

# TECHNICAL NEWSLETTER



... "there are no big or small deals. Develop yourselves with us".

David Dostál, Chairman of the Board

## Dear customers, business friends,

This year we offer our customers higher quality at lower price.

1. As the orders declined, we can focus more on every new project, which we realize and we can offer shorter delivery terms.
2. The Czech crown depreciation by more than 15 % in relation to the main world currencies resulted in improvement of competitive pricing. The price reduction of most materials, subdeliveries and services enables another reduction of prices. Significant savings are reached by the development of human resources and improvement in project management.
3. We offer new services as the calculation of the rate of return on the investments, processing of business plans, financing of subdeliveries by own sources or by support of the Czech Export Bank with a minimal share of own sources. In case of interesting projects we offer our participation as a financial investor.
4. We enter new markets and are ready to share our know-how with all partners, who enable us to increase the market share anywhere in the world. We offer the possibility to create joint-ventures, licence sell-offs etc.



### WE HAVE GOOD ECONOMIC RESULTS

In 2008 the PAPCEL Co. managed with a profit at the amount of 1,4 mio. EUR at revenues of 26,5 mio. EUR. The reached revenues can be compared with the year 2007, which can be considered a good result if we take into consideration that we were forced to face the global economic crisis in

the 2<sup>nd</sup> half of 2008. For the year 2008 the PAPCEL Co. will pay out dividends at the amount of 7,1 EUR/share (nominal value 142,9 EUR).

### WE REACT ON CHANGES

The change of development prognosis of the world economy made us re-evaluate our medium-term plans. We reduced our plan of revenues to 21 mio. EUR. We adapted our costs to lower demand to stay profitable this year as well. In 2009 we expect a pre-tax profit at the amount of 1,43 mio. EUR.

### OUR TECHNICAL PROJECTS ARE SUCCESSFUL

In March 2009, after two years of work, we produced and started-up PM 5 for production of fancy papers in the city of Penza (Russia). The project realization resulted in our higher technical level and we plan to use the experience from such a big project in further projects.

### WE CONTINUE ON DEVELOPMENT

In 2008 the technical development was focused on the optimization of waste paper processing lines particularly for the container board production. By means of machines innovation and their new technological arrangement we reduced the line energy consumption by more than 30 % and the investment costs by 7 %. This new conception strengthened our position among the best world companies. ■

Zdeněk Koupil, Project Manager

## NEW PRODUCTION LINE FOR FANCY PAPERS "PM 5 MAYAK-TECHNOCELL"

After more than two years of preparation incl. the own implementation phase (11/2006 - 03/2009) is the project PM 5 MAYAK-Technocell in its final stage. At the beginning of March 2009 the water tests were started, the basic setting of all line parts was done and tests with stock took place.

The new stock preparation line together with the constant part were the first parts to be tested on the stock. The tests of these parts ran intensively already since the beginning of March 2009 to get everything ready for the tests of the own paper machine. On 7<sup>th</sup> March 2009 the paper stock prepared in the stock preparation line got to the wire part over the headbox and during the next five days the basic setting of the wire and press parts and other accessories was completed. All companies taking part in the whole project cooperated on site: MAYAK-Technocell (Mayak Penza, Felix Schoeller), PAPCEL as the main supplier together with its subcontractors Lang-Regler, Lang-Hafner, Voith, GAW, IBS, Kusters, VIB, Chvalis, Aura and Siemens.

On 11<sup>th</sup> March 2009 the first paper web ran through the whole paper machine and the first reel on the rewinder was wound. The new production line is designed for a production of fancy papers 60 - 110 g/m<sup>2</sup> with capacity more than 40 kt/year.



### CELLULOSE PULPING

Bleached kraft pulp is used for production of fancy papers (the short-fibred and long-fibred pulp). The mixture pulping is periodical, in the vertical pulper LCV-30, when the pulps at the amount corresponding with the final 6 % stock consistency are transported by the conveyor into the pulper and pumped into the chest of pulped cellulose after pulping.

When pulping the exactly dosed fillers incl. pigments are carried into the pulper chest. The conveyor of cellulose bales consists of three parts - the preparatory part incl. weighing, the tilting part (for the control of package cleanliness) and the carrying part into the pulper chest. The preparatory part of the conveyor is provided with pneumatic shears and constructionally adjusted for the replacement of the binding wire from cellulose bales.



