very wide range of fields because of the many advantages they offer, namely:

- Highest micronization and stability of the product processed
- Better product structure and improvement of its organoleptic characteristics and keeping qualities
- Higher product yield
- Lower use of additives because of their better exploitation
- More accelerated chemical reactions, lower temperatures and reduced amount of the catalysts possibly required
- Better viscosity monitoring



DAIRY PRODUCTS

Pasteurized milk
 UHT sterile milk
 Yogurt milk
 Recombined milk
 Condensed milk
 Milk-base beverages
 Milk-base liquors
 Cooking cream
 Whipping cream
 Sour cream
 Desserts
 Butter oil (emulsions)
 (fresh, soft, processed/melted) Cheese
 Ricotta or cottage cheese
 Edible caseinates
 Whey
 Puddings

FOOD PRODUCTS

Tomato-base products
 Ketchup
 Sauces
 Fruit and vegetable concentrates
 Dressings
 Eggs
 Egg-base liquors
 Mixes for bakery products
 Baby food
 Honey
 Flavors
 Emulsions
 Fat and vegetable oils

ICE CREAMS

Egg-base ice creams
 Milk-base ice cream
 Chocolate-base ice creams
 Pastry creams
 Sherbets

JUICES

Fruit juices and nectars
 Fruit pulps
 Vegetable juices

CHEMICAL PRODUCTS

