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### **The detrashing technology by IntensaMaXX™**

Satoshi Orido  
Voith IHI Paper Technology Co., Ltd.

For the detrashing system of pulping stage, more effective machine is required because the contaminants ratio of raw material is getting increase recently. The IntensaMaXX™ is the detrashing machine which fulfills the requirement for better detrashing operation. The rotor and screen plate are located at the top of the tank, and this layout prevents wearing and jamming by heavy contaminants. The rotor axis is located as eccentric against the center axis of the vat. This layout prevents strong centrifugal flow and also growth of long contaminants. The piping layout is also considered for the better reject removal. At the actual operation, IntensaMaXX™ is saving much power consumption and the cost of wearing parts as well. At the same time, the machine can be operated without any trouble for long time.

### **ANDRITZ FibreSolve FSV(U)pulper for hard-to-pulping paper**

Yosuke Takeshita  
Andritz K.K. Capital Systems Sales Group

Water-proofing paper is a very effective countermeasure to reduce the amount of plastic products. However, it is necessary to convert essentially from water-soluble paper to water-resistant paper, which requires the application of water-resistant chemicals in the paper-making processes. The treatment of waste papers in the paper machine contributes significantly to the productivity of the paper machine, and it is necessary to treat this hard-to-pulping waste papers as quickly as possible. This paper describes a case in which the treatment of wastepaper in the process was accelerated by using our FibreSolve FSV (U) C-type pulper.

### **Development of online pulp color dirt observation equipment**

Michihiro Fujiyama  
Control System Division Nippon Paper Unitec Co., Ltd.

The method of measuring dirt in pulp is performed which are visually confirmed and measured by humans. However, with this method, there is a large time lag when managing dirt on a production line and continuous measurement is difficult. Therefore, OMRON has started manufacturing system that can monitor dirt in pulp in real time. After that, OMRON discontinued the product, and we developed the system as a successor to the product, released the product as a monochrome version of the online dirt meter.

On the other hand, the ratio of DIP used has increased due to the increasing recycling momentum and environmental measures, the operation department needs to manage color dirt that are difficult to detect with monochrome versions such as UV ink and color impurities. Therefore, we worked on colorization of the online dirt meter in collaboration with Nippon Paper Industries Iwanuma Mill, and started developing system that "visualizes" color dirt in pulp in real time. This paper introduces the development of product and functions of this system.

## **Introduction of a Conveyor Bearing Temperature Monitoring System using an Optical Fiber Temperature Sensor**

Nobuyuki Hiroyoshi  
Yonago Mill, Oji Paper Co., Ltd.

In August 2013, the Oji Group experienced a chip conveyor fire at one of its mills. To prevent the reoccurrence of similar problems, the Oji Group decided to install fiber-optic temperature monitoring equipment at selected chip conveyors that would affect mill-wide operations if they were to stop. Between 2019 and 2020, the Yonago Mill has equipped five conveyors that match the condition with the system and devised the method of laying fiber-optic cables, which has prevented conveyor fires. This report illustrates an installation of an optical fiber temperature monitoring system on the Line 1 tube conveyor at the Yonago Mill.

## **Next Generation Preventive Maintenance by The Remote Condition Monitoring**

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In the pulp and paper industry, decentralized digitization and control using DCS has been widely spread and has been operated in a mixed form with manual control by operators. In recent years, with the decline in the workforce and the difficulty of passing on technology, optimized control, in which several control processes are automatically controlled on top of decentralized control by DCS, has also begun to be introduced. In order to promote this digitalization and eventually expand it to DX, the important thing is to collect as much data as possible at the end of the process (number of sensing) and to manage the operation without stopping the collection. This paper describes the next generation of preventive maintenance services provided by the Valmet Performance Center, one of the functions of the Valmet Industrial Internet, and the Asset Performance Manager, which is linked to the Valmet Performance Center, as well as the Flow C