### CELLULOSE REFINING

The pulped cellulose incl. fillers is pumped from the chest of the pulped stock to the refining line at the consistency regulated to the constant value of approx. 4 - 5 % of fibre. The refining line is provided with 5 pcs of double disc refiners 2D31.

### MIXING AND STOCK HOMOGENIZATION

The refined cellulose is pumped into the mixing and homogenization chest, where colour is intensively mixed and adjusted for the required colour tone. From the mixing chest the stock is pumped into the machine chest in front of the constant part.



### BROKE PROCESSING

The line is left by the broke which is pulped in two pulpers. The couch pit with agitator works continuously at constant regulated level and consistency of approx. 4 % of fibre. In normal mode the edge trimming is being processed. In case of web break on PM the pit is designed for a long-term processing of the whole PM capacity. The pulped broke is pumped into the broke chest. There is no pulper under the reel as the paper web will be trimmed only into the couch pit. The possible dry broke will be pressed and pulped in LCV-20. The dry broke pulper LCV-20 is designed for periodical pulping of broke with increased strength in wet



conditions (broke from a treatment plant). It works at consistency round 12 %, heated by water (in a boiler) and dispersion chemicals are added. After pulping the stock is diluted to 5 - 7 % and pumped into the broke chest and further modified (deflaked) in the deflaking line. The deflaking line comprises 3 pcs of deflakers D20 D connected in series. The deflaked broke is pumped into the chest of modified broke and further dosed in set rate into the machine chest.

### CONSTANT PART



Provided by the customer in cooperation with the Voith Co. The constant part consists of a three-stage-screening, a two-stage-mixing and homogenization. The constant part includes also a hydraulic headbox with automatic regulation of substance in cross direction.

### PAPER MACHINE

Wire width is 2.700 mm, paper web width on reel 1.630 - 2.300 mm, paper machine operating speed max. 650 m/min, construction speed 1.000 m/min. The machine length is 76.200 mm.

### WIRE PART

The spacing between the breast roll and suction roll is 15.550 mm, the wire part of cantilever design, provided with wire, dewatering elements, breast roll, suction roll, driving roll, equipment for wire run regulation and stretching. The dewatering elements with ceramic coating include:

- breast roll,
- 6 pcs dewatering boxes,
- 2 pcs double vacuum water boxes,
- 1 pc single suction box,
- 3 pcs double suction boxes.

The cantilever bearers are anchored to the basement floor at the wire edge on drive side. The wire guiding roll and the breast roll are provided with doctors. The breast roll is being shaken by shaker. The wire cleaning is carried out by low pressure shower tubes with a fan-shaped jet and a high pressure oscillating spraying tube with water pressure up to 2,4 MPa. The wire part comprises a watermark roll, which is provided with a dandy roll dia. 1.600 mm (with a pin for independent drive), a steam pipe and shower tube. A device is installed in the stands, which enables to adjust the dandy roll pressing finely and to lift the roll quickly into off-duty position by means of pneumatic cylinders. The whole equipment is made of stainless materials. Behind the dandy roll a roll with a doctor and a trap chest are installed, which traps spraying water and prevents from unwanted damage of produced paper.

### PRESS PART

Comprises a combi press and one continuous one-felt press. The threading into the press part is carried out by means of a pick-up suction roll. The

press part is complete (bearing construction, press and guiding rolls, doctors, stretching, automatic regulation of felt run). The design enables the installation of II. NIP with felt guiding.

The press rolls, coming in touch with the paper (the central roll of combi press and top roll of continuous press) are provided with jacketing. Washing of all felts is carried out by means of high pressure and low pressure oscillating tubes, cleaning of felt surfaces is carried out by suction cups (felt washers) with ceramic coating. The press roll forcing-in is hydraulic, control from the control panel. Rolls width: 2.750 mm, felt width: 2.600 mm.

