

Trait d'Union

Quarterly information magazine

May 2005

IR.D.S. exhibits...

In October 2004, IR.D.S. attended the ATIP exhibition held in Bordeaux, France.



ATIP – Bordeaux – IR.D.S. booth

An InfraDry infrared hood was exhibited at the booth of ABK Machinery, a partner of IR.D.S.

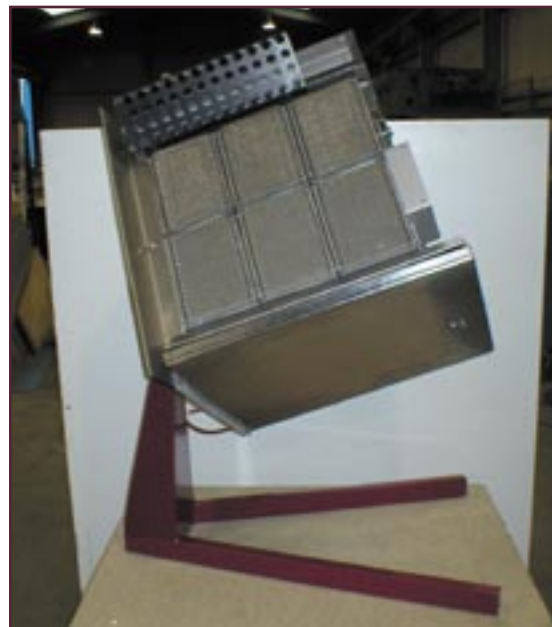
This hood was equipped with the latest generation of the InfraRay™ emitter. The new emitter is the result of an 18 month R. & D. project and gathers all the advantages of years of IR.D.S. infrared technology. Power density, emissivity, radiation efficiency and lifetime have been optimized thanks to an updated emitter design and material choice.

Our new InfraRay™ emitter is compatible with each of the existing emitter types, as a "one to one" replacement, easily mounted directly onto existing mixing tubes.

The hood which was exhibited was provided with an "air knife" system to break the air/steam boundary layer.

Such a system prevents the ambient cold air and steam, carried along with the paper, to get into the web-emitter space, increasing system efficiency. The new version of the InfraDry™ hood exhaust collector was also exhibited. This new manifold geometry is the result of a joint development between IR.D.S. and Simuflow, a spinoff of the Brussels University. Compared to the previous manifold, the new collector enhances the uniformity of flue gas exhaust flow across the sheet, preserving even moisture profiles.

For the second consecutive year IR.D.S. also at-



IR.D.S. hood equipped with an «air knife» system

tended the Brazilian Pulp and Paper exhibition (ABTCP) in Sao Paulo, Brazil.

This event was an opportunity to meet many potential clients whom showed much interest in our technology.

IR.D.S. believes in the development of the Pulp and Paper Industry in Latin America and has recently received its first order for replacement InfraRay™ emitters to be delivered in Argentina.



"The sector has proven itself capable of maintaining its market share through ongoing investments." Koen Van Overbeke, IR.D.S. Technical Director.

IR.D.S.

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IR.D.S launches the ITurn™

Air turn equipment has been in operation in the Paper Industry for many years.

Conventional web turning systems however have a few drawbacks : large quantities of air being used, leading to a high energy consumption and noise; web edge flutter; perturbation of adjacent equipment – like infrared – due to air spillage; ...

Also the air cushion is typically not uniform cross machine. This generates sheet run instability, and may lead to moisture profile problems, especially when an infrared system is installed in front of the airturn.

IR.D.S. has designed a web turning system using proprietary "gentle floatation" technology.

Intensive numerical simulation, using CFD software, was used in the R & D program, which has led to a unique airturn design, optimizing the use of air.

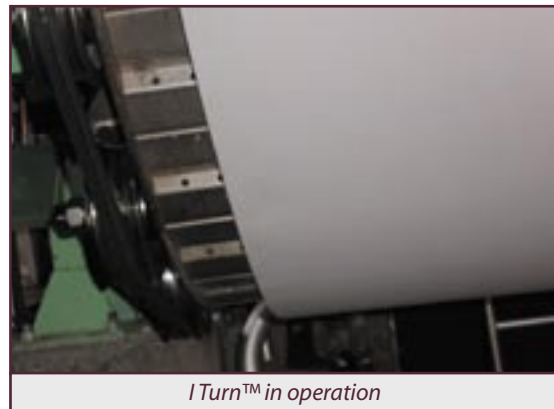
A special arrangement of round nozzles and slots produces a low pressure air cushion with reduced air spillage. The sheet web glides around the surface of the air turn with little or no sheet flutter. Uniform pressure across the whole surface of the ITurn™ body generates a stable and smooth sheet run.

Further, the air distribution is optimized through a proprietary air plenum geometry with an adjustable baffle for fine tuning the air distribution. On large machines, several chambers provided with

slot-openings are used in addition to the baffle to insure the air is well distributed.

Compared to conventional airturns, the IR.D.S ITurn™ uses much less air as a result of low pressure requirements.

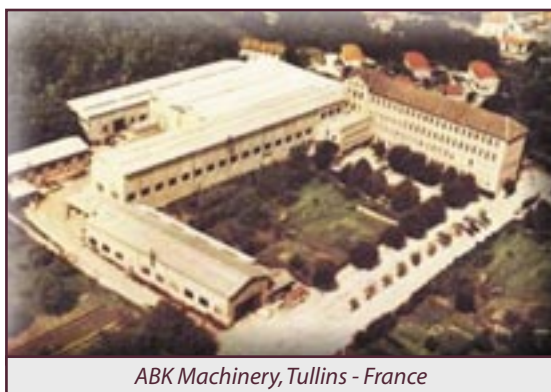
The ITurn™ is also provided with a series of special nozzles at the point of entry and exit in the machine direction to limit the air flow; these nozzles are adjustable.



