

WOOD FIBREBOARDS

WEKO OFFERS SOLUTIONS ...

weko



APPLICATION OF WATER AND RELEASE AGENT

WOOD FIBREBOARDS – APPLICATION OF WATER AND RELEASE AGENT

THE TASK

INCREASING PRODUCTIVITY AND LOWERING MATERIAL CONSUMPTION

To activate the adhesive in the hot press when manufacturing wood fibreboards in a short amount of time, the effect of steam from the surface can accelerate and intensify heating. This so-called steam shock makes high moisture of the entire fibre material superfluous, since the steam is pressed into the briquette penetrating all the way to the centre layers.

However, the amount of liquid must be applied very exactly to both sides.

Another challenge in production is that the moist fibre cake, when applied to the conveyor belt, can adhere to the mould substrate or later the press. This soils the plant.

The task at hand is to apply water very finely and exactly metered on both sides of the fibre cake. Exactly metered, added separating agent, at the same time prevents adhesion of the fibre cake to the production equipment and soiling it.

Application of water

Because of the so-called steam shock, the heat of the downstream hot press penetrates the fibre web more quickly, the adhesive is activated more rapidly and the press time is reduced.

This leads to greater production speeds and, in addition, increased board density and improved smoothness of the surface, which reduces the subsequent sanding process and, consequently, material consumption.

Addition of release agents

Applying a release agent on the fibre cake and the conveyor belt prevents the fibre cake from sticking to the conveyor belt and the moulding press.

OPTIMALLY CURED WOOD FIBREBOARDS REQUIRE LESS GRINDING ALLOWANCE AND THUS LESS MATERIAL.

THE SOLUTION

NON-CONTACT LIQUID APPLICATION WITH FINEST METERING

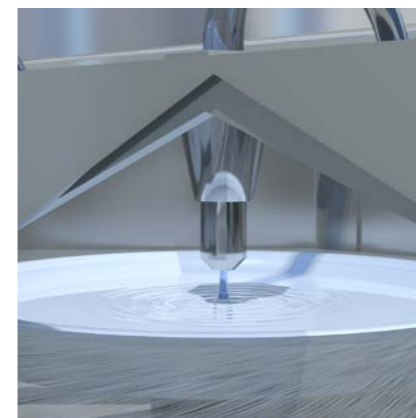
Effectively utilising the steam shock is a very efficient option of activating the adhesive in the fibre cake. WEKO-Fluid-Application-Systems (WFA) such as **WEKO-FLOW** with **WEKO-SIGMA** ensure exactly metered liquid application on the fibre cake, because the WFA work with a highly efficient rotor technology. They generate micro-droplets sprayed without direct contact and exactly measurable across the entire width of the fibre or chip cake as well as the forming belt. The application quantity automatically adjusts to the machine speed ensuring a constant, reproducible and uniform application.

Release agents are added, metered and applied in smallest amounts as needed. In addition, the WFA can be adjusted flexibly enough to be profitable also with very small production runs.

THE REALISATION

WOOD FIBREBOARD NEEDS WEKO-FLOW WITH WEKO-SIGMA

WEKO-Fluid-Application-Systems for the coating of the fibre cake, comprised of the Liquid Supply Unit and System Controller **WEKO-FLOW** in various versions with the rotor carrier **WEKO-SIGMA**.*



ULTRA-FINE METERING APPLICATION SYSTEMS FROM WEKO FOR PRECISE, REPRODUCIBLE RESULTS WITH MAXIMUM PRESERVATION OF YOUR RESOURCES.

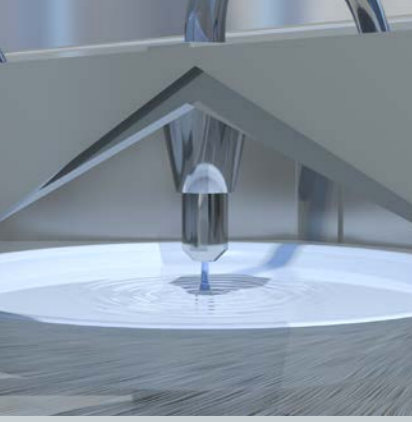
* For technical details, refer to the technical page WEKO-FLOW with WEKO-SIGMA

THE GOAL IS TO USE THE LIQUIDS EFFECTIVELY ENOUGH TO OPTIMISE YOUR OUTPUT.



Your benefits at a glance

- Precisely defined reproducible application quantity
- High long-term constancy of liquid quantity and distribution
- Low energy consumption
- User-friendly
- Long service intervals through flow and return filter system
- Resource-preserving liquid management
- Smooth integration/retrofitting for existing forming lines
- Reduction of the press time, grinding allowances and varnish consumption
- Increasing the board density as well as the bending and delamination strength
- Increasing quality and productivity



ENGINEERING – WATER AND RELEASE AGENT APPLICATION NEED WEKO-FLOW WITH WEKO-SIGMA

COATING WOOD FIBREBOARDS WITH THE NON-CONTACT APPLICATION SYSTEM

You would like to apply water and release agent to manufacture wood fibreboards with maximum productivity and minimum material consumption? With WEKO-Fluid-Application-Systems (WFA), consisting of WEKO-FLOW in various practical versions, and WEKO-SIGMA, this task is easily managed, because with spray application coating can be metered very precisely and reproduced at any time. This saves valuable resources and provides you with much flexibility. Water with release agents or other additives is applied entirely as needed and with smallest amounts. What's more, the systems can be adjusted flexibly enough to be profitable also with very small production runs.