### DRYING PART

The drying part consists of 27 drying cylinders dia. 1.800 mm and 2 pcs of cooling cylinders dia. 1.800 mm. The drying cylinders are provided with a mirror-



finished surface and are designed for steam pressure of 8 bar, the last 4 pcs of drying cylinders are heated by steam of higher pressure up to 12 bar. The drying wires are provided with stretching and automatic run regulation. The drying cylinders are heated by a high-efficiency steam-condensation system, the bearings of drying cylinders and their drives are lubricated centrally. The paper web threading over the whole drying part, calender to the reel is two-rope combined with air threading. The drying cylinders are driven by means of gearboxes on drive side. The drying part includes a closed hood over the whole drying part, which is connected to the recovery station. The station makes use of waste heat of the drying part for air heating intended for purging of drying wires and air conditioning of the paper machine hall.

A cleaning system of drying wires is installed in the first drying section.





**CALENDER**

A four-roll design incl. complete accessories (hydraulic aggregate as a source of pressure oil, heating of rolls, bearing lubrication). There are two groups of rolls - 2 rolls in each, the top roll is heated, metal, the bottom roll is provided with a softer (polyurethane) surface, design NIPCO. The rolls are of the same design in both NIPs for reaching the one-side smoothness. The calender is controlled from the own control panel. A steam box is installed in front of the calender to improve the moisture.

**REEL**

The reel is designed as a POPE reel with a supporting roll dia. 1.100 mm, max. diameter of wound roll 2.500 mm. Complete welded construction with consoles, hydraulic control, equipment for automatic run-up of the reel spool and braking the Jumbo roll. The reel is provided with air threading to separate automatically the paper web track and new threading on the reel spool from each other. The reel construction includes a reel spool magazine with reel spools feeding and 7 pcs of rubberized reel spools.

**REWINDER**

A slitting unit is installed behind the reel - a rewinder with two supporting rolls type EG 2260, consisting of a winding part and a slitting section, unwinder with a generator brake, drive and control. The slitting is carried out by tangential slitting in accordance with substance and paper quality. Unwinding diameter: max. diameter 2.500 mm, unwinding speed: max. 2.000 m/min, machine speed: max. 2.000 m/min. At present the production line "PM 5 MAYAK-Technocell" is operated in trial operation and is getting ready for guarantee tests. ■



Zdeněk Koupil, Project Manager

**RECONSTRUCTION OF PM 3, POLAND**

The reconstruction of PM 3 in Malta Decor Rudawa was another of the bigger projects, carried out by the PAPCEL Co. in 2008. As well as the project "PM 5 MAYAK-Technocell", this project was also focused on production on fancy papers. However, not a new line was built this time, but an existing paper machine was reconstructed (without interference into the stock preparation line and constant part).

The contract was signed at the end of 2007 and immediately after the signature at the beginning of 2008 the project preparation began. The reconstruction of the existing paper machine resulted in more than 20 % production increase of fancy papers (substance 20 - 80 g/m<sup>2</sup>). The worn-out parts of the paper machine (wire and press part) were changed and the operational speed was increased from original 280 m/min to 400 m/min. The wire width is 2.450 mm, the paper web width on reel 2.160 - 2.200 mm.

**THE PAPER MACHINE** was provided with a new hydraulic headbox with a round distributor (headbox width 2.350 mm), the wire, press and drying parts were modified and completed, the PM drive was completely changed, the machine vacuum system was modified and the couch pit with a pump was changed.

**THE WHOLE WIRE PART** was increased to 1.600 mm from the basic rail and lengthened at the same time. A new cantilever construction with anchoring on drive side and new tanks of the whole wire part were delivered. Due to the wire part increase also new stands of the suction roll and tilting of the drawing roll had to be delivered. The existing dewatering elements were used, which were completed with 2 pcs

of simple suction boxes and 2 pcs of double suction boxes with bearing. A new shaker with an independent drive for breast roll shaking was delivered. The reconstructed wire part was completed with a new dandy roll.

**THE EXISTING PRESS PART** comprised two continuous presses with manual threading from the wire into the press part. The first press was replaced by a press with a three-chamber pick-up roll dia. 850 mm with drive and a new bearing construction for the attachment of the top felt guiding as well. The new press roll dia. 970 mm was completed with a double oscillating doctor and a shower tube. The second press was provided with a new bearing structure with the interconnection of the top bearer with the first press and the



existing press rolls with bearing were used.

**THE FRONT PART OF THE DRYING SECTION** was completed with 2 pcs of new drying cylinders and further a new division of the first two drying sections was made, cogged wheels on the drying cylinders were replaced with a gearbox (silent chain drive).

