



## **PAPER MACHINE MT. 3,80**

<b>PAPER MACHINE TECHNICAL SPECIFICATION</b>
--

<b>EFFECTIVE WIDTH</b>	<b>3800 mm</b>
<b>WEIGHT RANGE</b>	<b>45-200 gsm</b>
<b>MACHINE SPEED</b>	<b>600 m/min</b>
<b>CAPACITY</b>	<b>180 t/day</b>
<b>QUALITIES</b>	<b>writing/printing, copy and brown paper, test liner, food paper</b>



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## ◆ **A-INTRODUCTION**

The Paper Machine is constituted by equipment manufactured by the following companies :

- CARCANO KMW
- OMMA
- DE PRETTO-ESCHER WYSS
- VOITH
- VALMET COMO
- SONOTEC

This machine is still erected and stopped 7 year ago. It is complete with some parts of Stock Preparation , Approach flow until the winder.

## ◆ **B-PAPER MACHINE**

The Paper Machine described hereafter was designed for graphic paper production from 100% recycled paper- The basis weight range from 45 gsm to 160 gsm.

The Paper Machine is constituted by :

- Head Box
- Wire section (Fourdrinier)
- Press Section
- Pre-Drying Section
- Size-Press
- Post-Drying Section
- Hard-Nip Calender
- QCS
- Web Inspection System
- Reel



The drive side is on the left side when looking at the pope reel from the Head Box.

◆ **B.1 : APPROACH FLOW**

The Paper Machine approach flow consists in the following equipment:

- ◆ Fan Pump (dismantled and stored):
  - Manufacturer : ABS SCANPUMP
  - Year : 1992
  - Type : Z22 450/400-50
  - Flow rate : 1440/1560 mc/min
  - Head : 16.5/21 m



- ◆ Primary Screen (dismantled and stored) :
  - Manufacturer : Voith
  - Type : Select-fyre size 20
  - Screen basket : slotted 0,35 mm (by Andritz)
  - Rotor : RO-TEC with 27 foils, adjustable (by Andritz)
  
- ◆ Secondary Screen (dismantled and stored) :
  - Manufacturer : Escher-Wyss
  - Year : 1992
  - Type : Omnisorter 0S2-BR

White water tanks with pumps, piping and automatic or manual valves.

- ◆ **B.2 : VACUUM SYSTEM**

The Vacuum System Consists in the following elements:

- ◆ **N° 1 liquid ring Vacuum Pump :**
  - Manufacturer : Azmec
  - Type : AL 100
  - Service : Suction roll and wire suction boxes
  - Power : 160 kW



- ◆ **N° 1 liquid ring Vacuum Pump :**
  - Manufacturer : Azmec
  - Type : AL 120/2000
  - Service : Suction pick-up roll
  - Power : 200 kW
  
- **N° 1 liquid ring Vacuum Pump :**
  - Manufacturer : Azmec
  - Type : AL 100/2000
  - Service : Felts suction boxes
  - Power : 160 kW
  
- ◆ One set of automatic and manual valves
  
- ◆ One set of instrumentation
  
- ◆ Piping
  
- ◆ **B.3 : HEADBOX**
  - Manufacturer : Valmet Como
  - Year : 1995
  - Type : "C"
  - Lip profile control : 34 slice micro adjustors
  - Output width : 4050 mm
  - Throughput : 9679-29038 l/min
  - Designed speed : 600 m/min
  - Designed production : 150 t/da
  - Frame : Stainless steel
  - Rectifier roll : n°2 (holed-stainless steel)



◆ **B.4 : FOURDRINIER**

- Type : Fourdrinier - Cantilever system-frame in stainless steel and carbon steel lined with stainless steel sheet
- Manufacturer : OMMA
- Year : 1992
- Upgrades : 2001 (by Valmet Como-Metso)
- Wire length : 31135 mm
- Wire width : 4200 mm
- Dewatering length : 12850 mm

The Cantilever Wire Section includes the following equipment:

- Breast roll : diam 655 mm – face 4350 mm . Rubber covered. Equipped with shaker
- Suction roll : manufacturer by Carcano-KWM – diam 762 mm face 4400 mm – bronze shell single suction zone – adjustable sides deck
- Wire turning roll : diam 655 mm – face 4350 mm – rubber covered - swiveling type
- 1 Pneumatic Stretcher : roll diam : 350 mm – rubber covered air bellows missing
- 2 Manual stretchers : roll diam 350 mm . Rubber covered
- Guide : roll diam 350 mm – rubber covered – automatic wire Guide by Ehrardt-Leimer – type Schwark
- Forming Board with 4 ceramic blades (IBS)
- 2 Hydrofoil Box with 9 ceramic blades (IBS)
- 2 Hydrofoil Box with 8 T-bars but only 4 plastic blades
- 2 Low Vacuum Suction Boxes with plastic blades
- 6 High Vacuum Suction Boxes with plastic boards
- Set of frames, cantilever system and c stands
- Set of save all trays and bath
- Set of Doctors, Low and High Pressure Showers



