



Date:04.03.2020

Dear Sir,

You can find our report regarding about Baby Diaper Facility which consists two CCS Zero Waste Baby Diaper Machine which were equipped with Two Amotek baggers.

## 1. Baby Diaper Machines

### 1.1 Machine #1: CCS D46 Machine -2011

#### 1.1.1 Technical Data:

#### Products:

#### Production speed

**SMALL,MEDIUM,  
LARGE,XLARGE**

Up to 420 pcs/min. depending on size  
and machine configuration

#### ***List of brands for major components:***

- ☑ Controls; Drives: Siemeens
- ☑ Sensors: Omron, Sick
- ☑ Solenoid Valves: Festo



☐ Web Guides: Fife

☐ Glue Systems: Nordson Altablue, Versablue

☐ Fans: ViMec

### 1.1.2 One Cellulose Unwind stand:

- Cellulose stand can take over two cellulose pulp reels.
- Each roll can feed one inlet of the fiberizing unit.
- One roll in running and the second standby for automatic splicing.
- Water Spraying

### 1.1.3 Cellulose pulp fiberizing unit:

- Hammer mill with two feeders
- AC Motor driven main rotor
- Double feeding system with two motors for cellulose pulp sheet feeding and automatic changeover capability
- Sensor for automatic web break detection
- Heat sensors for bearing blocks



#### 1.1.4 Filter room “made by CCS”

#### 1.1.5 Soundproof Room

- H. Mill & Fans are Insolated by a sound proof room to guarantee an outside noise level below 90 dB at 1m distance

#### 1.1.6 Pad forming unit:

- Pad forming drum, consisting of:
  1. One forming chamber equipped with motorized brush leveling unit.
  2. Forming chamber
  3. One forming drum with tri-dimensional anatomic pockets
  4. Main system fan
- The drum is independent servo driven, automatically adjusted for all sizes.
- Pad presence control system+air puff cleaning

#### 1.1.7 SAP applicator

- This unit made by Schenk allows spraying the SAP into the forming room, in order to mix it with the fluff. The unit consist of:
  1. Self standing structure to support the bulk bag
  2. Vacuum refilling system
  3. Gravimetric dosing system&feding system
  4. Application nozzle for continous mixing





### 1.1.8 Pad transport conveyor 1 under drum

- Pad Vacuum transport conveyor with mesh belt
- Lower carrying layer receives pad from drum

### 1.1.9 Pad transport conveyor 2

- Pad Vacuum transport conveyor.
- Upper carrying layer is applied over this conveyor

### 1.1.10 Pad sandwich conveyor:

- Pad sandwich conveyor, receive & pull the continuous core wrapped & embossed and deliver it to the Pressing station station.
- Upper conveyor is pneumatically loaded, could be easily open for web threading or jam cleaning
- Independent servo driven, automatically adjusted for all size with zero down time.



### 1.1.11 Pad Pressing Unit

### 1.1.12 Vacuum transport conveyor

### 1.1.13 Inline feeding system for “ADL layer”

### 1.1.14 Cut & place unit for “ADL layer”

- Unit applies ADL over the pad
- Cut&Place Unit with hard steel knife
- Hardened vacuum drum type
- Cutting unit independent servo driven
- S-Wrap Pulling servo driven,for digital length change
- Lubrication system fed by dedicated oil tank
- Sensor for web presence

### 1.1.15 Transversal cutting unit:

- Transversal cutting unit cut the core wrapping between two Fluff/SAP pads.
- Pad Transfer Drum receive the individual cores, space and deliver them to the back sheet layer according to product length.
- Cutting Unit is independent servo driven.
- Transfer drum is independent servo driven.
- Lubrication system for the knife is fed by dedicated oil-tank.
- Fully Hardened Anvil



### 1.1.16 90o feeding system for upper carrying layer “Nonwoven

### 1.1.17 90o feeding system for Lower carrying layer “Nonwoven

### 1.1.18 Front ears application system:

- 90o Feeding system for Front ear N/W
- Shaping Unit;
  1. Rigid steel frame
  2. Hardened Anvil
  3. Powder Metal Cutter
  4. Pneumatically loaded
  5. Pressure regülatör with key lock
  6. Independent servo driven
- Web Seperation
  - 1.Web separation includes two Automatic web alignment drives with sensor reading the straight edge of the web, adjust Left & Right web positions after shaping before being pulled to the Cut & Place unit
- Hot melt application system
  - 1.System applies hot melt glue intermittently in order to fasten side ears on top sheet layer.
- Cut&Place Unit;
  1. Pulling system with vacuum conveyor servo driven
  - 2.Dual cut & place unit with hard steel knife.
  - 3.Hardened vacuum drum type
  4. Cutting unit independent servo driven.
  5. Cutting unit applies pieces on the back sheet over adjustable vacuum conveyors







#### **1.1.19 90o feeding system for Back sheet**

1. Two unwinds one for non-woven backsheet and one for PE
2. Allows online lamination of backsheet
3. Cut in phase is not included

