



# THE MASH AGITATOR COLIBRI

## New Design Approach for Improved Mashing

### Mixing instead of Stirring:

- Wing-like profile of the helix agitator blades improve both mixing and heat transfer rates
- Perforated agitator bars above the bottom heating zone ensure flow and mixing
- Alternating inclined transverse bracings intensify homogenizing effects
- Suitable for malt and raw grain

### Advantages:

- Highest enzymatic conversion rates
- Most efficient usage of raw materials
- Shorter mashing times
- Perfect heat transfer
- Self-cleaning effect on all heating zones





The design of the agitator plays a decisive role for the entire mashing process. The agitator should achieve a highly efficient heat transfer and avoid the "burning" of the mash at the heating zones. Second, the agitator has to ensure a homogeneous distribution of temperature and concentration. Furthermore, the agitator shall work without higher shear forces since these forces may have negative effects on the filtration of mash and beer. All these criteria must be met with a wide range of concentrations and viscosities – keyword: mashing with adjunct cereals.

The mash agitator COLIBRI is a combination of perforated plates, anchor-type agitator blades and spirals. The perforated plate above the bottom heating zones ensures the required flow and mixing. At the end of the perforated plate two solid bearers are mounted, which pass the shell heating zone like an anchor agitator. These bearers have a spiral, which passes through the mash with its wing-like profiles. The homogenizing effect of the COLIBRI is further intensified by an inclined transvers bracing. Overall, the COLIBRI ensures the requested turbu-

lences at the boundary layers of all heating zones as well as the horizontal and vertical homogenization of temperature and suspension. The agitator operates with low rotational speed and thus with very low shear forces acting on the mash.

The previously installed COLIBRI mash agitators work reliably and efficiently in batch sizes from 50 to 500 hl mash volume.

**COLIBRI**  
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