- Set of reducers-cardan shafts-couplings-Motors
- (reducers are made by FLENDER and motors by SIEMENS)
- Set of aluminum walkways and stairs
- Set of aluminum spacers for wire changing system
- Tail cutter with water trimming jet
- Control Desk

◆ **B.5 : PRESS SECTION**

The Press Section consists in a Pick-Up Press (UNIPRESS) and a 2<sup>nd</sup> Press.  
Dryness at the press section outlets : from 45% to 48%

◆ **PICK- UP Press (UNIPRESS) :**

- Type : Suction pick-up press
- Manufacturer : Carcano KWM – upgraded by Metso in 2001
- Pick-up roll : Carcano KWM – diam 812 mm – rubber covered driven – adjustable sides deck
- Counter roll : Metso diam 845 mm (rubber covered in Microrex) spare roll in granite diam 875 mm
- Nip pressure : 50 N/mm
- Stands in stainless steel
- One tail shooter (Metso)

◆ **2<sup>nd</sup> Press :**

- Type : Nipco press
- Manufacturer : Escher-Wyss
- Bottom roll : Nipco roll diam 545 mm – equipped with an adjustable pressure zones system
- Top roll : diam 955 mm – rubber covered
- Nip pressure : 120 N/mm



- Stands in carbon steel
  - One set of Doctors, Low and High pressure showers
  - One set of reduces, Cardan shaft, couplings, Motors (reducers are made by Flender and CC motors by Siemens)
  - One hydraulic unit for both presses
  - Control desk
  - Blow box in the 2<sup>nd</sup> press inlet
- ◆ Two Felt circuits (Pick-Up and 2nd Press ) including for each:
- One set of Felt rolls (diam 320/350 mm) mostly rubber covered
  - One set of automatic Stretchers With Compensator
  - One set of Felt guide
  - One set of felt vacuum conditioning boxes
  - One set of covers, stairs, plate-forms and walkways
  - One Pit for the trimmings in the area between the wire turning rolls and the first press with vat in concrete lined with stainless sheets- the agitators was manufactured by OMMA and it complete of drive arrangement by motor and reducer
- **B.6 : PRE-DRYING SECTION**

The Pre Drying Section consists in the following elements :

- Dryers : 17 in grey cast iron manufactured by Valmet Como in 1995
- Working pressure : 4,9 bar
- Diameter : 1500 mm
- Face width : 3950 mm (tender side is grooved for ropes)
- Shoulders and frames : manufactured by Voith



The Pre drying Section is divided into three batteries:

◆ **1<sup>st</sup> Battery :**

- Dryers numbers : 5
- Type : unifelted (SLALOM)
- Working pressure : 4,9 bar
- Diameter : 1500 mm
- Face width : 3950 mm
- One set of felts rolls
- One set of Oscillating Doctors (N° 3)
- One set of Pocket Ventilation
- One automatic Felt stretchers with compensator
- One automatic felt guide manufactured by Ehrardt-Leimer  
Type Schwark

➤ **2<sup>nd</sup> Battery :**

- Dryer numbers : 6
- Type : Top and bottom felted
- Working pressure : 4,9 bar
- Diameter : 1500 mm
- Face width : 3950 mm
- Set of felts rolls
- Set of Doctors (n°6)
- Set of Pocket ventilation
- Automatic felt stretchers with compensator
- Automatic felt guide manufactured by Ehrardt-Leimer  
type Schwark

◆ **3<sup>rd</sup> Battery :**

- Dryer numbers : 6
- Type : Top and bottom felted
- Working pressure : 4,9 bar



- Diameter : 1500 mm
- Face width : 3950 mm
- Set of felts rolls
- Set of Doctors (n°6)
- Set of Pocket ventilation
- Automatic felt stretchers with compensator
- Automatic felt guide manufactured by Ehrardt-Leimer type Schwark

◆ **Miscellaneous :**

Are included with the Pre- Drying Section:

