DOSING EXPERTISE FOR GLASS INDUSTRY
LAHTI GLASS TECHNOLOGY

Your partner in raw materials technologies

Lahti Glass Technology Oy is formed from the glass division of Lahti Precision in 2018. The new company is part of Zippe Group. Zippe is the worldwide leader of Batching Plant and Cullet Treatment Technologies. Lahti Glass Technology brings to the group excellent expertise in dosing weighing and mixing technology, which further improves the performance.

Our vast experience in core technology, since 1914, guarantees excellent dosing accuracy and consistent mixing quality. We help our customers to succeed in their own production by working closely together, finding the best solutions for the actual need. This ensures our customers the lowest cost of ownership.
RAW MATERIAL SOLUTIONS FOR THE GLASS INDUSTRY

The production of high quality glass begins in the batch plant, where the raw materials are precisely dosed, weighed and mixed to form homogeneous batches. Lahti Glass Technology’s compact and reliable batch plants incorporate field proven machinery and the latest technology and automation solutions, thus allowing for ease of maintenance, and overall low operating costs.

WORLD-CLASS OFFERING

- Complete deliveries of batch plants and cullet systems
- Dosing and weighing systems and components
- Control systems and components
- Cullet processing and cullet return systems
- Waste fiber glass recycling systems
- Batch plant modernizations and control system upgrades
- Energy efficiency improvements
- Wide range of services
PROCESS EXPERTISE ENABLED BY PROVEN TECHNOLOGIES

MATERIAL INTAKE
Material intake systems available to meet customer requirements.

MIXING
Homogeneous mixing result secured with dedicated glass batch mixers.

BATCH AND CULLET TRANSPORT
Transport systems for secure batch and cullet transport to the furnace.

RAW MATERIAL STORAGE
Optimised silo dimensioning based on customer requirements.

DOSING AND WEIGHING
Application of the most suitable dosing equipment and scales for different materials to ensure the best dosing accuracy for each raw material.

MATERIAL INTAKE
Material intake systems available to meet customer requirements for example:

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Material intake systems available to meet customer requirements, for example:
- Train wagon discharge downwards to drive on hopper
- Bulk truck discharge with effective dust receiving units
- Bag bag unloading unit connected to daily hopper or pneumatic transport unit
- Dust free breaking and discharging of small bags in protective cabinet
- Effective vibratory feeders or screw feeders for receiving hopper discharge
- Robust bucket elevators for lifting raw materials to the silo top
- Specially lined chutes and diverter gates as well as rotating distributors for transfer on silo top to silos
- Controlled security operations to guarantee correct material discharge to each silo

RAW MATERIAL STORAGE
Optimized silo dimensioning based on customer requirements.
- Silo volumes to meet daily storage needs taking into account powder flow properties
- Steel or concrete construction
- In-line or tower type construction
- Use of the most suitable silo discharging techniques to enable mass flow in the silo

DOSSING AND WEIGHING
Application of the most suitable dosing equipment and scales for different materials to obtain the best dosing accuracy for each raw material.
- Bin activator or fluidization elements to enable even and steady silo discharge
- Screw feeders, vibrating feeders, belt feeders, double dosing flaps and fluidization hoses for dosing depending on raw material properties
- Application of hopper scales with or without auto test also equipped with load cells
- Application of cup scales for minor ingredient weighing
- Application of belt scales for cullet dosing

MIXING
Homogeneous mixing result secured with dedicated glass batch mixers.
- Lahti MBV – series mixer
- Specifically designed for glass batch mixing
- Excellent batch homogeneity
- Low wear rate of mixing tools and liners
- Low energy consumption
- Water and steam injection gears for wetting and heating batch

FACTORY CULLET RETURN AND EXTERNAL CULLET HANDLING
Robust cullet handling systems for the most reliable operation.
- Internal cullet return
- Inline breakers and receiving hoppers
- Secondary breakers to enable correct cullet size
- Ok, heel, rather resistant bulk conveyors depending on application
- Bottles and cullet crushers for internal and external cullet depending on application
- All cullet contacting surfaces protected with nickel free liners

DUST SUPPRESSION
Complete system expertise to yield the cleanest environment.
- Individual dust filters or centralized dust evacuation depending on application
- Correctly sized and balanced dust suction ductwork and filtering area
- Double baffles, conveyor skirt boards, dust hoods, removing towers, dust seals and precisely designed details comprising a complete package to reach dust free environment

FIRE PROTECTION
Intensive fire protection including protective cabinets and equipment to offer the highest safety levels possible.

