Application Centre.

Bühler Bangalore.
Ultra modern infrastructure.

BBAN Application Centre
The Application Centre at BBAN is the state-of-the-art utility centre with facilities for conducting product trials, machine trials and to establish new findings and new operational parameters leading to newer applications. In addition, it is the finest destination for undergoing trainings for all levels like mill proprietors, mill managers and mill operators to enhance their skills and to acquire new operating techniques for profitable operation, maintenance and management of mills. The totally integrated application centre provides hands-on working and operating with machines allowing to understand commercial scale intake, conveying, cleaning, weighing, grading, and milling of paddy and wheat.

The facilities at Application Centre:
- Intake and cleaning section
- Paddy and rice processing
- Color sorting
- Atta milling
- Coffee beans roasting
- pargem - for conducting trials for partial germination of pulses and cereals
- Pulses cleaning, grading and color sorting
- Food safety lab for pasteurization of spice products
- Utilisation of solar harvested heat recovery system for drying of moisture grains
- Facility for training of customers’ operators and managers.

Cleaning and grading
The quality begins from cleaning section. Cleaning sections offers best possible solutions to utilise the valuable raw materials in the best possible way.

Weighing scales
Wide range of state-of-the art weighing scales are available for testing of free flowing to non-free flowing materials. Mass Flow balancers are installed for composite blending of different grades of wheat before tempering and milling.

Color sorting
Color sorting offers the opportunity to verify the added values that it generates without risk before going in for any purchasing decision. Multi application of color sorting is established by customers based on the actual trials conducted with extensive range of commodities from food grains to dried vegetable and fruits to plastic chips.

Product trials
Conducting product trials at application centre is like “seeing is believing” experience. Customers walking in with valuable commodities viz., coffee, pulses, and spices can conduct their own trials guided by expert technologist to find suitable process, technology and performance of the machines before making investment decisions. Thus, the combination of customers, Bühler technologists and experts conducting tests and investigations together leading to customized development of new products, while observing strict confidentiality, and process according to specific requirements observing strict confidentiality.

Plant control system
The Bühler’s highly interfaceable and interactive plant control system WiniCos is a state-of-the-art, powerful control concept tailored to the specific needs of the food processing industry. The basic system includes all the essential functionalities such as a process monitoring, powerful database system, user management, product and bin management, remote access, alarm and event logger, job entry format and control.

We provide comprehensive pilot trials in order to test your unique product ideas using a wide range of machinery. At Bühler, we are confident that our valued customers will benefit from our expertise, knowledge and test facilities.
The process logics for operating the plant in automatic, semi automatic and service mode, as well as an extensive process monitoring with the associated alarm handling are part of the basic system. Efficient remote diagnosis and maintenance, but also remote operating of the control system are possible via internet and other state of art IT-functionalities. Customer can have hands-on experience of latest WinCos control system at Application Centre along with complete view of quality built glass paneled control panel revealing functioning of each and every component including variable frequency drives.

Production planning
The customer’s business management system with processes information such as accounting, inventory management, orders and jobs, etc., always serve as the information basis for a company. Production data and jobs for the individual units can be transferred from and to WinCos system.

Production control
Each production unit is provided with a production control system. Its visualization system provides an overview of the production unit, and its data processing system allows this production unit to be planned and processed.

Mill visits
Visit to the mill gives different experiences. For customers intending for new installation, it is the ideal place to view and build their dream plants. For personnel undergoing product trials, it is fun and unforgettable experience to play with machines and to see the instant results.

Mill operators undergoing trainings get the most ideal operating atmosphere to set the machines and parameters for obtaining best possible results at optimum operating conditions.

Hygiene
For Bühler, hygiene of their plants and machineries is part and parcel of business philosophy. The BBAN Application Centre is the model example for the customer providing easy and simple mechanism to keep their plants all time hygiene.

Trainings
- Bühler is customer’s partner and believes in updating its valued customer by providing latest process technology, machines operation and plant maintenance to get full benefit by efficient operation and maintenance of their plants and machineries.
- The target oriented training programs offers the best opportunity for mill proprietors, mill operating managers and operators to undergo training.
- Training by experts of the machines and process with face to face discussions with the participants makes the trainings unique.
- The training programs powered by “all together basis”, thanks Application Centre - processing theory, machine functionality and testing & observing instantly makes the understanding easy and memorable for participants.
- Plant control system is part and parcel of any training programme. The energy conservation and energy savings is the key factor of profitable way of operating of any mill.

Bühler control system based on “Easy operation-higher productivity” concept with high end user interface graphics makes the plant operation & maintenance very exciting.

G.V.L.Chari
Incharge - Bühler Application Mill Centre
Rice mill.
Bühler India is a leading system provider for rice.

Rice is the staple food of almost half the world’s population. More than a billion people are involved in its production and over 250 million farms produce 650 million tones of paddy each year. In creating processing and optical sorting solutions for such an essential commodity, Bühler is aware of its responsibilities to both people and to the environment.

Bühler provides complete solutions to the millers by supplying complete plant and equipments for Cleaning, Hulling, Whitening, Polishing and Grading sections including engineering, erection and commissioning services.

The Bühler facility at Bangalore manufactures the main rice machines along with the control systems, aspiration equipment and accessories.

We enable rice processors to achieve a consistently higher quality of finished product, a greater return on investment and more efficient use of labour and other factors of production. Automated processing systems, tailored to customers’ exact needs, present a compelling case for adoption.