It was decided to increase the operational speed within the reconstruction (up to 400 m/min), therefore it was necessary to change all drive units for the whole paper machine. PAPCEL provided the mechanical part of drive - gearboxes, clutches, driving shafts or cardans, the customer the whole electric part incl. electric motors and the own drive control. The new drive was designed for construction speed 450 m/min. Within the modifications and completion of the particular parts of the paper machine it was also necessary to complete the machine accessories. New dewatering elements of the wire part had to be connected into the vacuum system, accessories for connection of the new pick-up roll had to be delivered (water separators with extraction pumps) and

the couch pit with the pump had to be changed. The couch pit was designed as a new stainless chest with a new agitator and with regulation elements on the pipeline of the suction pump. During the preparatory phase of the reconstruction further parts were continuously added and changed according to their condition or the overhaul of the existing parts was made (pins of drying cylinders). The implementation phase was started at the beginning of September 2008 with a disassembly of the worn-out parts of the PM and with constructional modifications of bigger extent than originally expected. Therefore the assembly of the new parts started with a 2-week-delay. The assembly was completed at the end of 2008 and the paper machine was started-up at the beginning of November 2008. At present the paper machine is already run at the designed capacity. ■



Martina Pavliková, Marketing Manager

## RECONSTRUCTION OF THE PM 2 WIRE PART IN ŽIMROVICE, CZECH REPUBLIC

In August 2008 the company signed a contract on the reconstruction of the PM 2 wire part in Žimrovice (production: 85 % testliner, substance 100 - 200 g/m<sup>2</sup>, reel width 2.500 mm). The reconstruction was carried out with the aim to increase the capacity of the paper machine from present 60 kt/year to assumed 86 kt/year.

The implementation phase was in progress during the planned shutdown (December 2008). The work was carried out continuously in 12-hour-shifts. The top wire part and partially also the bottom wire part were disassembled. After cutting the concrete fundaments for drives and the disassembly of the original dewatering elements the new cantilever bearers were installed. A new bearing construction of the top wire part with overhauled headbox was installed on them. Main bearers, tanks, dewatering elements and rolls from the "second-hand" machine „Wiesloch“ were used for completion of the top wire part. The original concrete fundaments under the drives were replaced by metal constructions. After the reconstruction, the machine was started-up on December 12<sup>th</sup>, 2008. ■



Jaromír Bučík, Project Manager

## RECONSTRUCTION OF PM 3, CASCADES LA ROCHETTE, FRANCE

The reconstruction of the machine was carried out in May 2009. The PAPCEL Co. delivered a reel, unwinding stand of the rewinder and modified the contiguous PM parts. The calender was disassembled and the 11<sup>th</sup> drying battery incl. accessories was moved towards the coating section on the place of the removed calender. Additionally, in case of this battery the felt track was moved from the bottom to the top drying cylinders.

One of the main specifics of the reconstruction was the way of replacement of the 11<sup>th</sup> drying battery on the new place. After a very careful consideration the whole set was moved without a disassembly of drying cylinders by means of hydraulic lifters and handling trolleys on the existing basement plates, thereby time was considerably economized.

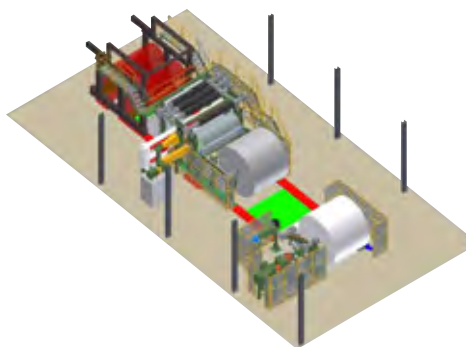
The main part of the order was the installation of the new reel (Karton Duplex, max. paper web width 2.550 mm, diameter of supporting roll 1.100 mm, construction speed 600 m/min). It was a machine with the biggest max. winding width (3.200 mm), that PAPCEL has ever realized. The reel is provided with a welded construction with shoulders and levels hydraulically controlled by four pairs of hydraulic cylinders and one pair of pneumatic cylinder. The toughness of the material can be set by pressure in hydraulic cylinders. The reel is provided with equipment for automatic run-up of the reel spool, driven by the electric motor over the cardan, and a brake of the completed paper web winding.