- One closed thermo insulated Hood  
approx dimensions : pre-drying : 18,5 x 7 x 4,65 mt
- Covering of the under machine area
- Exhaust Suction System, Ventilation System, pre-heating coils, Heat exchangers
- Room Air Ventilation
- Suspended ceiling system by aluminum corrugated metal sheet
- Under Hood lightning system
- The drive arrangement of the drying batteries is by sectional motors and gears (gear-wheels and pinions) on the last dryers of each battery. Reducers are made by FLENDER and CC motors by SIEMENS
- The drying sections are equipped with a centralized lubrication system (by SAFEMATIC) for the dryers bearing supports with the single adjustment of the flow and alarms for the lack of the flow.
- The tail-threading is performed by ropes-The grooves for the ropes are on the dryiers' shells and not on free pulleys. Rope stretchers are in the basement under the machine and are manufactured by OMMA.
- Control Desk



## ◆ **B.7 : POST-DRYING SECTION**

The post-drying section rebuilt in 1995 formed by 10 drying rolls with dia. 1500 mm , face width 3950 mm and an operating pressure of 4,9 bar (VALMET COMO).

The first two dryers after the size-press are TEFLON coated and have no drying wire. The rest of the dryers form a battery with two wires, top and bottom.

The Post- Drying Section consists in the following elements:

- Dryers : 10 in grey cast iron manufactured by Valment Como in 1995
- Working pressure : 4,9 bar
- Diameter : 1500 mm
- Face width : 3950 mm (tender side is grooved for ropes)
- Shoulders and frames : manufactured by Valmet Como

The Post-drying Section is divided into two batteries:

### ◆ **4<sup>th</sup> Battery :**

- Dryer numbers : 2 – teflon coated (Valment Como)
- Type : Unfelted
- Working pressure : 4,9 bar
- Diameter : 1500 mm
- Face width : 3950 mm
- Set of felts rolls
- Set of Doctors (n°2)



◆ **5th Battery :**

- Dryers numbers : 8
- Type : Top and bottom felted
- Working pressure : 4,9 bar
- Diameter : 1500 mm
- Face width : 3950 mm
- Set of felts rolls
- Set of Doctors (n°8)
- One set of Pocket Ventilation
- One automatic Felt stretchers with compensator
- One automatic felt guide manufactured by Ehrardt-Leimer  
Type SCHWARK

◆ **Miscellaneous :**

- One closed thermo insulated Hood  
approx dimensions : pre-drying : 18,5 x 7 x 4,65 mt
- Covering of the under machine area
- Exhaust Suction System, Ventilation System, pre-heating coils,  
heat exchangers
- Room Air Ventilation
- Suspended ceiling system by aluminum corrugated metal  
sheet
- Under Hood lightning system
- The drive arrangement of the drying batteries is by sectional  
motors and gears (gear-wheels and pinions) on the last dryers  
of each battery. Reducers are made by FLENDER and CC  
motors by SIEMENS
- The drying sections are equipped with a centralized lubrication  
system (by SAFEMATIC) for the dryers bearing supports with  
the single adjustment of the flow and alarms for the lack of the  
flow.



- The tail-threading is performed by ropes-The grooves for the
- ropes are on the dryiers' shells and not on free pulleys.
- Rope stretchers are in the basement under the machine and are manufactured by OMMA.
- In the end part of the post-drying section there is a tail cutter made by Sonotec
- Control Desk.

◆ **B.8 : SIZE-PRESS**

- Manufacturer : Voith (Rolls) – Sonotec (Frames)
- Type : Pond
- Rolls : diam 595 mm – face width 3845 mm – rubber covered both roll are driven
- Stands : in carbon steel with pneumatic loading system
- Nip pressure : 40 kg/cm

Are included with the Size-Press :

- Save all trays and bath
- Walkways, stairs and covers
- Inlet sizing agent piping
- Reducers,cardan shaft,coupling and motors  
( reducers made by FLENDER and motors by SIEMENS)
- Starch Kitchen (in the basement) with circular vibrating screen.
- Control Desk



◆ **B.9 : STEAM AND CONDENSATE SYSTEM**

Manufactured by LANGBEIN & ENGELBRACHT and includes :

- Pumps (n°10) for condensate separators
- Exchangers
- Electronic adjustement
- Valves and instruments

The control panels of the steam system is located in the control room.