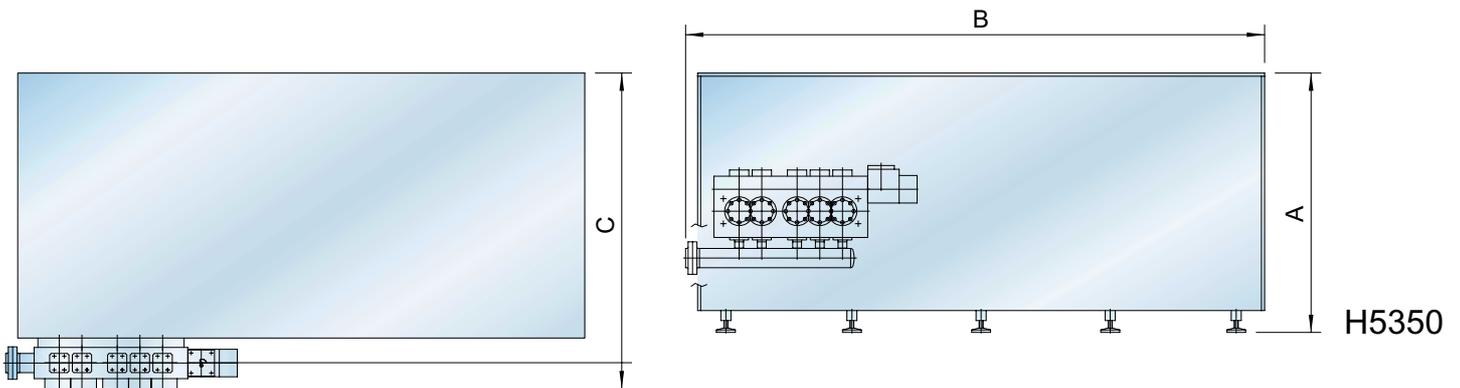
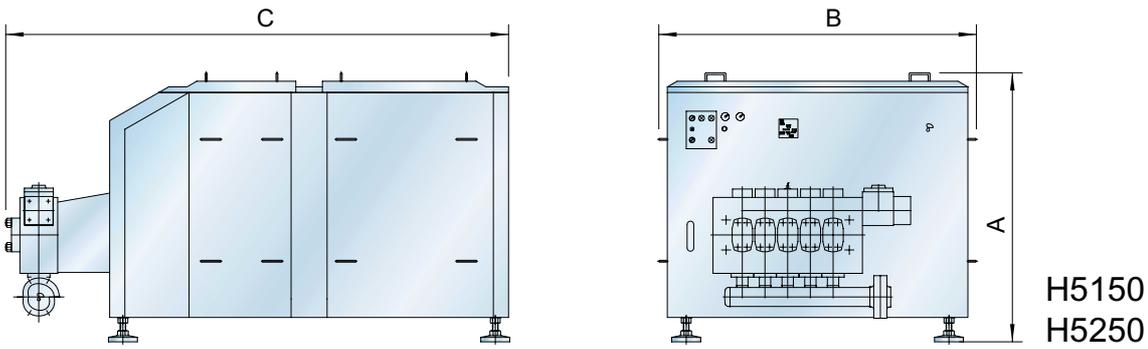
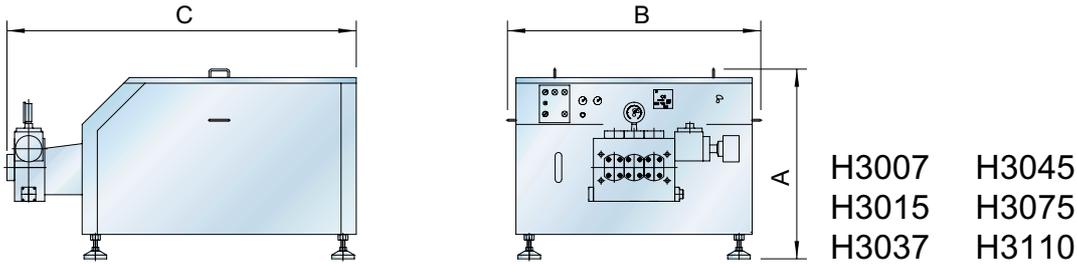
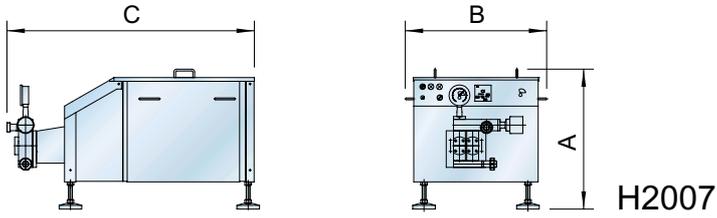
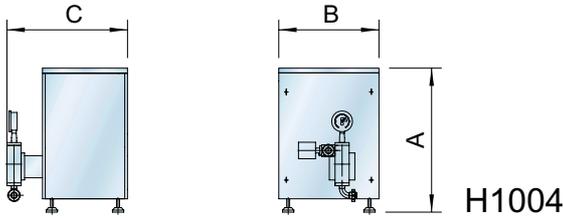
Additives
 Adhesives
 Emulsifiers
 Silicone Emulsions
 Photographic Emulsions
 Lubricating Fats
 Pigments
 Resins
 Paper Pastes
 Starches
 Waxes
 Latex
 Mineral Oil
 Antioxidants

PHARMACEUTICAL PRODUCTS

Ointments
 Antibiotics
 Fine Injectable Emulsions
 Liposome Suspensions
 Lotions
 Single-Cell Organisms
 Syrups
 Vaccines
 Vitamins

COSMETIC PRODUCTS

Beauty Creams
 Shampoo
 Nail Polish
 Lipstick (Base For)
 Liquid Soaps
 Toothpastes



MODEL	150 BAR FLOW RATE LT/H	250 BAR FLOW RATE LT/H	NUMBER OF PISTONS	MAX RATING POWER KW	A (mm)	B (mm)	C (mm)	WEIGHT Kg
H1004	180	100	1	4	770	530	650	170
H2007	750	450	2	7,5	750	750	1330	305
H3007	1400	900	3	7,5	750	750	1344	485
H3015	2000	1500	3	15	760	900	1430	600
H3037	6000	3500	3	37	980	1360	1830	1200
H3045	8500	5000	3	45	1020	1360	1850	1560
H3075	11000	8000	3	75	1240	1500	2270	2650
H3110	13000	11000	3	110	1440	1680	2720	4200
H5150	22000	17000	5	160	1440	1680	2660	4500
H5250	32000	26000	5	250	1900	1780	2810	5300
H5350	60000	36000	5	355	2080	4500	2530	15000