

GEA Niro Soavi Homogenizers

Technical Leaflet: OpenXFLO™



OpenXFLO is an innovative and revolutionary liquid-end design concept, developed by GEA Niro Soavi. The special clean configuration of OpenXFLO™ liquid-end allows a free flow to the homogenizing valve for viscous and liquids products containing

crystals, agglomerates, fibers, solid pieces. This technology is used to make the homogenization effect available in chemical slurries, Latex, and Polymers Nanodispersions in order to improve the final product quality.

Design concept.

Construction concept.

The High Pressure Homogenizer is a special reciprocating pump. When the product enters the machine, it is pumped across the high pressure block to the homogenizing valve, the core of the homogenizing process. The liquid product is transformed by means of high fluid dynamic energy.

The patented OpenXFLO™ compression block (EPO 2040828) features a special liquid-end clean design concept: the completely free pumping chambers and the pumping valve configuration without springs eliminate the risk of solids accumulation and clogging.

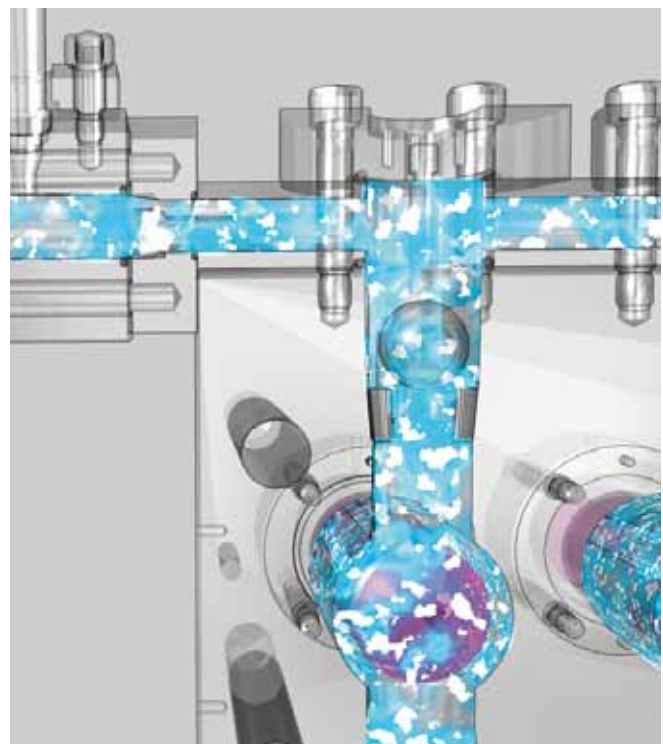
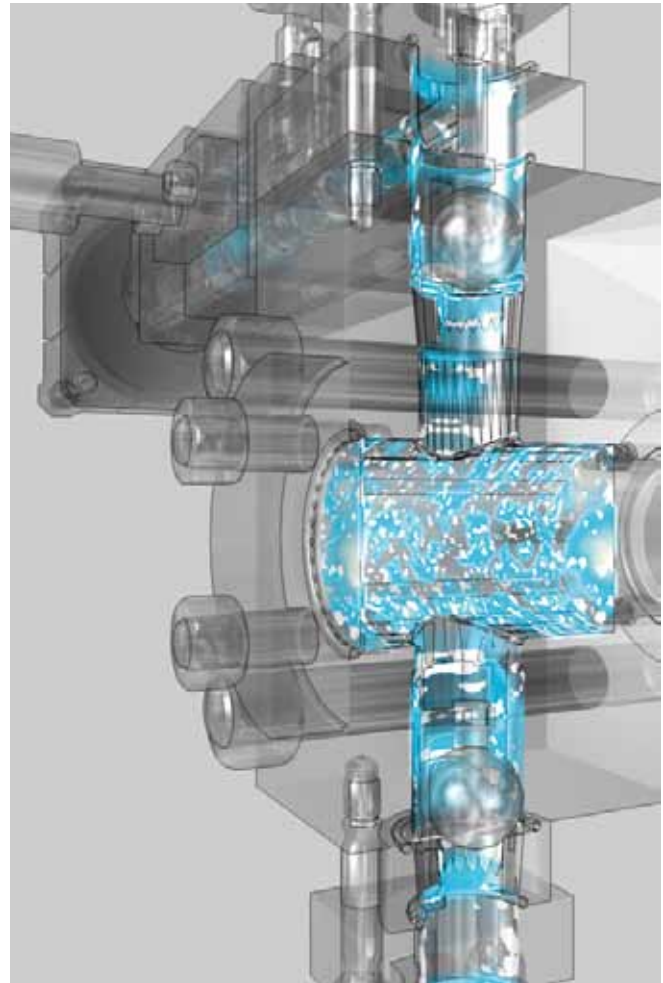
With OpenXFLO™ design concept the product with agglomerated fibers and solid particles, up to one centimetre in diameter or length (according to their concentration in the liquid phase, type and hardness) is free to be pumped and flow to the homogenizing valve.