The supporting roll is provided with an oscillating doctor for cleaning of its surface, which is driven by an electromechanical single-speed rotary mechanism and provided with a bronze blade.

The control system was delivered by the PAPCEL Co. The company made use of decentralized units, which enabled to reduce



considerably the number of cables needed for interconnection of particular parts. Newly used is a PID regulation of the reel spool pressing on the supporting roll. The customer provided the control of reel drives. The original DC electric motor with cooling by delivered air and installed sensor



for reading the reel revolutions was used for the drive of supporting roll. Furthermore the gearboxes were installed for the

drive of reel spool run-up and of the spreading roll. The reel is provided with a feeding device for four of totally six delivered reel spools.

Another main part of the delivery was the unwinding stand for the existing rewinder Jagenberg (from the point of the max. diameter of the processed winding and load bearing capacity the biggest ever delivered again). The motor and control of paper web unwinding, as well as the control of reel drive were provided by the Siemens Co. The PAPCEL Co. delivered the mechanical part of the drive comprising stand, gearbox, brake and unwinding clutch. A part of the unwinding stand is unwinding of residual winding (diameter up to 600 mm). For this purpose the stand is provided with tilting arms, at the end of which the reel spool with residual winding is moved and the stand is ready to unwind after tilting the arms. The drive is realized by a tilting rubberized pulley driven over the cardan. For this purpose it was necessary to design and deliver a new chute into the pulper of dry broke under the rewinder. ■



Ladislav Řehák, Technical Director  
Jiří Socha, Chief Designer of Paper Machines

## THE FASTEST REWINDER OF PAPCEL COMPANY IN SWITZERLAND



At the end of last year a rewinder was installed and started-up in Model AG Weinfelden in Switzerland. The machine is designed for max. speed

2.000 m/min at paper web width 2.600 mm and substance ranging from 90 - 220 g/m<sup>2</sup>. From the point of view of the required machine capacity not only the construction had to be sized on max. operating speed, but also the handling time of the

attendance had to be shortened. Due to this fact automation elements were built in. One of them is the automatic core loading into the space between

the supporting rolls by means of the new construction of core ejector and the correct positioning of this core in relation to the trimmed paper width. Thanks to this construction and software solution the adjustment of the correct position of core,



mandrel and outer knife runs in automatic regime. The installation of the cross knife is another automation element, the function of which is the automatic paper web cutting during reel ejection into the tilting table. Using these elements in combination with full automatics of the slitting section brings shorter handling time by up to 40 %.

It can be declared after some 5 months of operation that the machine reaches all required parameters and offers the functionality of all automation elements.

The rewinder is ready to manage the production amount of the paper machine No. 1 after the planned reconstruction. ■

Ladislav Řehák, Technical Director  
Jiří Socha, Chief Designer of Paper Machines

## THE BIGGEST REWINDER FROM THE PRODUCT LINE OF PAPCEL CO.

After successful realizations of rewinders with operating width up to 3.000 mm in recent years and gaining big experience from their operation we won trust of a customer in Russia who demands a rewinder with operating width 4.200 mm and max. operating speed 1.800 m/min for board processing with substance ranging from

90 - 200 g/m<sup>2</sup>. Another specific is a demand to reel-up reels with max. diameter of 2.100 mm.



For construction processing a software for 3D simulation was used due to better visual idea of completed machine and optimization of particular construction knots. The models of all supporting rolls of the machine were analyzed by means of the finite element method with accent on dynamic stability at all mentioned parameters.

At these days the rewinder is being constructionally processed and the own production is in progress, which will be completed by a test assembly in August. ■

Josef Nemerád, SPL Designer

## THE OPERATING RESULTS OF DEFLAKERS 2DR31

Within the reconstruction of the stock preparation line at the company OOO Mayak-Technocell new double disc deflakers type 2DR31 were installed besides other machines into the stock preparation line. These machines process stock from the tank of pulped cellulose. The machines make use of bleached kraft pulp, which can be prepared from 75 - 100 % hardwood cellulose and 25 % softwood cellulose. In case of need the required chemical additives can be added into the pulp. The pulped stock is pumped from the pulp tank to the refining line at consistency, which is regulated to the constant value of approx. 4 %.

