

## Keep your costs low

*In these turbulent times, the prevailing concern is to pull out of the worldwide economic recession as quickly as possible. Companies are given endless advice on how to weather this recession, leaving as few lasting scars as possible. But there's one piece of advice our good sense tells us is true: «Keep your costs low.»*

*The various techniques and technologies developed by MEURA since its foundation have always focused on improving efficiency and increasing productivity. In short: on making cost savings.*

*Today, our customers can congratulate themselves on having made good choices in the past.*

*I would like to remind you today that our highly professional teams are at your disposal to ensure the maintenance of your equipment, which you will want to keep at peak performance in order to stay ahead of your competition, now more than ever.*

*We hope to hear from you soon.*



Christian De Brackeleire  
Chief Executive Officer



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# Alaskan Brewing Company

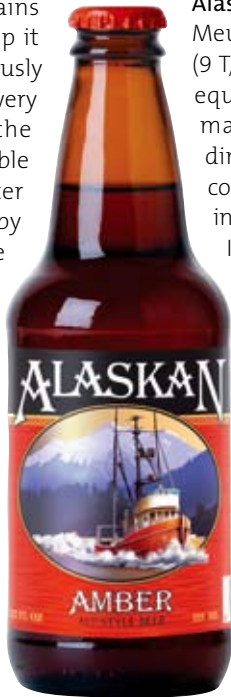


**In 1986, the Alaskan Brewing Company (Juneau, Alaska) opened, becoming the 67th operating brewery in the United States. Alaskan Brewing Co handcrafts some of the country's most award-winning beers in one of the most majestic settings on earth. Their products have brought home more than 100 major medals and awards, almost half of which are gold.**

With no roads connecting the coastal community of Juneau to the rest of the United States, everything arrives and leaves by water or air and the weather always has the last word. At Alaskan, the brewery has relied on innovation to grow as a company without adversely affecting the local environment. For example, by the creation of the Coastal CODE, a nonprofit ocean health initiative, the brewery maintains a commitment to environmental stewardship while providing a true "taste of Alaska" to the Western states. They were also the first craft brewery in the United States to install a CO<sub>2</sub> reclamation system to further reduce their environmental footprint and become more self sufficient.

## Pilot Trials

In the year 2000, the brewery contacted Meura with a specific request. Surrounded by the 1,500 square-mile Juneau Ice Field and the Tongass National Rainforest, the brewery had an issue with disposing of its spent grains. The practice at that time was to dry the spent grains up to 90% dry matter and ship it 1,500km down to Seattle; obviously an expensive solution. The brewery had the idea to dewater the spent grains as much as possible with a Meura 2001 mash filter (thanks to the compression by the membranes) and to use the dried spent grains on-site as fuel. In the summer of 2001, a Meura 2001 pilot filter was sent to the brewery in order to check the highest dry matter achievable with the membrane compression. Trials showed that values of 35-38% dry matter could be obtained with an extended compression time of 30-40 minutes. Another important factor for these trials was to make sure the flavor and



quality standards of their award winning beers would continue compared to their lauter tun based brewing system.

## Industrial Realisation

As a consequence of the positive results of the pilot system trials, in December 2007 Alaskan Brewing Company entrusted Meura with an order for a Classicmill (9 T/h) and a Meura 2001 mash filter equipped with 18 chambers (3.2 T malt throw). The Classicmill was dimensioned in order that one brew could be milled in 20 minutes and no intermediary grist case was necessary. In July 2008 the equipment was successfully commissioned.

The figures from the pilot trials were confirmed with the industrial Meura 2001 and a high dry matter content (>35%) for the spent grains was achievable. In addition, extract savings of about 6% were realized compared to the previous lauter tun. Further an important reduction in waste water was observed. For the year 2008 over 1,000,000 gallons (about 3800 m<sup>3</sup>) of water was

saved (which is about 0,25 l water less per produced liter of beer), knowing that the mash filter is working only at the half of its potential capacity.

The brewery is very satisfied with its decision to install the Meura 2001 filtration technology.

## Monsville Brewhouse

The Alaskan Brewing Company is the first U.S. craft brewer to opt for the Meura 2001 technology. As a result of this successful project, Meura decided to develop a new brewhouse concept equipped with a Meura 2001 mash filter and especially adapted for Craft brewing. The concept is named the "Monsville" brewhouse (see text box below for further explanation).