The Application Centre offers rice milling machinery starting from pre cleaning, cleaning, hulling, whitener, polisher, grading and finally the sorting of grains based on colour defects using colour sorter machine to offer rice grains which is of high quality & free from defects, foreign particles and even more.
Bühler is coffee industry’s competent partner in consulting, technology, development, project management and customer service. We offer optimised solutions spanning the entire range of industrial coffee processing.
Bühler’s pioneering process of Atta milling combines the tradition of hygienic processing and safe milling practices. It enables customers to produce Atta flour of best quality, while using less space and energy. As your partner, we look forward to provide sustainable solution for your Atta requirements.

**Benefits:**
- Reduction in unit power consumption (Energy saving)
- More capacity (compact design, less space per Ton grinding)
- Homogeneous and consistent product quality over time
- Better hygienic process
- Better operational performance
- Easy maintenance
- Easy to change product specification (quick and consistent)
- Flexibility in Atta quality
- No stone shavings

_Bühler’s Atta was analysed by Central Food Technological Research Institute (cftri) in Mysore. The overall quality of Bühler’s Atta scored very well._

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**Advantages of Bühler’s whole wheat Atta process**

**Top hygiene**
A stone-less grinding process and easy to clean equipment guarantees a hygienic and safe end product.

**Flexible process**
All major parameter, like (starch damage, water absorption, granulation, end product moisture, aroma and taste) can be varied to your requirements.

**Reliable and easy maintenance**
24/7 up-time. Long lasting equipment with less maintenance.

**Homogeneity and consistency**
Bühler’s Atta process provides homogenous and consistent quality of Atta flour. After powercuts, an easy and steady restart ensures high consistency.

State-of-the-art application centre at Bühler Bangalore. Atta mill is ready for customer trials.

*) Bühler’s Atta was analysed by Central Food Technological Research Institute (cftri) in Mysore. The overall quality of Bühler’s Atta scored very well.

**) depending on wheat quality.

Bühler’s solutions provides you the whole chain – from grain intake, cleaning, milling with the new HC Power Mill, to bagging and quality measurement – for the Atta process. Atta Mill is ready for your trials in Bangalore’s state-of-the-art Application Centre.
Pulses are a rich source of vegetable proteins, dietary fibres, vitamins and minerals. Unfortunately this high nutritional value is limited by the presence of antinutrients that reduce digestibility and micronutrients bioavailability. It has been scientifically proven that germinated pulses have higher vitamins and mineral bioavailability as well as less antinutrients like phytic acid and the raffinose family oligosaccharides (ROF) which cause digestive discomfort.

It has also been proven that germination can improve the nutritional, technical and sensory properties of other grains such as cereals.

The industrial process pargem® has been now developed in order to apply the advantages of germination at industrial level and under high food processing standards. In the pargem process, grains are partially germinated under controlled conditions and stabilized through drying for convenient long shelf life.

The industrial pargem plant produces upto 1100 tons per annum of pargem pulses. The pargem plant is easily transportable, and is designed as a plug-and-play solution for rapid integration and commissioning in an existing mill. It also fulfils highest sanitation requirements, such as easy accessibility for cleaning and no cross-contamination and guarantees highly homogeneous germination.

The pargem pilot plant at our Application mill, simulates on a lab/scale the pargem process of soaking, tempering and drying to produce dried partially germinated whole pulses. The pargem pilot plant is capable of processing 20-40 kg whole pulses per batch of duration 3-4 days (depending upon the type of pulses and degree of germination to be reached).

The pilot plant is provided with temperature and humidity sensors that give the possibility to monitor and control the properties of the different inlet and outlet streams (water and air) and of the product in the process cylinder. The Bühler control system assures the control and the monitoring of the parameters of the process for a consistent product quality.

The pargem pilot plant is available for customer trials to convert variety of pulses and cereals into safe and nutritious pargem products.
Food safety.
Pasteurization process for free-flowing foods.

Food-borne diseases are a significant problem for the food industry. These are generally caused due to considerable presence of pathogens including life-threatening microorganisms like salmonella in food items. The lower the moisture content in food, the higher is the heat resistance of microorganisms. Therefore, dry heat treatments are usually insufficient to inactivate these pathogens.

Controlled Condensation Process
An efficient inactivation of microorganisms can be assured by adding controlled moister heat to the product. This can be achieved by using Bühler’s Controlled Condensation Process for Pasteurization.

One of the core equipment in Bühler’s scope which represents our commitment to food safety is the pasteuriser specifically designed & tested for free flowing products (various nuts & spices). The uniqueness of this system is the precise control of condensation activity throughout the pasteurization process. This "Controlled Condensation" brings in flexibility, which is generally the most desired component as we understand from the industry.

Following key steps form this process:
- Pre-heating of product.
- Steam addition in a controlled manner to allow minimum required condensation
- Vacuum treatment
- Cooling of product

This pasteurization process allows for more than Log5 reduction (if necessary) in total plate count of nuts and spices. Also, since pasteurization of products is carried out at low process temperatures (under vacuum), colour, flavour and other organoleptic properties of treated product are not compromised.

CIP (Clean in place) system is available with CCP.

Test our Controlled Condensation Process (CCP) for pasteurization of your low moisture foods at Bühler India’s state-of-the-art Application Centre. Food safety at its best.
Services at a glance.

Optimization of product quality, reliability and throughput.
- Optimization of energy consumption and emission output.
- Process analysis and trials with your unique products and parameters.
- Assistance in choosing the best manufacturing process for your products including reliable data for your future production.

Added value for the customer.
The modern pilot plant offer tailor-made services for your industry. Experienced research teams test and develop your processes and products not only on laboratory equipment, but also on industrial machines under real conditions.

Our test centre in Bangalore is available for your use. We would be delighted to help you find the ideal manufacturing processes for your products, and look forward to answering any questions you may have.