

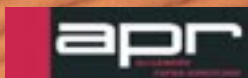


Hamburger-Spremburg
A company of the W. Hamburger Group

Start-up of

THE NEW PAPERMACHINE 1

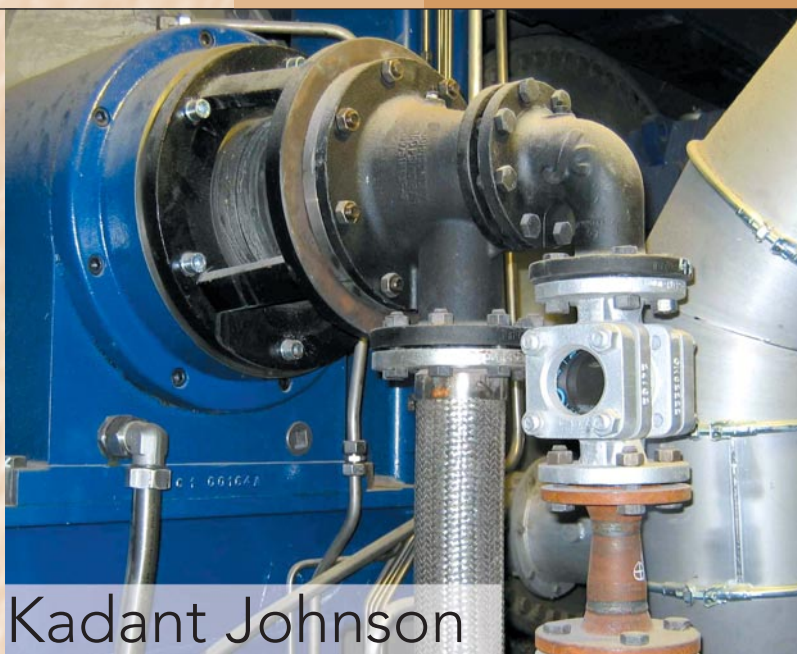
White papers for the corrugated board industry from
the Hamburger-Spremburg paper mill



Special issue of apr



Kepler Medien Gruppe



Kadant Johnson MORE THAN JUST STEAM HEADS

The new mill in Spremberg commissioned the market leader Johnson to supply steam heads, stationary siphon and dryer bars.

In 1933, Johnson developed a solution for transporting liquids and gases under pressure from a stationary pipe into a rotating roller or cylinder. These components are a familiar and essential sight as steam heads in all areas of industry today. The Kadant Johnson research and development centre in Three Rivers, Michigan, USA, is also unique anywhere in the world, with two drying cylinders (working width 6.50 and 8.80 m) being available to customers for test purposes.

The heat transfer, CD moisture profile, drive power and torque requirements, etc. of complete systems, i.e. steam heads, siphons and dryer bars, can be tested there. Customer-specific operating conditions and equipment can be simulated in advance, to determine the optimal combination of components and the effects on paper production.

All speculation about condensate properties can be eliminated with the help of a real-time video recording of the inside of the cylinder.

PTX steam heads with stationary siphons were used for the entire dry end in Spremberg. They provide reliable condensate removal from the drying cylinders even when the requirements are extremely demanding. The components – particularly the steam heads – are exceptionally hard-wearing and need practically no maintenance as well.

Tube bars help

The use of Turbulator® tube bars is essential for effective heat transfer and a level CD moisture profile. The turbulence of the condensate that is caused by gravity is reinforced between these stainless steel bars that are located at specified axial intervals. The height of the bar and the spacing between bars are important factors when optimizing the heat transfer. When the correct spacing and height of bar is used, the resonance of the condensate provides the maximum amount of heat transfer and drying capacity. The other benefits include improved energy efficiency and a higher temperature on the surface of the drying cylinder. Newly developed "detuned" tube bars are



CONDENSATE BEHAVIOUR IN THE DRYING CYLINDER.

available for cases where higher cylinder surface temperature is unwelcome but an improvement in the CD profile is necessary.

Distance is important

Correct setting of the distance between the siphon shoe and the inside wall of the cylinder is frequently miscalculated or no specific recommendations are available. The optimal clearance for all Kadant Johnson steam head/siphon units has been determined empirically in extensive test series at the research laboratory. Incorrect distances can lead to considerable limitations on the drying capacity of high-speed machines in particular.

Kadant Johnson supplies a supervisory control system for the steam and condensate system in addition to the dryer drainage system, vacuum pumps and thermocompressors. With the help of integrated process simulation, this can lead, to shorter grade changeover and sheet break recovery times. The moisture level after the press can be monitored constantly via an energy management module.

ILL. ON THE LEFT: KADANT JOHNSON PTX STEAM HEAD.

IDEAL SIPHON CLEARANCE