◆ **B.10 : CALENDER**

- Manufacturer : Escher-Wyss/Nipco
- Type : Hard-nip
- Top roll : Equitherm roll diam 660 mm – face width 3950 mm
- Bottom roll : Nipco roll diam 500 mm – face width 3950 mm
- Nip pressure : 95 N/min
- Hydraulic Unit in the basement under the machine
- Thermal Unit for the Thermo-roll (EQUITHERM) conditioning
- Reducers,cardan shaft,coupling and motors ( reducers made by FLENDER and motors by SIEMENS)- the top roll driving motor is missing
- Set of stands, oscillating doctors and piping



◆ **B.11 : QCS**

**Bridge Scanner :**

- Manufacturer : ABB
- Year : 2002
- Control : basis weight, dryness

Complete DCS system for controlling the whole machine and stock prep systems ABB or Metso

**Fault detection system :**

- Manufacturer : ABB
- Year : 2002
- Type : ULMA NT
- High definition cams : n°4 (air cooled)

◆ **B.12 : POPE REEL**

- Manufacturer : Valmet Como
- Year : 1995
- Type : Automatic with spools parking
- Drum : diam 1100 mm – face width 3900 mm
- Spools : n°6 – diam 400 mm – face width 4000 mm – dual toothed joints
- Jumbo rolls : max diam 2600 mm
- Control Desk
- Dedicated Hydraulic Unit in the basement
- Dedicated PLC
- Reducers, cardan shaft, coupling and motors (reducers made by FLENDER and motors by SIEMENS)
- Stands and frame in carbon steel
- Walkways, stairs and covers



- One set of pulley, rope stretchers and accessories for the tail threading from the drying section through the calendar and the QCS.
- One BROKE Pulper in the area between the end of the drying section and the reel complete with a vat in stainless steel manufactured by SONOTEC , a rotating unit by ESCHER-WYSS, the driving system (reducer by FLENDER and DC motor by SIEMENS) and the discharging pump.

## **C-REWINDER AND LOGS PACKAGING SYSTEM**

- VOITH
- VALMET COMO
- SONOTEC
  
- **C.1 : REWINDER**
  - Manufacturer : Jagenberg
  - Type : Varistep TR 43
  - Year : 1992
  - Effective Trimmed Width : 3800 mm
  - Primary reel diam : 2400 mm
  - Secondary reel diam : 1525 mm
  - Max speed : 2000 m/min
  - Knives : n° 10 (manual positioning)



Including :

- One unwinding station with regenerative brake having 135 KW DC
- Winding drums having 120 KW DC motors
- One reels ejector
- One lowering cradle
- Draw adjustment by weighing cells
- Devices for complete control by PLC
- Special Fans for electrical discharge
- Trimming suction system with fan-tearing unit is by IM-CO, with compacting unit and separator located in the raw material shed (now dismantled and stored). By a pipe deviation it was possible to send the trimmings to the broke pulper. This system has been bought new in 1992.

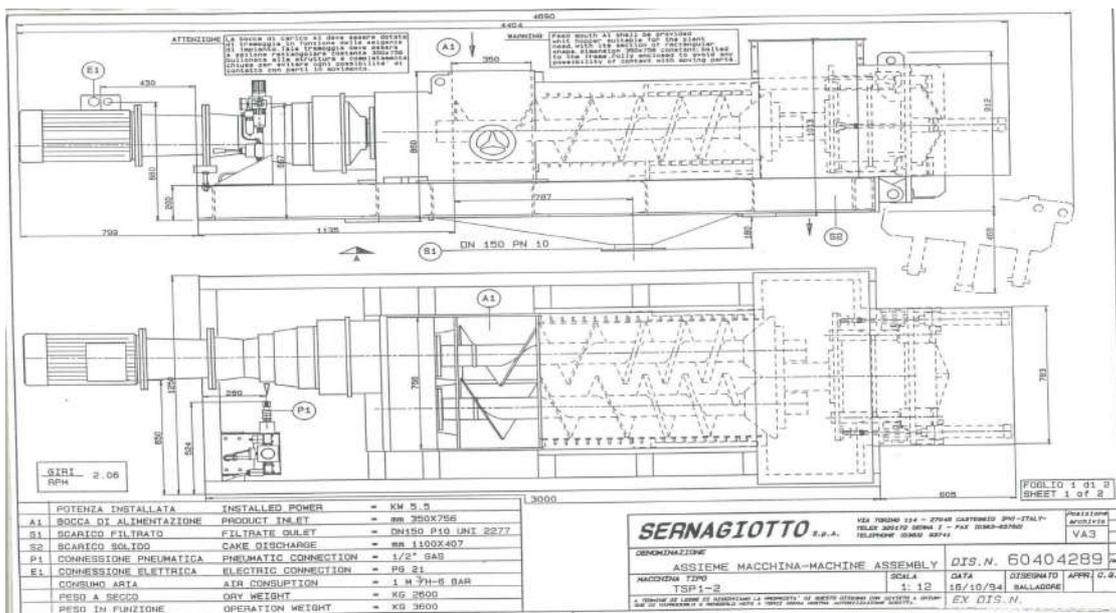
◆ **C.2 : LOGS PACKAGING**

- Manufacturer : Sicma – Fis impianti
- Year : 1993
- Characteristics : the system controls the logs discharge from the rewinder by flapper and has a rotating platform for winding with plastic film. It also includes two conveyor belts (metallic) at the inlet and at the outlet for the logs handling and an ejector at the end of the second belt pushing the packed logs in the picking up area



