



PAPCEL®

TRADITION • STRENGTH • EXPERIENCE

since 1950

Item No.16

1. General information –

The Swiss owned company Bell has been erecting, installing and starting paper machinery up as new since 1965 and to date many reconstructions have been performed. The paper mill changed owner in 2005 when it became private. In 2007 in order to restart the machinery, the entire machine was refurbished (details will be listed below in text) and put into operation. Market conditions related to raw materials, energy, etc. caused financial problems for the managing of production at the time. It was decided to inject more investment in order to adjust the production for waste paper (waste paper was very cheap). Unfortunately, soon after the reconstruction of the stock preparation line, adjusting the machinery and forming a corrugating plant for such a paper grade, the price of waste paper increased due to lack of supply. Competition was already too strong and production was in decline until , finally, the machinery was stopped.

The Corrugating plant is no longer part of the paper mill.

2. Status of machinery

Paper machine with both stock preparation lines (for waste paper, for white waste paper and cellulose) was stopped in October 2012. No parts are missing, so the machine could be restarted easily.

The inspection of the machine by interested customers is welcomed and desired.

3. Location

Europe

4. Main characteristics of PM1

Last main rebuilt	1987-Brudenhaus, 2007- Stock preparation line Andritz Esher Wyss, Complete refurbishing/reconditioning of the machine (bearings, automatization, roll grinding, Metso measuring frame etc.)
Original manufacturer	Bell, Switzerland, 1965
Machine shut down	October 2012
Machinery status	Machinery is, administratively, the property of the bank
Paper grade	The machine is adjusted for two diferent grades-when using stock prep. for cellulose or white waste – printing & writing papers, when using waste paper – fluting, shrentz, testliner but one layer



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Společnost zapsána u Krajského soudu v Ostravě, oddíl B, vložka 1356. Den zápisu: 15.5.1996.

Incorporated Company (Business Register by Regional Court of Justice in Ostrava, Section B, Insert 1356. Date of register: 15th May 1996.

Basis weight range	40 – 200 gsm
Wire width	3,000 mm
Paper width at reel	2,570 mm
Production	60 tpd
Design mechanical speed	250 mpm
Avg. operating speed	200 mpm

5. Scope of supply

The supply includes the following items:

- Stock preparation lines – one processing waste paper, second processing white waste paper or cellulose
- Approach flow system for PM
- Complete paper machine
- Winder
- Sheeter for W&P papers
- Auxiliary systems – starch kitchen for anionic starch, to be applied in stock, as well as kationic starch to be applied on size press, applicator for CaCO₃, vaccum pumps, air compressor, thickener for white water,...
- Spare parts

6. Additional services available upon request

Services that Papcel a.s. can offer to Buyers are the following:

- Transportation to Papcel and/or to Buyer's facility;
- Civil and process engineering;
- Paper machinery refurbishing;
- Provisioning of new PM parts and section's rebuild;
- Provision of new stock preparation equipment;
- Furnishing of PM auxiliary systems;
- Furnishing of starch preparation systems;
- Project management;
- Assembling on site;
- Start-up and personnel training;
- Furnishing of spare parts.

7. PM3 Specification

7.1. Stock preparation line

Stock preparation line for waste paper consists of the equipment listed below:

Pulper, 15 m³, screen with holes \varnothing 12 mm, electric motor 2x 55 kW;

Twin pulper (Andritz Escher Wyss, type FO-T)– separator for heavy impurities from pulper, hole-screen \varnothing 12 mm, el. motor 55 kW.

Dewatering drum for reject from twin pulper

Washing drum (Sortirboben), screen with holes \varnothing 16 mm, el. motor 1.5 kW

HD cleaners 2 pcs, one periodical, one continual

Washing screen (Andritz, type FSO-B) 2 pcs with hole-screens

Vibrating screen



Stock preparation line for cellulose or white waste:

This line starts with two pulpers where the fibers are split into long and short and are mixed later on in amounts and distributions according to production needs.