#### **1.1.20 90o feeding system for “Frontal tape” layer:**

#### **1.1.21 Cut-and-place unit for frontal tape:**

1. Cut & place unit with hard steel knife.
2. Vacuum system with independent vacuum pump
3. Silicon rubber roll applicator
4. Cutting unit independent servo driven
5. S-Wrap Pulling servo driven, allows printed tape cut in phase.
6. Lubrication system fed by dedicated oil tank





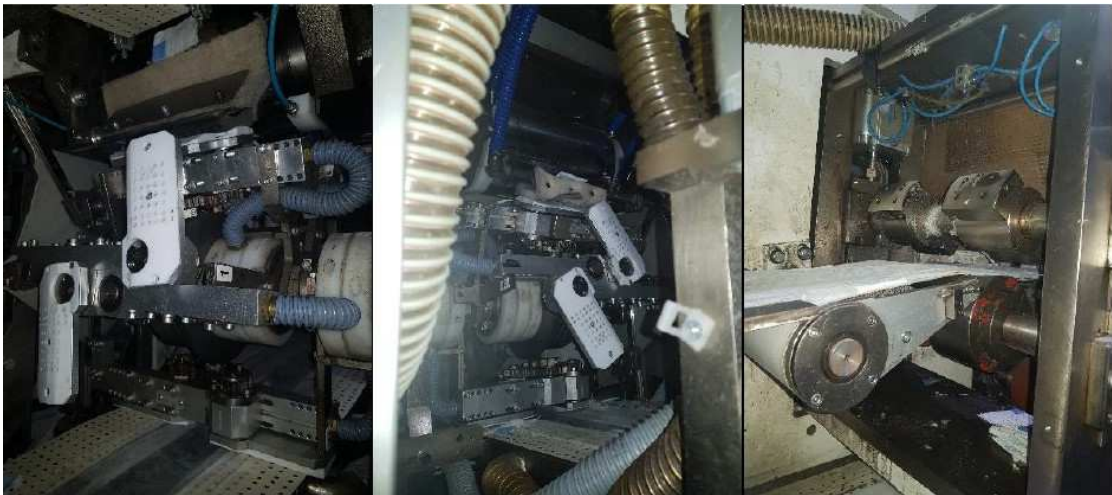
### 1.1.22 Elastic back ears application (ZERO waste design):

- **Off line stand for “Elastic material with tape”**
  1. **Feeding system for elastic material**
  2. **Tapes forming system:**
    - Hook material feeding
    - Non woven material feeding
    - Hook material slitting
    - Lamination of hook on Non-woven
  3. **Applicator system for fastening tape:**
    - Double cutting&application system
    - Allow “hook&loop” tapes
    - Vacuum system with independent vacuum pump
    - Independent servo driven
  4. **Tape Sealing Unit**
  5. **Tape Folding&Pressing**
    - Vacuum conveyor with folding mechanism
    - Rubber roller pneumatically loaded press&fixe folded tape





- **In-line module for Back ears application system**
  1. **Pre-made elastic material feeding system:**
  2. **Shape cutting stand CCS**  
Sinusoidal symmetrical cut
  3. **Rotating and re-pitching unit**
  4. **Application conveyor**
  5. **Ear pressing unit**
  6. **Intermittent Ear Sealing**



**1.1.23 90o feeding system for “Non-woven Top-sheet**

**1.1.24 90o feeding system for “Non-woven leg cuffs”**

**1.1.25 Cuffs Slitting, separation and folding**

**1.1.26 Cuffs Ultrasonic unit (Herrmann)**

**1.1.27 Leg elastic feeding and application:**

1. One 90o unwind for up to 6 reels.

**1.1.28 Cuffs elastic feeding and application:**

2. One 90o unwind for up to 6 reels.



**1.1.29 Web pressing & sealing unit:**

1. Unit composed of two rolls pneumatically loaded.
2. The lower roll shaped press up on the sides upper rolls in order to seal the back-sheet to top-sheet and the pad in between.



**1.1.30 Longitudinal folding section:**

**1.1.31 Sandwich Conveyors:**

**1.1.32 Final cutting unit:**

**1.1.33 Folding section for Bi - folded products:**

**1.1.34 Complete Waist Band Kit :**

1. Waist band unwind
2. Waist band cutting and application unit



**1.1.35 Classical diaper kit**

1. Tape Unit
2. RDC Unit

**1.1.36 Ejection system:**

1. Air Valve



### **1.1.37 Fans and duct system.**

1. One Dedicated Fan with distribution ducts for Drum Forming.
2. One dedicated Fan with distribution ducts for vacuum conveyors
3. Above fans output are connected to recycling drum filter

### **1.1.38 Pneumatic system:**

### **1.1.39 Safety guards and covers:**

### **1.1.40 Jig hoist:**

- 1.Jig hoist on each Offline Unwind

### **1.1.41 Vision System:**

- 1.Dalsa Camera from AXIOMTEK (similar to Poland)

