

# MEURA 2001 Hybrid

MEURA 2001 HYBRID

## Thin Bed Membrane-Assisted Mash Filter

Today, about 20% of the global beer volume is produced in a brewhouse equipped with the Meura 2001 mash filtration technology, a remarkable figure for a technology that has been industrialised only since 1989. The last two decades, several progressive improvements have been made on this filter. To stay one step ahead, in 2006 Meura, with its wealth of experience in mash filtration (280 Meura 2001 mash filters installed all over the world), decided to rethink its technology.

After almost five years of intensive research, the new design of the Meura 2001 mash filter, the so-called **Meura 2001 Hybrid**, has been developed. It simultaneously delivers the following unique performances:

**High productivity**

(≥ 14 brews per day)

AND

**High extract yield**

(≥ to laboratory yield)

AND

**Very bright wort**

(Imhoff < 5ml/l)

AND

**High gravity wort**

(> 17°P cold wort, without weak wort recovery)

In addition, less than 2.2 litres of sparging water per kilo of malt is needed, which means short sparging cycles and thus a wort quality improvement. A single filter can take throws of up to 16 tons, thanks to a more homogeneous filling of the filter chambers.



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## DEVELOPMENT STEPS

Brewhouse suppliers are continuously challenged to develop technologies improving the extract yields, the productivity and the wort quality while increasing the wort gravity. The Meura 2001 and the latest version, the Meura 2001 Carbo+, are recognized worldwide as **the leading technology in the field of mash filtration**.

The main objective of Meura's mash filter improvement plan was to further **reduce the sparging water ratio**, and this could be done only by improving the flow pattern inside the filter chambers.

In 2007, a first prototype of the so-called "hybrid plate" was installed in our pilot filter at Meura Technologies. The initial results were very promising and test plates were subsequently installed in an industrial filter, which confirmed and even exceeded the pilot results. At the end of 2008, the hybrid plates were ready for industrialization and the first Meura 2001 Hybrid (for the hybrid design of the filter plates) was installed in Palm Breweries (Belgium).

## NEW DESIGN

The major improvement with the **Meura 2001 Hybrid** lies in a conceptual change in its filter plate design. Previous internal research showed an irregularity in the sparging efficiency of the filter bed cakes. The reason was a different filling pattern from one cake to another (see drawing, left side underneath). A solution was found by keeping only the filter bed that produced the best sparging efficiency.

The **Meura 2001 Hybrid** was born, which has filter plates of one single identical design. The plate is now called the "hybrid" plate and no longer a "filter plate" or a "membrane plate". Each hybrid plate is equipped with one cloth AND one membrane (compared to previous versions of the Meura 2001 mash filter which had plates equipped with two membranes OR two cloths). See drawings.

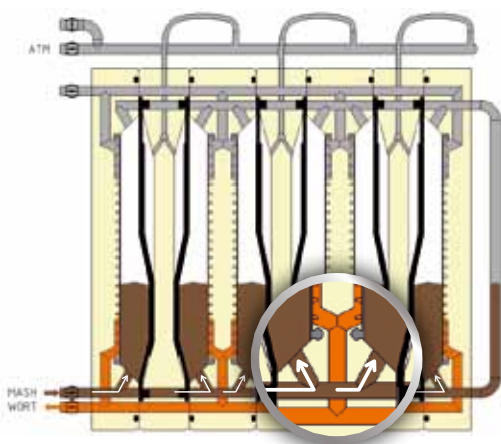
## ADVANTAGES

This leads to a wide range of advantages:

- Plates are filled with an improved regularity, thus with an optimal homogeneity of the cake.
- Shear forces during filling are further reduced, which improves the mash filterability.
- The wort quality is improved thanks to a reduced sparging ratio (below 2.2 l/kg while maintaining 100% of extraction yield).
- Thanks to the improved flow pattern, the filters can now be equipped with up to 160 plates (15.5 tons) compared to the previous filter equipped with maximum 65 chambers (12 tons).
- Reduced sparging time and thus shorter occupation time.

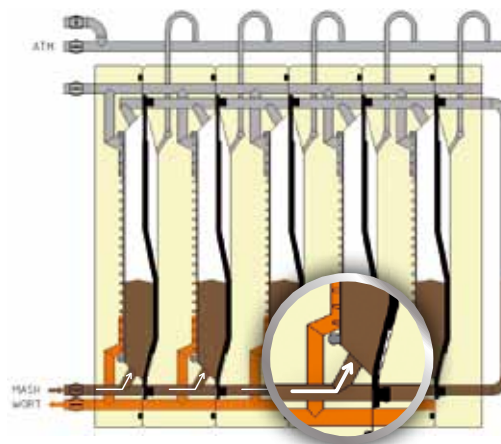
**All these advantages currently make the new MEURA 2001 HYBRID the best and most efficient mash filter in the world!**

### MEURA 2001 – (previous version)



*Note: with the Meura 2001 a filter chamber was defined as having two filter beds formed on two cloths including two membranes. One chamber could have a load of 175 kg of malt or malt equivalent.*

### MEURA 2001 HYBRID



*Note: with the Meura 2001 Hybrid, one plate has one cloth and one membrane and thus contains one filter bed. One plate is designed for a nominal capacity of 90 kg malt or malt equivalent.*

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