# STOCK PREPARATION

## SCREW PRESS TSP 1 - 2



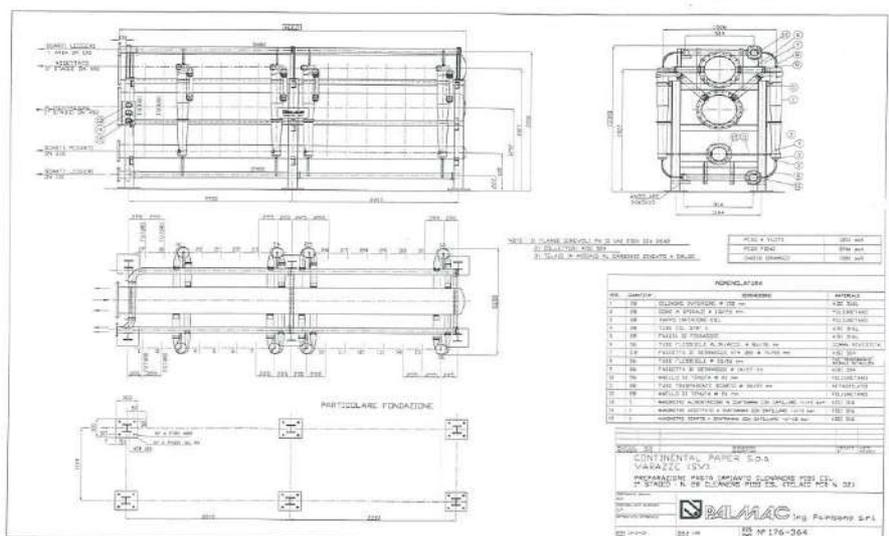
### FLOW SHEET SCREW PRESS

- Motor : 5.5 kW
- Speed : 2.06 rounds/min
- Dry weight : 2600 kg
- Operation weight : 3600 kg
- Encumbrance dimensions : 4.69 x 1.25x 1.19 mt
- Cochleas diameter : 355 mm
- Air pressure : 6 bar
- Air consumption : 1 m<sup>3</sup>/h
- Cage diameter : 360 mm
- Cage spacing : 1.5 mm
- Product inlet : 350 x 756 mm
- Mud discharge pressed : 407 x 1100 mm
- Diameter filtered discharge : 150 mm
- Sound pressure level : < 85 dB(A)
- Protection grade : IP 55
- Pneumatic connection : 1/2" GAS
- Electric connection : PG 21