### Thanks

The Meura team very much enjoyed working with the Alaskan brewing team! Meura would like to thank the Alaskan Brewing Company for their trust and wish the brewery success in the further development of its business!

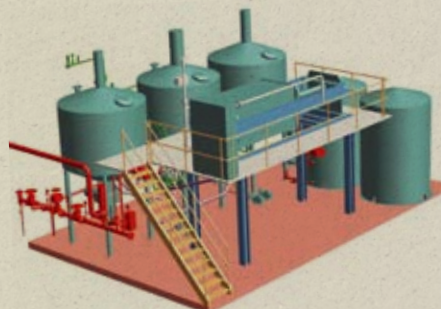
# Monsville

## a Meura brewhouse for the Craft brewer

The Belgian brewing industry is known worldwide for its unique variety of beer types, and also for its important suppliers to that industry. For many years two major equipment manufacturers, the companies "Meura" and "Les Ateliers de Monsville", have been supplying to breweries worldwide. Both companies were created during the nineteenth century; Meura in 1845 with a focus on large scale breweries and Les Ateliers de Monsville in 1888, concentrating on medium-sized and small breweries. In the 1990's Meura and Les Ateliers de Monsville joined forces and are today working under the Meura name.

Over recent years Meura has been frequently contacted by Craft brewers asking for Meura's technologies, but adapted to their needs. This evolution led Meura to rethink their successful large scale brewhouse concept for the Craft brewing industry. This brewhouse concept has been named the "Monsville" brewhouse, referring to the long experience of Les Ateliers de Monsville in small and medium-sized brewhouses.

Two types of Monsville brewhouses have been developed: the Monsville 50 and the Monsville 100, being able to produce respectively 50 and 100 hl of wort per brew. Each brewhouse can make up to 4 to 5 brews a day. Central to the Monsville brewhouse is the Meura 2001 mash filtration technology. A mash filter with reduced dimensions, the Meura 2001 Junior, has been developed, keeping all the advantages of the internationally renowned Meura 2001 filtration technology. The installation is skid mounted and pre-tested according to a "plug-and-play" concept which allows the project to reduce the time of on-site erection and start-up.



The Monsville brewhouse is a state-of-the-art brewhouse especially developed for the Craft brewing industry and having the following unique advantages:

- The Meura 2001 technology enables working with all kinds of adjuncts and at high proportions, which gives craft brewers the possibility to make the recipe of their choice.
- Possibility to work at high densities, advantageous for high fermentation beers
- Exceptional yields (at least 2 to 3% above those obtained with lauter tuns)
- Very dry spent grains up to 30% dry material
- Clear worts can be produced regardless of the presence or absence of husk material.

**Monsville**  
For Craft Brewers, by MEURA

# CERVECERIA COSTA RICA

## A successful project at Cerveceria Costa Rica



Costa Rica (which means “Rich Coast” in Spanish) did not get its name by coincidence. It is indeed a beautiful country with a unique, rich variety of fauna and flora. The country is aware of the importance of its wildlife and, in 2007, the government decided to become the first carbon neutral country in the world by 2021!

Located on the outskirts of San Jose, Cerveceria Costa Rica is the main brewery in Costa Rica.

The major brand is Imperial and it is the most representative beer on the national market.

In 2006, the brewery’s installed capacity was about 1.7 million hl. With the quantity of beer increasing continuously, the brewhouse was becoming a bottleneck due, in particular, to the lauter tun.

For this reason, the brewery started to think about a brewhouse modernisation. After having closely analysed all the technologies available, they finally entrusted this new challenge to Meura.

### The main equipment installed by Meura:

- Milling line with a CLM 4 (classic hammer mill)
- Grist case on load cells.
- Mechamasher 60 t/h
- Meura 2001 double Mash filter with 80 chambers capable of being extended up to 100 chambers. Maximum load of 19.2 tons of malt equivalent.
- CIP Station
- Electricity and automation (Braumat supervision)

Since last year, the brewery has been working with their brand new equipment.

### Brewery’s new figures

Today, with the new Meura equipment, the brewhouse capacity has been increased by 74% compared to the original output.