Pulpers 2 pcs – 10 m³ both, 55 kW electric motors both, one pulper is for short and one for long fibers

HD cleaners 3 pcs – Papcel,

Refiners 3 pcs – electric motors 220 kW, capacity 300 tpd each

Mixing chests are made of concrete mostly but agitators are available for sale:

Agitators 3 pcs (22 kW, 37 kW and 22 kW)



7.2. Approach Flow System

Approach flow capacity is 87 tpd and it consists of:

Mixing chest with agitator of 15 kW

Station with continual cleaners – Celleco, type Vorject 410:

6 cleaners in I step

2 cleaners in II step

Screw press

Vertical screener pcs 3:

VS1-Voith, type Voith1, el. motor 15 kW

VS2-Voith, type Voith1, el. motor 15 kW

VSMS-Andritz headbox screen, type Moduscreen HB2E, el. motor 22 kW

Mische pump Andritz – type 100-300.16, capacity 12,000 l/min, 45m, electric motor 30 kW, consistency 0.65%,

BTG valve with consistency measurement, for setting the gramages,

Metso valve with automatic setting of CaCO₃ application,

All 20 pcs of centrifugal pumps have been generally refurbished in 2007.

Complete stock preparation lines (for waste paper and for white stock) have been upgraded by M+R elements together with control system so that now complete stock preparation lines are fully automatized and regulated.



PAPER MACHINE



7.3. Headbox

Original type Bell, 200 BL-2900, headbox width is 2,900 mm with capacity 8,000 l/min and ability to produce gramages 40-200 gsm.

It was rebuilt in 1987 from open headbox to hydraulic by Bruderhaus. The upgrade included manifold distribution, perforated roll \varnothing 200 mm and following.

In 2007, the headbox was completely reconditioned.



7.4. Wire section

Wire width is 3,000 mm and length 28,040 mm with speed of 250 m/min.

Vibrating unit for better fiber web formation – Andritz Escher Wyss

Fourdrinier, 24 ceramic foils:

- 4 dewatering boxes with 5 ceramic hydrofoils 76 mm
- 1 dewatering box with 4 ceramic hydrofoils
- 2 pcs underpressure boxes, with 4 ceramic dewatering foils
- 2 pcs rolls together with Eguter roll \varnothing 500 mm that is currently dismantled
- 2 pcs suction boxes, with 6 ceramic vacuum foils with 4 vacuum chambers
- 1 pcs Couch (suction) roll with blind drilled surface



7.5. Press section

Pick up from wire section manually (speed of the machine allows this)

First nip, suction roll \varnothing 690 mm x 3,130 mm. Upper roll with \varnothing 530 mm was recovered with rubber

Second nip, upper press roll \varnothing 592 mm x 3,130 mm and bottom press roll are recovered with rubber

Offset press, upper roll \varnothing 530 x 3,130 mm and bottom \varnothing 550 x 3,130 mm.

The wire and press sections are in 2007 upgraded with systems for automatic wire and felt wash. Other parts are reconditioned.



7.6. Pre-drying section

After reconstruction of the machine - of felt type change (from wool to synthetic), the drying section of the machine has been shortened by 10 drying cylinders and the hood was changed to blow hot air on each drying cylinder. Complete drying section now has 26 drying cylinders, operating with 3.2 – 3.5 bar, \varnothing 1,500 mm.

Drying cylinders have rotary spoons for removing the condensation.

16 pcs of drying cylinders are organized in 2 sections before size press:

- I group – 6 cylinders
- II group – 10 cylinders

7.7. Size press

Original manufacturer. Roll diameter \varnothing 550 mm.

Starch kitchen:

Cooker 2,5 m³, agitator 4 kW

Starch mixing chest, 3 m³, agitator 4 kW

Accessories



7.8. Drying section

8 pcs of drying cylinders more and 2 pcs of cooling cylinders before calander and pope reel.

Measuring frame, Metso – installed in 2007

7.9. Pope reel

2 pcs of spreading rolls with chrome surface

Tambur roll changing, manually using the crane for 2x2.5 t



7.10. Winder

Manufactured by Voith, two drum type

Designed for 1,600 m/min speed but used with 1,000 m/min

Knives 7 pcs

Slice paper web width 2,570 mm



7.11. Sheeter

Original manufacturer BIELOMATIK-D, type P 384

Paper size: 1,440 mm max, 550 mm min width

550 mm min, 1,750 mm max length

Unwinder – Jagenberg, type AM 12-2 (1988.)

Machine speed 250 m/min



7.12 Auxiliary

Thickener for white water that was used after ADKA system.
12 pcs of vacuum pumps completely refurbished together with vacuum system.

7.13 Spare parts

10 pcs of drying cylinders
50 pcs of guiding rolls
About 50 pcs of tambur rolls

8. Contacts

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