MECHAMASHER

Mechanical pre-masher

The mashing-in process is a crucial step in modern brewing practice for several reasons:

- The trend toward high gravity brewing requires mashing-in at a low water/grist ratio;
- The limitation of mash oxidation is necessary to ensure that the final beer has a long shelf life;
- The mashing-in process influences the mash filterability and thus the brewhouse productivity (number of brews/day).

Traditional mashing-in is performed by a hydrator directly connected to the top of the mash conversion vessel.

This method is no longer adapted to the modern brewing practice mentioned above since:

- High oxidation of the mash occurs when it falls inside the mash conversion vessel;
- Lump formation is almost unavoidable for the thick mashes that are necessary for H.G.B.;
- High agitator speed is required afterwards to up break the lumps, resulting in the generation of shear forces that finally reduce the mash filterability.

To prevent these serious problems, **MEURA** has developed a mechanical pre-masher, the ***MECHA*MASHER.**

MECHAMASHER

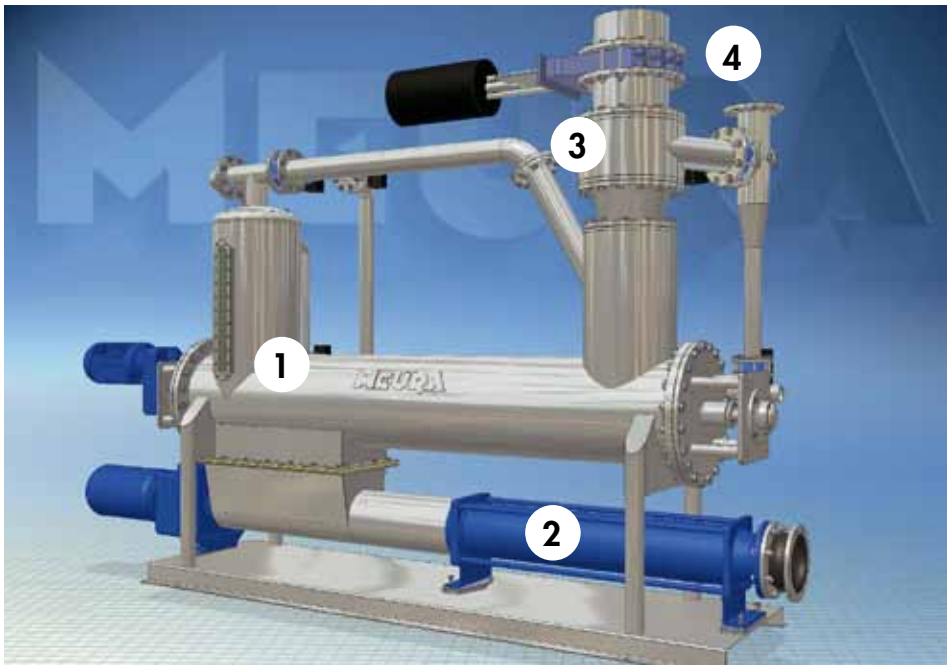
MAIN ASSETS

- Excellent hydration of the starch without any lump formation.
- The mash can be pumped to any mash conversion vessels or cereal cookers avoiding a problematic grist transport and its oxidation in existing plants.
- Very low oxidation during mashing due to reduced air/product interface and therefore the ideal partner for the ***CARBO*MILL** (drastic reduction in the nonenal potential).
- Ideally suited to H.G.B. – high gravity brewing (production of thick mash down to 1.8 l water per kg malt grist).
- Able to pre-mash all types of adjuncts.
- Easy maintenance.

TECHNICAL DESCRIPTION

Meura's mechanical pre-masher, the ***MECHA*MASHER** is based on the hydrating technology of Steel's mashing machine. It consists of a horizontal tank in which a specially designed pre-mashing screw rotates. This screw provides constant and homogeneous lump-free mixing of malt grist and water, whilst eliminating air from the grist and consequently limiting oxidation.

The ***MECHA*MASHER** (1) is first filled with water in order to drive out the air. When a pre-set water level is reached, mashing-in water is transferred to the mash conversion vessel by means of a screw-type transfer pump (2) located underneath the ***MECHA*MASHER**. When the preset volume of water has been transferred to the mash conversion vessel, the grist is fed (4) at a constant flow rate into the ***MECHA*MASHER** through a hydrator (3) where mashing-in water is supplied at a preset water/grist ratio and temperature.



When the required amount of grist has been fed into the ***MECHA*MASHER**, additional mashing-in water is supplied for rinsing and reaching the desired density in the mash conversion vessel. The ***MECHA*MASHER** is cleaned once a week using normal brewhouse CIP solutions.

Types	Total installed Power (incl. Pump) (kW)	Capacity (tons malt grist/ hour)
MEC 1	15	Up to 25
MEC 2	19	From 20 to 40
MEC 3	37,5	From 30 to 50
MEC 4	44,5	From 50 to 70

SOME REFERENCES

- Angarsk Brewery, Russia (70 t/h)
- Bavaria, Columbia (30 t/h and 70 t/h)
- Baltika Novosibirsk, Russia (50 t/h)
- Bracongo (Kinshasa), Congo (30 t/h)
- Brasimba (Lubumbashi), Congo (30 t/h)
- Brasseries du Cameroun, Yaoundé (30 t/h), Cameroon
- Brasseries Star, Madagascar (25 t/h)
- Cabinda, Angola (15 t/h)
- Carlsberg Frederica, Denmark (70 t/h)
- CCU, Chile (70t/h)
- Cuca Brewery, Angola (50 t/h)
- Desna Brewery, Ukraine (50 t/h)
- Fax Brewery, Denmark (50 t/h)
- Florida Bebidas, Costa Rica (60 t/h)
- Harboe Brewery, Denmark (50 t/h)
- Labatt Brewery, Canada (60 t/h)
- NLDC – Martens Brewery, Belgium
- Nocal Brewery, Angola (50 t/h)
- Nocebo (Huambo), Angola (15 t/h)
- Perm Brewery, Russia (50 t/h)
- Povolzhe Brewery, Russia (50 t/h)
- Radegast Brewery, Czech Republic (50 t/h)
- Rogan Brewery, Ukraine (50 t/h)
- Sedibeng, South Africa (50t/h)
- Shymkentpivo, Kazakhstan (50 t/h)
- Slavutich Brewery Kiev, Ukraine (50 t/h)
- St Georges Brewery, Ethiopia (50 t/h)
- Tanzania Breweries, Tanzania (50 t/h)

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MEURA

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