### **1.1.42 Siemens Electrical Hardware**

### **1.1.43 Edge Control Units:**

- 1.FIFE DP20

### **1.1.44 Hot Melt Glue:**

#### **1.1.44.1 Unit 1 (Upper Tissue, Lower Tissue) :Nordson Altableue**

Melting System

Glue Application on UCL

One Coating Head

One Single Pump

One heated hose



Glue Application on LCL

One Coating Head

One Single Pump

One Heated Hose

### **1.1.44.2 Unit 2 (NW, Poly,TBS): Nordson ALtableue**

Melting System

Glue Application on ADL Layer

One Spraying Head

One Single Pump

One heated hose

Glue Application on Backsheet Layer

One Coating Head

One Single Pump

One Heated Hose

Glue Application on Lamination

One Coating Head

One Single Pump

One Heated Hose





### **1.1.44.3 Unit 3 (Back ears, Frontal Tape, High Loft) Nordson Altableue**

Melting System

Glue Application on Back Ears

Two Segmented Slot Head

Two Heated Hoses

Glue application on Frontal tape:

One Slot Head

One Single Pump

One Heated Hose

Glue application on High Loft:

One Spraying Head

One Single Pump

One heated hose

### **1.1.44.4 Unit 4 (wetness) :Nordson Versablue**

Melting System

Glue Application on Wetness

One Coating Head

One Single Pump

One heated höse



### **1.1.44.5 Unit 5 (leg elastics, cuff elastics): Nordson ALtableue**

Melting System

Glue Application on Leg Elastics

Glue Application on Cuff Elastics

### **1.1.44.6 Unit 6(Tape , Hook): Nordson ALtableue**

Melting System

Glue Application on Tape:

One Slot Head

One Single Pump

One heated höse

Glue Application on Hook:

One Slot Head

One Single Pump

One heated höse

### **1.1.44.7 Unit 7 (Lotion) :Nordson Versablue**

Melting System

Glue Application on Lotion:

One Coating Head

One Single Pump

One heated hose





### 1.1.45 Stacker and Bagger

#### AMOTEK SIEREM STACKER ST-ST6B

Model 2012

#### AMOTEK BAGGER IS 167 DX

Model 2012

MIN count :7 ,MAX count :40



### 1.1.46 Changeover Kit:



***For SMALL,MEDIUM, LARGE,XLARGE***

***Drum for each size***

***Rotator and pitcher (one for each two sizes)***

***One ultrasonic roll for each two sizes***

***A kit for classical diaper is not installed on machine and is available in the warehouse***

## **1.2 Machine #1: CCS D48 Machine -2012**

***Machine has similar configuration of previous machine and it includes the same sizes of the previous machine Except the below differences***

***o Left to Right***

***o Machine is only dedicated for I-Shape diaper (No Classical)***

***o Extra size Junior + is prepared locally***

***o No lamination on the machine***

***o Elastic unwinds are from BTR***







## 2 Facility Description:

### 2.1 Production plant:

- Plant is totally equipped with AC units (6 units type 03MKP09)
- Palletizing unit ROTOPLA 50
- Power Distribution Cabinet
- Complete Fire Fighting System with Sprinklers and outlets for hoses



### 2.2 Quality Control Department:

- Oven Memmert
- Shear Testing Unit Zwickroell
- Weighers (4)
- Defibrillation Test Unit





### 2.3 Stores:

- Glue Spares
- Electrical Spares
- Belts
- Bearings
- List is available



## 2.4 Maintenance Departement:

- Hydraulic Press
- Grinder
- Vertical Drilling Unit
- Nozzle Changing



## 2.5 Production plant:

- Power Distribution Cabinet
- Complete fire fighting system with sprinklers and outlets for hoses
- Ready for two other machines
- One vertical baler





## 2.6 Compressor Room

- Compressor 1 GA37
- Compressor 1 GA45p
- Compressor 1 GA45VSD





## 2.7 Raw Material Warehouses A:

- 2xForklift Still RX20-20
- Rolllift still rx 60-35
- Forklift still fm-x14
- Mezzanine covering the warehouse
- Sprinkler fire fighting system
- Raw material including: cuffs, bags, frontal tape, Pulp, backsheet, Hot melt



## 2.8 Raw Material Warehouses B:

- Sprinkler fire fighting system
- Raw material including: Pulp,SAP







## 2.9 Finished Goods Warehouse:

- Rack System can fit up to 5200 pallet size 120x110
- LGV system can work to get the pallets out
- Sprinkler fire fighting system





## 2.10 Fire fighting room



## 2.11 Administration building

## 2.12 General Notes

The total land area is around 20,000 m<sup>2</sup>  
The warehouses area is around 9000m<sup>2</sup>  
The land is subject to yearly rental fee  
The plant is in the free zone without any customs  
Facility Layouts will be shared with us

Onur Gldal

Mechanical Engineer

DantechS

Makina Ticaret ve Danşmanlık

Trade Register Number: 2707900690000011