## CLEANERS 1° STAGE

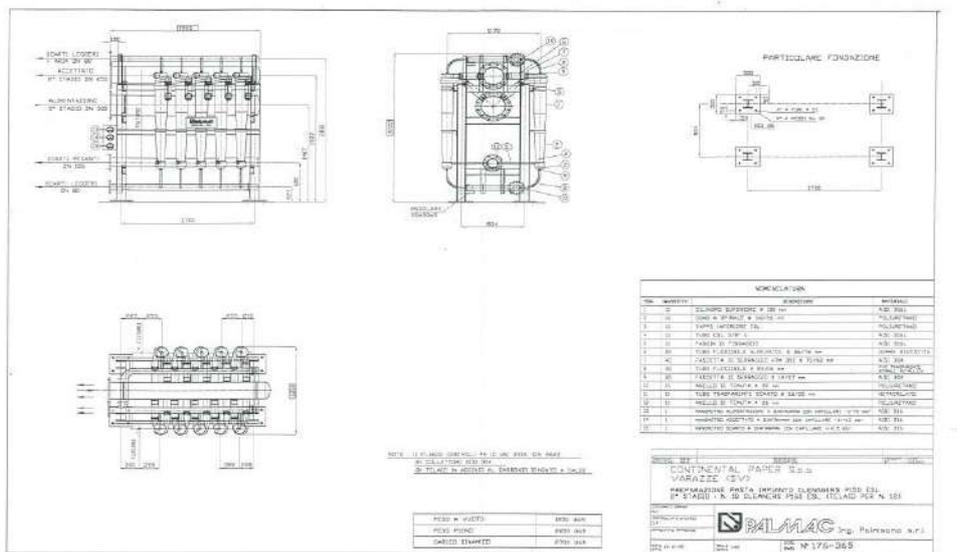


- N°28 Cleaners P150 ESL
- Dry weight :3200 kg
- Full weight : 5700 kg
- Dinamic weight : 7200 kg
- n°28 Superior cilindrs, diameter 150 mm, AISI 316L
- n°28 Spiral cones, diameter 110/26 mm, polyurethane
- n°28 Inferior plugs ESL, polyurethane
- n°28 Tubes ESL 3/8' G, AISI 316L
- n°28 Fixing bands, AISI 316L
- n°56 Flexible tubes supply/power on, diameter 86/76 mm, coated rubber
- n°112 Tightening clamps HTM 350 , diameter 70/52 mm,AISI 304
- n°56 Flexible tubes, diameter 22/16 mm, transparent PVC, metallic spiral
- n°56 Tightening clamps,diameter 14/27 mm,AISI 304
- n°56 Sealing rings, diameter 20 mm, polyurethane
- n°28 Transparent tubes waste, diameter 26/20 mm, methacrylate
- n°28 Sealing rings, diameter 26 mm, polyurethane



- n°1 Alimentation pressure gauges at diaphragm with capillary, -1/+5 bar, AISI 316
- n°1 Accepted pressure gauges at diaphragm with capillary, -1/+3 bar, AISI 316
- n°1 Waste pressure gauges at diaphragm with capillary, -1/+1.5 bar, AISI 316

### CLEANERS 2° STAGE

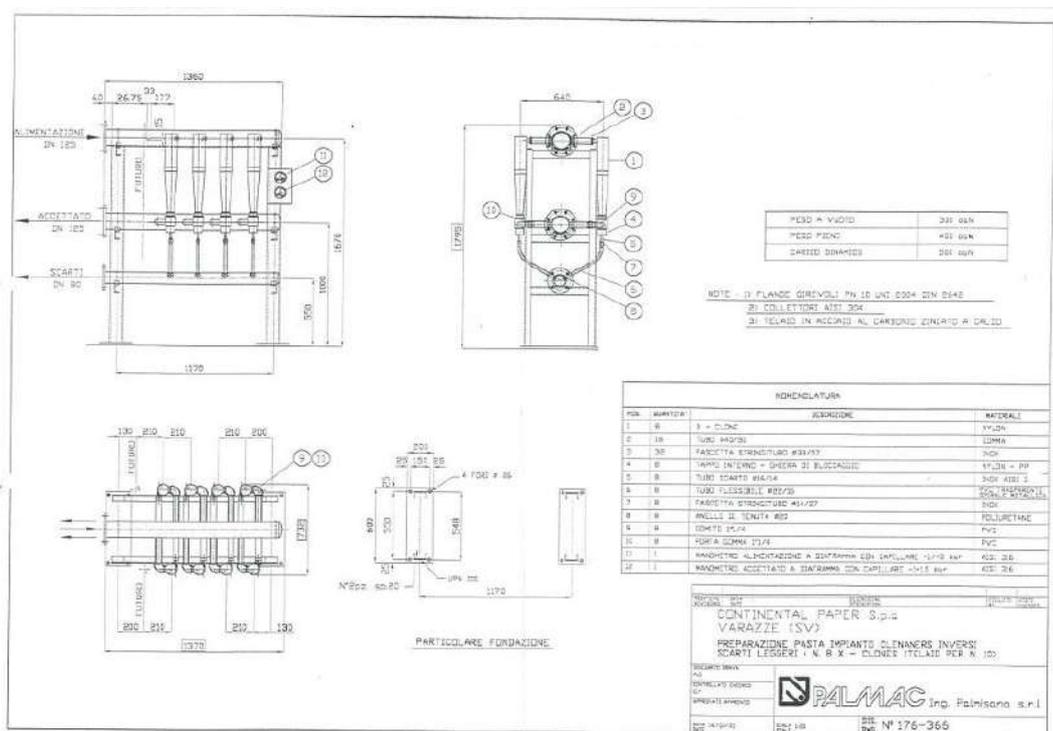


- N°10 Cleaners P150 ESL
- Dry weight : 1200 kg
- Full weight : 2200 kg
- Dinamic weight : 2700 kg
- n°10 Superior cilindrs, diameter 150 mm, AISI 316L
- n°10 Spiral cones, diameter 110/26 mm, polyurethane
- n°10 Inferior plugs ESL, polyurethane
- n°10 Tubes ESL 3/8' G, AISI 316L
- n°10 Fixing bands, AISI 316L
- n°20 Flexible tubes supply/power on, diameter 86/76 mm, coated rubber
- n°40 Tightening clamps HTM 350 ,diameter 70/52 mm,AISI 304