Main Features

- Clean design concept without dead-ends
- Reduced maintenance costs
- Pumping chambers without spacers
- No interfering flow across valve groups
- Special hygienic pumping valves assembly without springs
- Suitable for highly viscous and sticky products large particles or long fibers
- Corrosion resistance materials for a wide variety of products processing
- Production range: 1500 - 23000 l/h @ 150 - 600 bar
- Applicable on machine models Ariete NS3015, NS3024, NS3037, NS3075, NS3110, NS5132

Technical Advantages

- No solid build up
- No production stops
- Optimized valve guide design
- Pumping plunger not interfering with valve bore in full forward position
- Free flow across the pumping valves
- Optimized product flow to the homogenizing valve
- Improved product quality by means of low product shear stress in the pumping section, combined with optimal homogenization



New applications of homogenization.

Latex and polymers Nanodispersions.

- Improved final product quality and performance
- Reduced production costs
- Reduced waste for non-compliance
- From batch to in-line processing
- Free flow across the pumping valves
- Increased production volumes
- Longer production time

Chemical slurries, polymerizing & shear sensitive products.

- Micro-sizing of components for improved effectiveness
- Reduction of recipe costs
- Enhanced product properties (e.g. gloss, color)
- Updates process technology for safe and environmentally friendly products

Speciality foods.

- Low product shear stress in pumping section for product with pieces
- Sanitary design
- Processing food products with high fibers and solids content

Waste water slurries.

- Reduced foam inside waste water
- Improved effectiveness of bioreactors
- Increased energy recovery from biogas
- Reduction of sludge processing time
- Reduction of waste solids for disposal or incineration
- Ecologic energy recycling and reduced environmental impact



Feature and solutions.

Production range:

1500-23000 l/h @ 150-600 bar.

OpenXFLO™ is a compression block design which can be installed on standard drive end configuration as option, to comply with special products requirements.

Typical working pressure rating is 150- 450 bar, special executions for flow rate and pressure rating are available upon request.

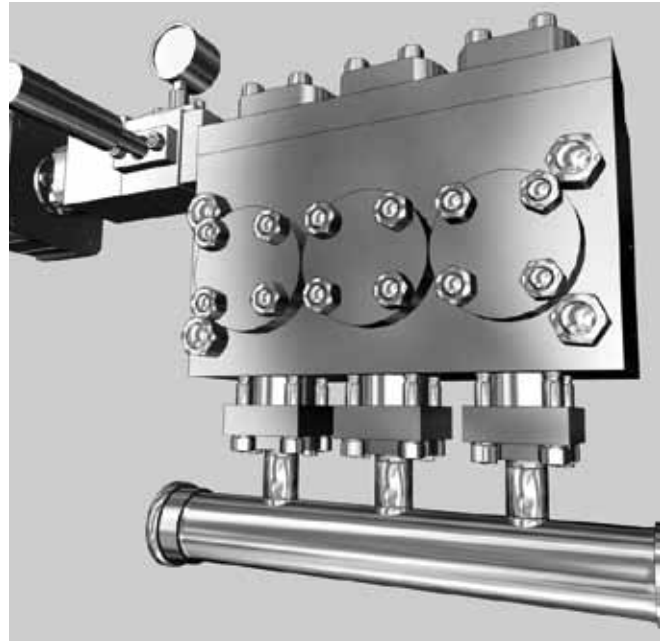
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GEA Niro Soavi in the world.

GEA Niro Soavi, part of GEA Group, is the global technology leader in high pressure homogenizers and high pressure pumps for dairy & food, pharmaceutical, chemical and biotechnology industries. It provides leading technology with the widest product range available, R&D facilities and first class after sales service to its business partners.

GEA Niro Soavi engineering and manufacturing is certified according to ISO 9001:2008 Quality System to supply homogenizing technology through a worldwide sales and service organization.

GEA Niro Soavi sales organization worldwide with their know-how and expertise, is available to respond to all questions and queries about homogenization issues. Please check GEA Niro Soavi website for the closest local branch.



GEA Mechanical Equipment

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