The refining line comprises 4+1 double disc deflakers type 2DR31. The final freenes is measured with a DRT analyser (°SR) and is kept on the required value by means of setting of the required value by deflaker load in the control system. Other auxiliary chemical additives and

pigments can be delivered into the piping behind the refining line. The deflakers are provided with refining sets, which were asked by the customer. Both sets are designed for fibrillating refining of paper stock. After connection of the

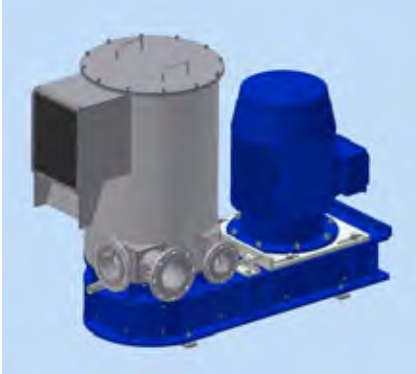
deflakers in the line in MAYAK Co. and start-up the deflakers had to pass operating tests. The required parameters of flow rate 800 - 1.900 l/min at consistency of 4 % correspond with tests made at the test room of the PAPCEL Co. ■



Ondřej Vlk, Chief Designer of Stock Preparation Lines

## THE CURRENT STAGE OF CRS DEVELOPMENT: SEMI-OPERATIONAL TESTS

In the last issue of Technical newsletter we informed you on a development of a new type of screen CRS (Continuous Reject Sorter). At present this screen is produced and the prototype is tested under semi-operational conditions in the company test room.



The aim of the first set of tests was to check the mechanical functionality of the machine and to verify the basic physically-technological presumptions. Besides other things it was necessary to set the optimal flow rate, the necessary input power and optimal revolutions with regard to optimal peripheral speed of rotor. These tests were successful and finally we pronounced, that the presumptions which we used at machine construction were correct.



The aim of the second phase of tests, which took place at the turn of March and April, was to verify the machine functionality from the point of technological adjustment of the machine on the position of final screening of rejects in the line of coarse screening after the primary screening on round screens (dia. 1,8 - 2,2 mm) with paper line capacity 500 tpd. After evaluation of these tests we agreed on small constructional modifications of the jacketing, rotor and the possibility of optimal supply of diluting water thanks to the original conceptual solution of CRS. At the same time also the energy consumption proved to be relatively low (at flow rate 300 l/min of stock and at consistency 2 - 2,5 % the consumption is approx. 10 kW).

The tests allow to assume a high operational reliability and resistance to input conditions. The prepared constructional changes will lead to reaching the aims in the prepared third set of tests, the emphasis of which will be to optimize the reject parameters on grounds of the measured values and gained samples.

The target optimal flow rate: 500 - 600 l/min at consistency 2- 2,5 %, at consumption 12 kW. ■

Rudolf Kmeco, Manager of Stock Preparation Offers  
Marián Sašura, Test Room Technologist

## TESTS OF STU-081 SCREENS AND ROTORS FOR "KEY-SCREENING" OCC AND OFW

The current global trend at primary screening of waste paper is to make use of combination of pressure screens and separators. The pressure screens are characterized by a high flow capacity at a relatively low energy consumption, the separators are characterized by the excellent final screening effect. This results in reliable operation and minimization of operational costs, which in this case are represented by costs on attendance and maintenance, energy, input raw material and waste disposal.

The contemporary PAPCEL lines, which make use of time-tested separators type VDT and VSV, are distinguished by excellent values of all parameters. The energy consumption is a problem. This is one of the important factors, which influences the competitiveness of the machines. The STU screens eliminate this handicap. In the course of last and this year, the tests of STU screens, aimed at primary screening of waste paper (the so-called Key-screening), were realized in the company test room.

The aim of the tests was to choose the optimal screens and rotors for the pressure screen STU and to map the technological conditions for primary screening on bored screens at higher consistencies (round 4 %).

Michal Weiss, SPL Designer

## PLASTIC INLET BODIES OF CLEANERS

The usage of plastic materials for cones of opened cleaners type VO, closed cleaners type VU and HL proved successful in production. Particularly the excellent resistance against abrasion and the resistance against hydrolysis are worth mentioning. Considering the positive experience with the polymere material we try to replace other steel parts of these machines as well, as this results - keeping the full functionality and lifetime of the machine in considerable reduction of its weight.