- n°20 Flexible tubes, diameter 22/16 mm, transparent PVC, metallic spiral
- n°20 Tightening clamps, diameter 14/27 mm, AISI 304
- n°10 Sealing rings, diameter 20 mm, polyurethane
- n°10 Transparent tubes waste, diameter 26/20 mm, methacrylate
  
- n°10 Sealing rings, diameter 26 mm, polyurethane
- n°1 Alimentation pressure gauges at diaphragm with capillary, -1/+3 bar, AISI 316
- n°1 Accepted pressure gauges at diaphragm with capillary, -1/+1.5 bar, AISI 316
- n°1 Waste pressure gauges at diaphragm with capillary, -1/+1.5 bar, AISI 316

### INVERTED CLEANERS LIGHT WASTE





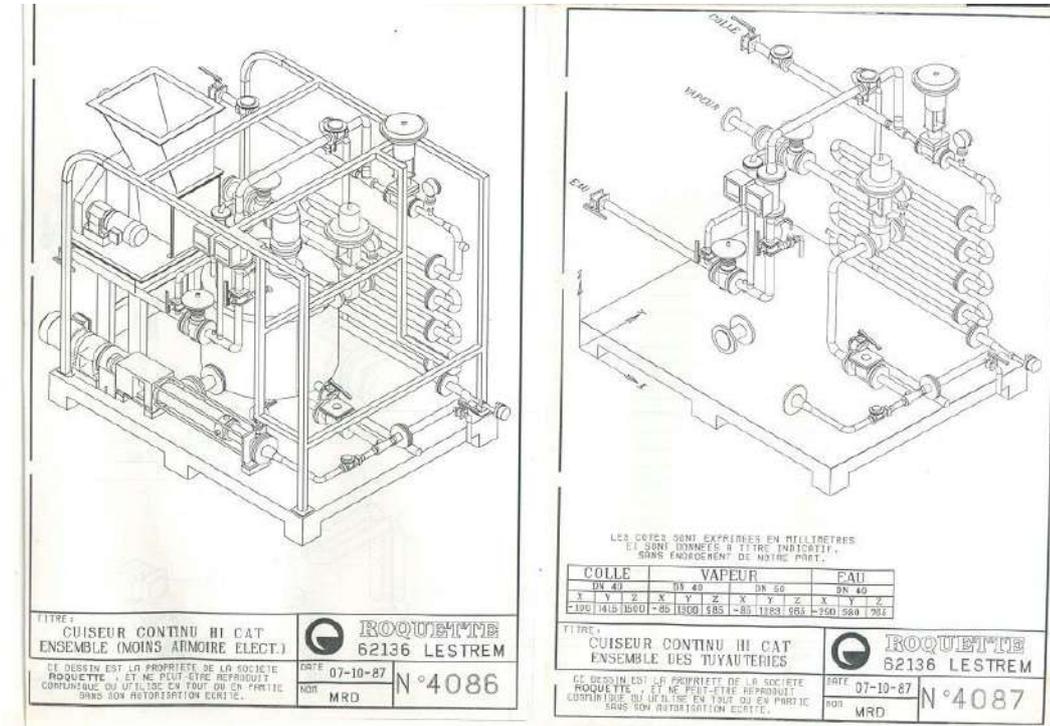
- n°8 Cleaners
- Dry weight : 300 kg
- Full weight : 400 kg
- Dinamic weight : 500 kg
- n°8 Cleaners X- Clone
- n°16 Tubes diameter 40/50 mm, nylon
- n°32 Hose clamps, diameter 33/57 mm, inox
- n°8 Intern plugs – locking rings, nylon-pp
- n°8 Waste tubes, diameter 16/14 mm, inox AISI 316
- N°8 Flexible tubes, diameter 22/16 mm, transparent PVC, metallic spiral
- n°8 Hose clamps, diameter 14/27 mm, inox
- n°8 Sealing rings, diameter 20 mm, polyurethane
- n°8 Cranks 1'1/4, PVC
- n°8 Rubber support 1'1/4, PVC
- n°1 Alimentation pressure gauges at diaphragm with capillary, -1/+3 bar, AISI 316
- n°1 Accepted pressure gauges at diaphragm with capillary, -1/+1.5 bar, AISI 316

## **STARCH SILOS**

- n°1 Silos, capacity 80 m<sup>3</sup>
- n°1 Silos, capacity 60 m<sup>3</sup>
- Material : inox electrowelded