An average increase of the extract yield of about 1.5% compared to the previous lauter tun brewhouse is observed. This increase will give Cerveceria Costa Rica a quick return on their investment.

It is possible to increase the production up to 14 brews per day at 16 °P. With the membrane compression the Meura 2001 mash filter provides a very dry spent grains with a dry matter of 25-30%.



## Quality beer

Some other parameters have also been taken into account like the organoleptic beer profile. Several tests have been carried out among their customers and brewmasters regarding the beer's taste, and no difference was found from the beer brewed in the old equipment.

Keeping the organoleptic beer profile was one of the main targets for the brewery in order to avoid any consumer comments and complaints.

Meura completely fulfilled this requirement!

## Meura as a real partner

Another success for the project was the delivery time. Between the order and the first brew, only 4 months had passed. The Meura 2001 mash filter is a standard item of equipment where only the length is variable from one project to another, which enables a short production process and thus a short delivery time.

Always giving customer communication high priority, Meura has, among others, a Spanish speaking team with high-level skills able to take on projects in Spanish speaking countries. This was a great help for communication and cooperation, not only with the managers but also for all site personnel.

Full training was delivered in Spanish, avoiding any misunderstandings with operators and allowing a much more open and flexible communication.

We thank Cerveceria Costa Rica for choosing Meura as a partner and we wish them every success for the future!



Front view of one part of the double Meura 2001 Carbo+ mash filter equipped with 80 chambers



Mechamasher 60 T/h

# Expertise in Steeping Tank Technology



**In October 2007, Meura UK was contacted by Greencore Malt as a possible supplier for conical bottomed steeping vessels for the expansion of their Maltings facility at Buckie in the North East of Scotland.**

**In spite of Meura's limited experience in the malting industry, its engineering and process technology enabled Meura to propose a solution to Greencore which was accepted in December 2007 and the order placed in January 2009.**

## Scope of supply

The scope of the project was to supply an installation for the processing of 600 tonnes of Barley per batch to be transferred dry to 10 x 60T stainless steel Steep tanks.

This will require the supply of a chain and flight conveyor from existing plant to feed into the new steeps (98m) - Transfer Rate = 350m<sup>3</sup>/hr.

The steeps discharge onto 2 belt conveyors (36m each) both feeding into a screw conveyor (10m), which discharges into the elevator

The elevator (stainless steel) lifts the steeped barley to the top of the new building (18m) and discharges onto a belt conveyor (52m) and finally discharges from the belt conveyor to 2 screw conveyors each feeding the existing GKV's (Germination Kilning Vessels) 1 & 2 – Transfer Rate = 480m<sup>3</sup>/hr.

The supply also included the pipework for filling steeps with fresh water and discharging effluent, CO<sub>2</sub> venting pipework (with fans), CIP, dust suppression, aeration and air supply, valves, pumps and instruments.



## Design & Implementation

Some of the innovations for the design of the steps related to the CIP of the screens in the plenum chamber as well as using brewery standards for the design and implementation of the stainless steel pipework and valve arrangements.

The requirements of the project were to provide 10 conical bottomed steeping vessels, each with a working capacity of 60,000kg, and a diameter of 6,300mm fabricated in stainless steel.

Due to the issues of transporting large vessels to the site, the project involved the on-site build of the vessels using our sister company CSC who are specialists in on-site fabrication.

Detailed design and planning continued through January and February with site establishment for the on-site fabrication commencing in mid March 2008. This included the set up of the specialist tank fabrication equipment which allows 4,500kg stainless steel coils to be unwound, cut, welded and polished automatically for the construction of the barrel section of the vessels. The cones arrived as flat pre-cut sections and were welded together on-site and then formed into cones. The plenum chambers arrived in similar sections as well as the wedge wire screens, and again these were fabricated on-site.

By mid July the vessels were completed and ready for installation in the new steps building which had been erected alongside the vessel construction area.

Once the vessels and conveyors had been installed, the building could be made weather-proof and the pipework and electrics could commence.

The first barley was transferred to the steps on the 20th September and the installation was commissioned by the 29th September.



## Conclusion:

The new steps building (along with the new dryer installation) increased the site capacity from 40,000 t/year to 59,000 t/year, the installation immediately reduced water consumption and improved the quality of the malt.

This project has been a great success in delivering a quality product to the client on time and on budget.