The aim of the material adjustment was to design and to test in service the plastic (replacement for steel) inlet bodies of the cleaners, which are one of the key components of the whole machine.

At present we are in the 1<sup>st</sup> stage of the develop-



The parameters of evaluation were the best passability for long fibres, the smallest amount of reject, the wear of the tested screens and rotors during the tests and energy consumption. We tried to create constant conditions for every test.

At present the company PAPCEL is able to offer its customers a highly sophisticated system of screening and fractionating on bored screens, which provides not only excellent operational screening parameters, but also very low operational costs. A very demanding operation by one of our long-time partners (an important board producer in Russia) was chosen for a long-term practical test. ■



ment, as a consequence of the application of the new material constructional changes of the original inlet bodies had to be carried out. These modifications will in any way neither influence the technological parameters of the inlet body nor

jointing and installation dimensions of the head.

The interchangeability of the original (steel) and new (plastic) design will be fully respected, so that also the contemporary customers have the possibility after successful operational tests of the prototype to use it in their lines. ■



Martina Pavlíková, Marketing Manager  
Ivo Loska, Manager of Customer Services

## SALE OF "SECOND-HAND"

The priority of the production programme of the PAPCEL Co. are deliveries of new machinery. In case of customer's request to reduce investment costs associated with the reconstruction of the paper machines we are ready to offer delivery combinations of new machinery and "second-hand" equipment.

The company offers to the customers complete services comprising finding a suitable "second-hand" equipment or a suitable customer for purchase of equipment shutdown after the completed reconstruction. The company offer of "second-hand" comprises both particular machines and complete lines delivered as plant equipment. The sale priority of "second-hand" is to offer equipment in the field of paper machines. Stock preparation lines are offered as turnkey projects, i.e. "new" technologies as a matter of priority.

## OFFER OF A FREE "SECOND-HAND" EQUIPMENT

(Note: It is a choice from the internal database.)

### 1. PARTS OF PAPER MACHINES

#### 1.1 HEADBOXES



##### Hydraulic headbox Valmet

Outlet width: 2.600 mm  
Inlet amount: 9.300 - 13.500 l/min  
Stock consistency: 0,5 - 0,6 %  
Shutdown: 2008  
Item No.: 0012-SH-TV2



##### Pressure headbox Voith

Outlet width: 2.700 mm  
Product: fluting, liner  
Shutdown: 2009  
Item No.: 0033-SH-TV2

#### 1.2 "JUMBO" PRESSES



##### Jumbo press

Machine width: 2.550 mm  
Jumbo roll diameter: 1.140 mm  
Max. linear pressure: 275 kN/m  
Product: fluting, liner  
Shutdown: 07/2009  
Item No.: 0013-SH-TV2

#### 1.3 SIZE PRESSES



##### Jumbo press

Machine width: 2.700 mm  
Jumbo roll diameter: 1.104 mm  
Max. linear pressure: 300 kN/m  
Product: fluting, liner  
Shutdown: 2009  
Item No.: 0034-SH-TV2



##### Size press

Machine width: 2.900 mm  
Jumbo roll diameter: 800 mm  
Product: fluting, liner  
Shutdown: 2009  
Item No.: 0035-SH-TV2

#### 1.4 REELS



##### POPE reel

Machine width: 2.900 mm  
Carrying roll diameter: 1.000 mm  
Reel spools: 267 x 2.760 mm  
Product: fluting, liner  
Shutdown: 2009  
Item No.: 0036-SH-TV2

The company offers to the customers demanding the used machinery and its overhaul:

- finding a suitable "second-hand" equipment on the basis of the concrete inquiry specified by technical parameters (machine capacity, working width, produced assortment)
- offer processing
- sale arrangement - the inspection of the offered equipment, assistance at the verification of the technical condition of the equipment, engineering services
- the machine and equipment disassembly
- machine replacement
- packing and transport
- storage of "second-hand" equipment in the area of PAPCEL
- overhaul, change of worn-out equipment
- line completion and machine assembly on-site
- start-up
- attendance training

The customers selling the used equipment are offered\*:

- offer processing on unnecessary equipment and offer presentation to potential customers; offer publication on web site [www.papcel.cz](http://www.papcel.cz)
- purchase of the used equipment
- disassembly, transport, storage, eventually other services