CONTROL SYSTEM
Reliable, safe and easy to use plant automation.
- Field instrumentation to secure safe operation and adequate signalization
- Hardware based on worldwide brands to follow customers’ preference
- Software developed to satisfy the most demanding reporting needs; Batch Information Management System (BIMS)
- Connectivity to enterprise resource planning (ERP), like SAP
- Weigh controller selected to achieve advanced connectivity, speed and accuracy
- Operator interface with comprehensive graphics and user intervention in several operation modes
- Advanced security features and interlocks to prevent human error
- Remote and wireless access via VPN connectivity
WEIGHING
The roots of the company are in weighing technologies. Mass and force measurement utilizing strain gauge load cells and weighing instrument for accurate signal conversion form the core of expertise of Lahti.

The core components are used for hopper scales for raw material weighing. Along with the dosing feeders and advance process control they guarantee precise and consistent batch preparation. The controls contain sophisticated features for automatic pre-act value change, when raw material flow properties change due to moisture. That means cut of material flow to the scale exactly at correct moment eliminating tolerance errors. This dynamic feature means unbeatable accuracy of dosing.

FLOAT
Float lines have originally established the glass industry’s most demanding requirements for dosing and weighing accuracy, and mixing homogeneity. In addition, robust, reliable cullet return systems are indispensable.

Lahti has repeatedly satisfied such needs with all the major global float glass producers, as well as regional and local producers. Our capabilities include all phases of engineering and construction for green field, brown field, and modernization projects. The scope can flexibly vary to meet specific client needs – from the supply of key components and control systems, to the entire scope of the batch plant and cullet return system.
Lahti has developed unique, completely pneumatic batch plant technologies for reinforced fiber glass production. The know-how is based on fluidization technology which enables material transfer by using only a small quantity of compressed air in low pressure.

Traditional screw feeders are replaced with air slides and double dosing valves. The only moving part is the double dosing valve. Mixing takes place in a unique pulsating pneumatic blender, after which the batch is transported pneumatically to the furnace silo. The unique technology allows for simpler layouts, easier maintenance, and reduced operating costs.

Through cooperation with a key client, Lahti originally pioneered an innovative system to recycle fiber forming waste. The unique process does not require energy-intensive grinding and incorporates simple transport systems – thus yielding low operating costs, high yield and availability, and very quick payback times.

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Several additives for bright colors and ultra-clear glass are commonly needed in tableware production. Precise minor ingredient dosing can be secured by using Lahti Glass Technology’s solutions, which can form an automatic or semi-automatic premix system or direct addition of the additives to the batch mixer. Through careful design, contamination due to wear or material leakages is minimized.

The use of glass collected from households and industry which is then purified and used as a raw material in glass wool production is a growing trend. Lahti Glass Technology has developed jointly with its customers batch plant technology that is flexible in usage of cullet. These plants utilize our own dosing belt scale technology, which allows for a large range capacity – thus maintaining good cullet dosing accuracy.
SPECIAL GLASS

LOW IRON GLASS
In solar applications very high transparency is one of the most critical requirements. Special attention for iron contamination, which reduces transparency, in raw materials should be taken care of in a Batch Plant dedicated for low iron glass production. Lahti has a special design for material flow, special materials for contacting surfaces and raw material purification fulfilling such requirements. Also modification of an existing batch plant is possible for low iron production. Please contact us for additional information.

ULTRA THIN GLASS
Glass production for smart phones, tablets, flat TV sets and other electronic devices requires special technology. That starts from the batch plant, which has special features compared to a standard plant. Valuable raw materials and ingredients are exclusively protected against contamination. Segregation of the batch is avoided by automatic batch container transfer replacing conventional batch transport. References are available upon request.

BOROSILICATE, TECHNICAL AND ART GLASS
Lahti Glass Technology’s expertise in batch plants covers also technical glass production; sodium silicate glass, borosilicate glass, foam glass and funnel glass. For art and decoration glass Lahti has also references. So practically all kinds of glass production and their special requirements are familiar to us.

Dosing Expertise for Glass Industry
www.lahti-glass.fi
EXPERT AT YOUR SERVICES
TO IMPROVE YOUR PRODUCTION PERFORMANCE

ENGINEERING
- Plant layout design using 3D modeling
- Static calculation and load data for foundations
- Basic and detailed design of silos and buildings
- Assembly and installation drawings and part lists
- Engineering of process electrification and control hardware
- Engineering of process control software and HMI/Scada

SUPERVISION AND COORDINATION
- Project and site operations
- Supervision of mechanical and electrical installation

START-UP
- Process machinery
- Testing and calibration
- Setting up and testing of the control system and instrumentation

TRAINING
- Maintenance and service personnel as well as operators

SPARE PARTS
- Spare part recommendations, supplies and support

UPGRADING AND MODERNISATION
- Upgrading of control systems in light
- Major upgrading during cold repair of the furnace
- Extension and capacity increase of the batch plant

PRE-INSPECTION SERVICE
- Audit inspection of all batch plant machinery to improve production performance and reliability
- Detailed inspection report with recommendations for instant repairs and spare parts or before cold repair.
DOSING EXPERTISE FOR GLASS INDUSTRY

OUR CUSTOMERS

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