The ITurn™ has been designed so it can be fed with warm air when flue gas from an infrared system is available.

Various control systems are available from IR.D.S. including web tension and automatic web clearance.

Our mother company, ABK Machinery, a dynamic company which grows fast...



ABK Machinery design, manufacture and provide service on paper machines (up to 7,5m width and 1200m/min) and non-woven dry laid equipment.

The company has a hundred of employees on their

different sites located in France (ABK Machinery; ABK services, ABK automation and MDS), Belgium (IR.D.S.) and Turkey (Alipsan). These partners allow ABK Machinery to offer turn-key installations.

The dynamism, professionalism and know how of ABK Machinery and their partners are major assets to fit customer's needs and expectations.

ABK Machinery and their partners are selling in Europe, USA and South-East Asia; sales outside of France/Belgium represent 60 % of the group turnover.

ABK Machinery, with the assistance of "Coface", has made a special effort to try to expand their business in China and India.

After one year of efforts, the first orders have been recently received: two soft calendars and a com-



Signature of a contract in China

plete special paper manufacturing line both from China.

Many active projects are currently being considered in India... with serious expectation of orders. In France, ABK Machinery has recently received an order from Lecta Group to modernize the press

section of one of the paper machines of the Condat site.

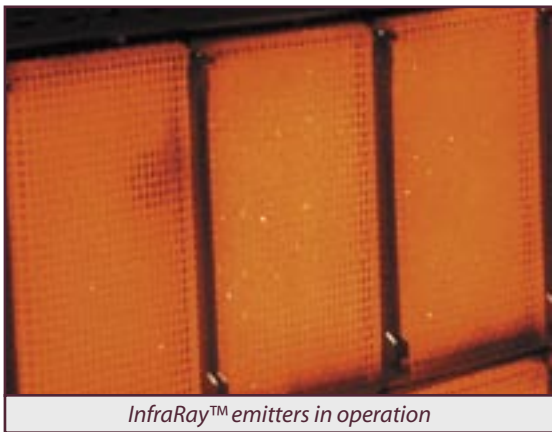
ABK Machinery has also recently given a paper on soft calendering in Thailand at the occasion of a pulp and paper symposium.

In 2005, ABK Machinery and their partners will attend the following p/p exhibitions:

- Tissue World in Nice, France - April 2005
- China Paper at Beijing, China - September 2005
- IP Fair, Grenoble, France - October 2005
- ABTCP in Sao Paulo, Brazil - October 2005
- Paperex, India - December 2005

Additional information on ABK Machinery is available on their website: www.abkmachinery.com

Recent orders



InfraRay™ emitters in operation

During recent months, IR.D.S. has received several orders for InfraRay™ replacement emitters.

Orders were received from Italy (Burgo), Belgium (Gruppo Cordenons; Burgo Ardennes), France (Papeterie de Voiron, Matussière & Forest, Cascades La Rochette), USA (MeadWestvaco, Georgia-Pacific, Weyerhaeuser), Germany (MD Papier, Leinfelder) and Spain (Romani, Reno Di Medici, Aconda).

Also In addition, many emitters, which had been in operation for several years on paper machines and coaters, have been refurbished at the company premises. The process of rehabilitation allows the mill to substantially save on the cost of replacement emitters.

An order from LTR Industries was also received to replace 3 rows of ceramic emitters. LTR Industries is part of the PDM Group, producer of premium

specialty papers and the world's largest supplier of fine papers to the tobacco Industry.

The InfraRay™ emitter is an alternative to your existing emitter. It is a perforated, sintered metal fiber based, surface combustion emitter with an on-machine replaceable screen.



InfraDry™ hood with InfraRay™ emitter

Design reflecting IR.D.S. expertise and knowledge gathered over many years of infrared experience in the Pulp and Paper Industry, the InfraRay™ emitter has unique advantages compared to traditional emitters. These advantages translate into cost savings for you, our customers.

IR.D.S. emitter, a well proven technology

Cascades, La Rochette, France installed in April 98 its first row of metal fiber emitters in replacement of ceramic emitters; the La Rochette mill has two board machines: PM2 and PM3. The very first row of metal fiber emitters was installed on their PM2



IR.D.S. emitters in operation on PM 3

Recently, the three latest rows of ceramic-based emitters were replaced on their PM3. Both machines are now fully equipped with metal fiber technology.

The oldest emitters are now close to 7 years old and are still operating properly.

Some of the reverberating screens have been replaced "on machine"; the IR.D.S. emitter has indeed been designed for easy replacement of the screen: one man – one minute, without removal of the emitter from the hood.

A major problem with the ceramic based emitter system was ignition and detection. It was often difficult to ignite rows of emitters.

"With the installation of the first row of metal fiber emitters, we could see a major difference. This row was always igniting, first time whilst we had problems to ignite the other rows"
said Eric MALLEBAY, Technical Manager.

IR.D.S. is using an electrode with no pilot flame, which is integrated into the emitter itself. This electrode requires virtually no maintenance.



InfraRed Drying Solutions S.A.

A Partner of ABK Machinery

IR.D.S.

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