\* the re-purchase of the "second-hand" equipment is preferentially offered in case of a purchase of a new equipment from the PAPCEL production program

Background for the sale of a "second-hand" equipment:

- direct contacts on free "second-hand" sources in Central and Eastern Europe, the U.S.A.
- cooperation with members of the PIDA association
- own free sources of "second-hand" from customers (shutdown machines)
- web site with a shopping zone for the reservation of free "second-hand" items

<http://www.papcel.cz/en/products-and-services/second-hand/machines/>

On the basis of a technical specification we are ready to offer you further machines. A more detailed list of free "second-hand" machines you can see on [www.papcel.cz](http://www.papcel.cz) as well).

To book a free second-hand item please send the item number on e-mail: [loska@papcel.cz](mailto:loska@papcel.cz) or [marketing@papcel.cz](mailto:marketing@papcel.cz)

**1.5 REWINDERS****Rewriter Jagenberg Vari-Dur**

Machine width: 2.500 mm  
 Operating speed: 1.000 m/min  
 Unwinding diameter: 1.470 mm  
 Item No.: 0001-SH-TV2

**Rewriter Jagenberg Vari-Dur 5100**

Machine width: 5.100 mm  
 Operating speed: 1.000 m/min  
 Unwinding diameter: 3.000 mm  
 Product: low-substance papers  
 Shutdown: still in operation  
 Item No.: 0016-SH-TV2

**Rewriter Jagenberg Vari-Step 30**

Machine width: 2.600 mm  
 Operating speed: 1.500 m/min  
 Unwinding diameter: 1.550 mm  
 Product: fluting, liner  
 Shutdown: 2009  
 Item No.: 0037-SH-TV2

**2. COMPLETE PAPER MACHINES****2.1 PRODUCTION OF TISSUE**

Machine width on reel: 2.640 mm  
 Substance: 17 - 50 g/m<sup>2</sup>  
 Capacity: 28 - 30 tpd  
 Operating speed: 650 m/min  
 Item No.: 0004-SH-L2-T



Machine width on reel: 2.650 mm  
 Substance: 18 - 45 g/m<sup>2</sup>  
 Capacity: 33 - 50 tpd  
 Operating speed: 650 m/min  
 Shutdown: 2007  
 Item No.: 0005-SH-L2-T

**2.2 PRODUCTION OF FLUTING, LINER**

Machine width on reel: 2.800 mm  
 Substance: 60 - 200 g/m<sup>2</sup>  
 Capacity: 140 tpd  
 Operating speed: 500 m/min  
 Shutdown: 09/2008  
 Item No.: 0021-SH-L2-K

**2.3 PRODUCTION OF GLAZED PAPERS**

Machine width on reel: 4.170 mm  
 Substance: 28 - 90 g/m<sup>2</sup>  
 Operating speed: 350 m/min  
 Shutdown: 2009  
 Item No.: 0015-SH-L2-S



Machine width on reel: 2.350 mm  
 Substance: 40 - 120 g/m<sup>2</sup>  
 Capacity: 55 - 60 tpd  
 Operating speed: 400 m/min  
 Shutdown: 2006  
 Item No.: 0031-SH-L2-S

**2.4 PRODUCTION OF CARDBOARD**

Machine width on reel: 2.180 mm  
 Substance: 150 - 600 g/m<sup>2</sup>  
 Capacity: 24 kt/year  
 Operating speed: 130 m/min  
 Shutdown: 2008  
 Item No.: 0039-SH-L2-S

**2.5 PRODUCTION OF OFFSET PAPERS**

	PM 3	PM 7
Machine width on reel:	2.720 mm	2.840 mm
Substance:	50 - 170 g/m <sup>2</sup>	57 - 115 g/m <sup>2</sup>
Capacity:	37 kt/year	70 kt/year
Operating speed:	650 m/min	1.000 m/min
Shutdown:	2009	2009
Item No.:	0044-SH-L2-S	0045-SH-L2-S

**3. STOCK PREPARATION LINE****Dewatering machine OK-4000**

Inlet consistency: 0,5 - 3 %  
 Outlet consistency: 5 - 9 %  
 Capacity: 120 - 220 tpd  
 (waste paper)  
 Electric motor: 11 kW  
 Shutdown: 2008  
 Item No.: 0014-SH-TV1