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Bühler Indonesia Application Center.

Coffee, Cocoa, Chocolate, Flour Service.

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Innovations for a better world.



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Bühler Indonesia Application Center.

Close to customers.





Bühler Indonesia's Application Center is particularly interesting for customers in Indonesia and Southeast Asia: they can now do trials and analyses nearby, utilizing the most advanced technologies and the latest equipment.

Bühler Indonesia's Application Center offers a variety of services: customers can test equipment, perform analyses, optimize processes and existing products, and develop innovative new products.

The Application Center is not only equipped with state-of-the-art machinery, but also offers in-depth expert knowledge. This not only helps with process and product optimization or problem solving, but is also essential when making decisions about utilizing the right technology. During feasibility studies, product developments, product trials and performance tests, Bühler specialists will provide expertise, advice and support always tailored to customers' requirements and needs.

In order to transfer process and technology know-how, the Application Center has a training room for further education and seminars.

Bühler trial centers are available in China and in Europe as well.

- Product development and trials for chocolate, cocoa, and coffee
- Flour improvements and enzyme application
- Analytical studies
- Training courses

Coffee laboratory.

Innovative solutions for coffee processing.





The coffee laboratory at Bühler Indonesia's Application Center provides the facility to do equipment trials, optimize processes and develop innovative coffee products.

The coffee center is equipped with a RoastMaster 20, an ultra-modern roasting machine, and a lab size grinder. Also, the lab provides the latest analysis tools for process and parameter analyses.

Such trial results are instrumental in validating processes and product characteristics, and assist in selecting the most suitable technology and equipment.

The coffee laboratory focuses on optimizing product quality and reliability as well as maximizing throughput. All of this can always be done with customers' own recipes.

For large batches, Bühler has trial facilities in Switzerland and India. Both allow customers to not only test on a laboratory scale, but to also use industrial-size equipment under real operation conditions.

Gentle processing for first-class coffee specialties.

| Drum roasting | hot air roasting system, for a capacity of 8-18 kg/batch |
|-----------------|---|
| Coffee grinding | laboratory disk grinding |
| Laboratory | Roasting degree color analysis, roasted bean moisture analysis, |
| | cup tasting and sensory analysis |

Cocoa laboratory. Gentle cocoa processing.



The best of a cocoa bean is hidden in its kernel. With Bühler's nibs roasting process, the cocoa nibs are gently processed into high-grade cocoa liquor and the flavor of the cocoa is optimally developed.

Excellent taste and fine flavor of cocoa liquor do not happen by chance: Step by step, Bühler's cutting-edge bean roasting process extracts the very best from every cocoa bean.



Bühler Indonesia's Application Center features a well-equipped cocoa laboratory, offering the following services:

- Customer trials for cocoa processing, from cocoa beans to cocoa liquor
- Optimization of cocoa nibs product recipes, product quality and reliability
- Process and parameter analysis

Bühler experts will assist customers throughout the entire process to get the most and best out of their cocoa beans. Thus, Bühler Indonesia's Application Center aligns itself with Bühler's trial center in Europe.

- Nibs roasting trials using the Tornado RS/X
- Nibs alkalization trials using alkalizer
- Pre-grinding and fine-grinding roasted nibs to cocoa liquor/ cocoa mass
- Pressing the cocoa liquor to cocoa butter and cocoa cake

Chocolate laboratory.

Process and product optimization.





With Bühler's highly flexible production systems, there is no limit to the variety of chocolate forms and flavors. Bühler equipment allows the manufacturing of the most unique recipes for chocolates, chocolate bars and chocolate figures.

Using advanced technologies, state-ofthe-art equipment and qualified consulting, customers can do various tests and trials at the Application Center. They can optimize their production process, and also their product quality and recipes from cocoa liquor and cocoa butter to various chocolate specialties. The DoMiReCo[™] process developed by Bühler has set an international benchmark: Dosing-Mixing-Refining-Conching is the most widely used process in chocolate production, and can be tested at Bühler Indonesia's Application Center as well.

For small batch production, Bühler has developed a new process solution including a bead mill, a mixer, and a light conch: the SmartChoc[™] system. The combination of those elements allows the production of a variety of chocolate and compound masses.

Come, see and experience by yourself!

- Compound and real chocolate mass processing for various application
- Chocolate mass grinding using Buhler roll refining technology
- Chocolate mass grinding using Buhler beadmill technology
- Flavor and rheology development using Buhler conching technology

Bakery test center.

The benefits of flour improver.





Keen on knowing how to achieve an optimal and consistent flour quality? Or how to differentiate a company in the market by using specialty flours and flour improver?

The Bühler food ingredient experts know the answers, as well as the specific characteristics of the various grain types grown worldwide. The team is familiar with local flour preferences and takes them into account for special flour mixes. Flour improver that optimize the specific volume of bakery products as well as their crumb texture and shelf life are particularly high in demand, and tailor-made enzyme applications allow high-quality baked goods.

The bakery test center offers trials, analyses and innovative solutions for enzyme application and flour improvements, customized to individual needs.

| Product | Ingredient | Function |
|-------------------------------|---------------------------|--|
| Avazyme CRA | protease | Improves cracker fermentation, water management, shape and appearance |
| Avazyme Alpha | a-amylase | Balances endogenous amylase activity, quicker fermenta- tion, improves dough handling |
| Avazyme FT | xylanase | Improves dough development and crumb structure, optimizes gluten structure |
| Avazyme Fresh Malto- negic | amylase | Improves freshness, moisture, elasticity and softness |
| Avazyme Gox | glucose Oxidase | Strengthens gluten, improves processibility and shape of bread |
| Avazyme BH | xylanase | Improves dough development, oven spring and bread volume, optimizes gluten structure |
| Avalife | amylase, GOX and xilanase | Bread Flour Improver , special for sweet bread and toast bread, modern bakery (softness, moistness, self-life) |
| Zenmei 600 | amylase (maltogenica) | Cake Improver for softness, moistness, improve self-life |

Trainings and Courses.

Customized knowledge for your success.





Bühler Indonesia's Application Center takes you further when in comes to knowledge. Our training course range from standardized training module to customer-specific training for every level of knowledge and focus.

Bühler's comprehensive training program provides insight into a wide range of equipment and processes, allowing you to gain the knowledge and expertise necessary to perform your tasks better and more efficiently.

Cocoa Course

A step by step review of cocoa processing from fermentation, cleaning, debacterizing, roasting, grinding to the powder production of cocoa. The theory will be applied in a pilot cocoa processing line, which consist of alkalizer, nibs roaster, pre grinder-fine grinder, and cocoa butter press.

Chocolate Course

The course offers a broader perspective on chocolate and compound processing, starting from the raw materials up to tempering. Different processing options, such as mixing, roll refining, conching as well as bead milling are discussed. The technological correlations will also be demonstrated.

Milling Operation Course

A basic course for mill operators and shift millers, it covers relevant topics of the entire value chain and provided participants an excellent opportunity to expand their professional milling knowledge.



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