This is how it works

Coating is applied with the WEKO-SIGMA rotor carrier. Spray disks, the so-called rotors, are arranged side by side in the rotor carrier. They are supplied by the WEKO-FLOW Liquid Supply Unit with the desired amount of liquid. The rapid rotation of the rotors produces a uniform flow of microscopically small droplets. Adjustable sliders direct the flow so that a defined spray fan is created for each rotor. The individual spray fans are seamlessly arranged side by side providing uniform application.

Always the right amount of liquid

The purpose of the WEKO-FLOW is to supply the application system with the desired amount of liquid. Furthermore, it is responsible for the control and regulation of the entire rotor application system. The frequency-controlled rotary pump transports the liquid from the storage tank to the rotor carrier. A flow meter monitors the supplied quantity according to the quantity specification and the rotary pump's speed is controlled. The application quantity is automatically adjusted to the machine speed keeping metering constant. Liquid not sprayed by the rotor carrier is returned to the storage tank of the supply unit. Consequently, it is not lost but remains in the liquid circulation.

THE WEKO-SIGMA ROTOR CARRIER DISTRIBUTES THE LIQUID VIA ROTORS UNIFORMLY ON THE FIBRE CAKE.

Convincing in handling and maintenance

The modular units WEKO-FLOW and WEKO-SIGMA were adjusted in Development and Engineering for the use with a variety of liquids. It is important especially when using chemicals that the retooling and cleaning times are kept short to ensure high productivity. We have given special attention to the convenient handling and easy maintenance of all components allowing them to work reliably for a very long time.

The result is easy access to all components and especially quick and simple replacement of the rotors.



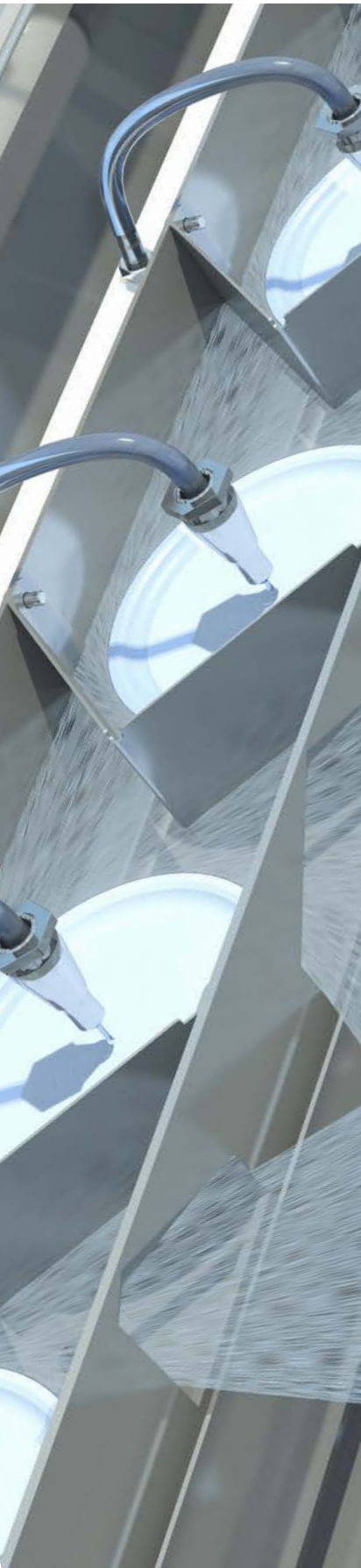
THE ROTORS CAN BE REMOVED IN A FEW STEPS.



A MODEL OF THE WEKO-FLOW SERIES, CONSISTING OF: STORAGE TANK, ROTARY PUMP, PREFILTER, HYDRAULIC ELEMENTS, TOUCH-PANEL, PLC SYSTEM CONTROL AND MONITORING.

WEKO-FLOW with WEKO-SIGMA at a glance

- Various model series according to the demand
- Exactly defined application quantity, also in the minimal range, that can be reproduced at any time
- High long-term constancy of liquid quantity and distribution
- Economic consumption of application medium
- Non-contact application
- Automatic speed adaptation
- Low energy consumption
- Operator-friendly through rotors simply plugged in and removable as well as removable liquid supply system
- Drive components and bearings separated from the spray area
- Short retooling times
- Low maintenance
- Very long service life
- Compact space-saving design
- Modular design allows easy adjustment to applications and customer requirements
- Touch panel with user-friendly system interface
- Good accessibility for system service and liquid change
- Flushing program programmable to specific applications and pump-out of residual liquid





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