In the words of our client:

*"We are extremely happy with the way the project has been run; the quality of the workmanship has brought a standard to the industry which is second to none.*

*The time, effort and attention to detail is excellent and the professionalism under which the project has been conducted has given us the end result that we set out to achieve."*

**George Irving**  
Production Director, Greencore Malt



# Current news



## IBD conference African Section, Kwazulu Natal.

From 1 to 6 March 2009, Claude Bauduin, Area Sales Manager for the African Continent, took part in the IBD conference where he gave a lecture entitled: "Meura's First Industrial Results of Continuous Wort Production" and took part in a Panel Discussion.



Claude Bauduin,  
Area Sales Manager for the African Continent

## Chair J. De Clerck XIII, Belgium

An extended Meura team took part in the Chair J. De Clerck conference organised in Louvain-la-Neuve, Belgium from 7 to 10 September 2008. The theme was "The Polyphenol Paradox in Alcoholic Beverages. A Beer and Wine Paradox?" The conferences were very enriching and gave the opportunity to meet lots of interesting people.



## BRAU Beviale 2008

## Brau Beviale, Germany

The Brau Beviale fair in Nürnberg, Germany, which took place from the 12<sup>th</sup> to the 14<sup>th</sup> of November 2008 was, once again, very successful. We would like to take this opportunity to thank all our visitors for their visit to our booth and the interesting conversations!



## Craft Brewers Conference, USA

From April 22 to 23, 2009, Benjamin Mommens, Area Sales Manager for North America, was present, together with the company Centec USA, at the Craft Brewers Conference organised in Boston, USA.



## Meura's 2009 projects

### The most recent orders:

- 1. United Breweries Andhra-Pradesh, India:** Meura is supplying a hammermill (Classicmill) and a Meura 2001 Carbo+ mash filter that will be integrated in the Greenfield brewery supplied by Praj Industries Ltd.
- 2. Nestlé, Australia,** has ordered a Mechamasher (mechanical pre-masher) for their malt extract production
- 3. Castel, Benin:** Integration in the existing brewhouse of a second-hand Meura 2001 mash filter, a new hammermill and a Mechamasher. Also, the milling line is to be modernised.

- 4. Castel Douala, Cameroon:** A hammermill and 2 Mechamashers (one for malt and one for adjuncts) will be installed. A second-hand Meura 2001 mash filter will be integrated in the brewhouse.
- 5. Balaji Breweries, India:** A hammermill (Classicmill) and a Meura 2001 Carbo+ mash filter will be integrated in the brewhouse supplied by Praj Industries Ltd.
- 6. Palm Breweries, Belgium,** have ordered the revamping and upgrade of their Meura 2001 mash filter.
- 7. U.B.L., Mauritius,** Meura is supplying a rice cooker and is in charge of the utilities revamping (glycol circuit and CO<sub>2</sub> recovery).

### Major projects under commissioning:

- 1. Chongqing Brewery (S&N), China:** Meura 2001 Carbo+ mash filter and Meuraclean
- 2. BBH Kiev, Ukraine:** Complete 600 hl brewhouse in parallel with a similar brewhouse supplied by Meura in 2002.
- 3. El Aguila Brewery (SABMiller), Colombia:** Brewhouse revamping with 2 Meura 2001 mash filters, a Classicmill and a Mechamasher.
- 4. Jagatjit Industries Ltd, India:** Meura 2001 Carbo+ mash filter and Classicmill integrated in a brewhouse from Praj Industries Ltd.

- 5. Huambo (Castel), Angola:** Classicmill, Mechamasher and Meura 2001 Junior mash filter.

### Major projects under erection:

- 1. Lagos Brewery (Nigerian Breweries, Heineken), Nigeria :** Complete grain treatment, milling and brewhouse.
- 2. Heineken Gauteng, South Africa:** Greenfield project with a Classicmill, a Mechamasher and a Meura 2001 Carbo+ mash filter.

### Come and visit us at :

- EBC:** Hamburg, May 10-14, 2009 (Hall3, Booth 44)
- Brazil Brau:** Sao Paulo, Brazil, June 23-25, 2009 (Booth 88)
- Drinktec:** Munich, Germany, September 14-19, 2009 (Hall B2, booth 439)

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