## STARCH COOKER (HI-CAT ROQUETTE)



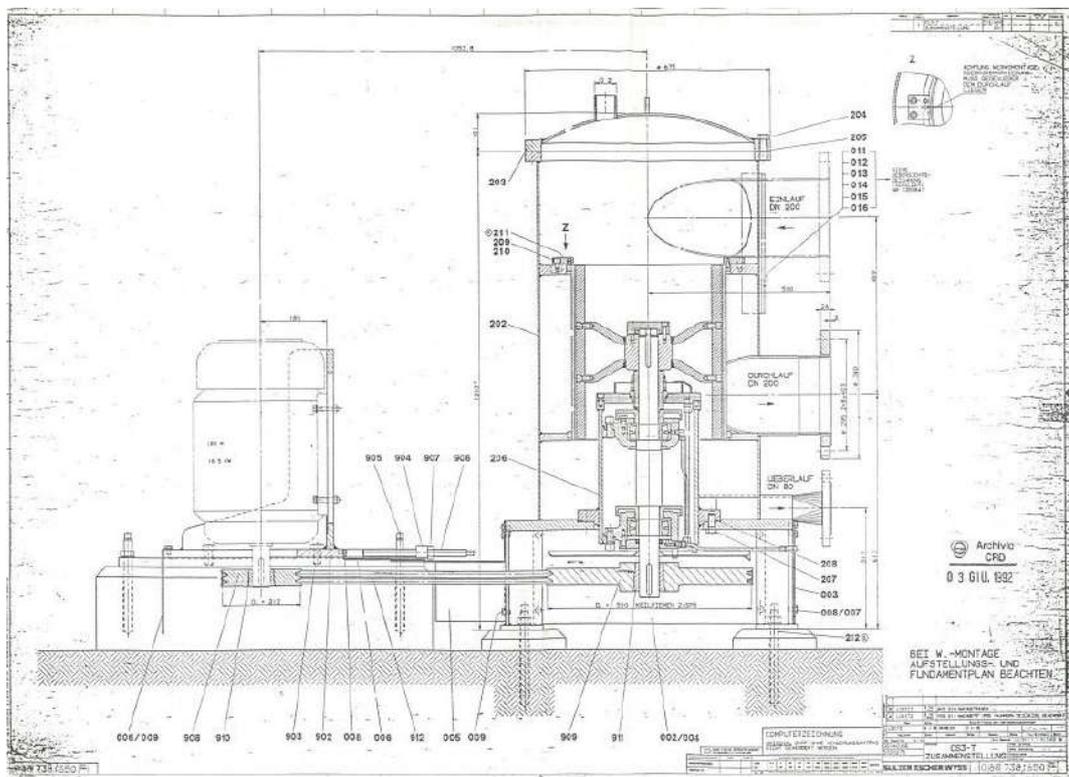
## TANK CONSTANT LEVEL

- Capacity : 300/400 liters
- Material : inox



# SCREENS STOCK PREPARATION

## SCREEN AXIGUARD (ESCHER-WYSS)



◆ **Rotor** : n°2 Foils

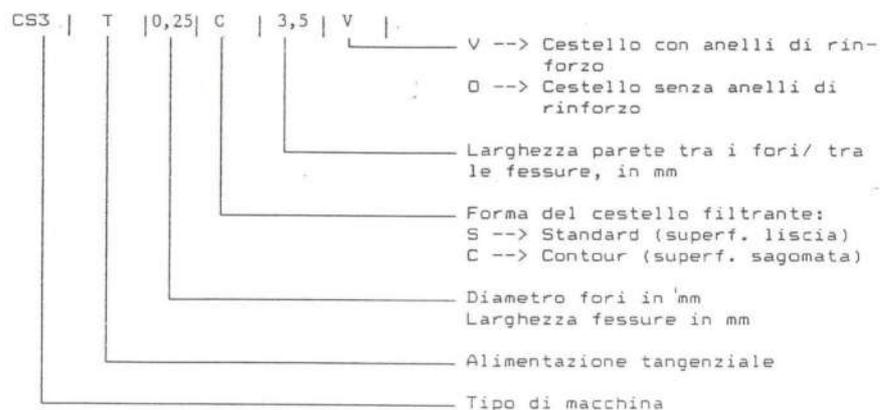
◆ **Filter basket** :

Basket design



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paper machines



V → Basket with reinforcement rings

O → Basket without reinforcement rings

Side width between holes/between slots : 3.5 mm

Filter basket form :

S → Standard ( smooth surface)

C → Contour ( contoured surface )

Holes diameter : 0.25 mm

Slots width : 0.25 mm

Tangential feed

Machine type : CS3

#### TECHNICAL DETAILS :

- Position : stock preparation
- Stock type : waste paper
- Flow : 600 l/min
- Density : 0.9 %
- Temperature : 40 C°
- Pressure in : 1 bar

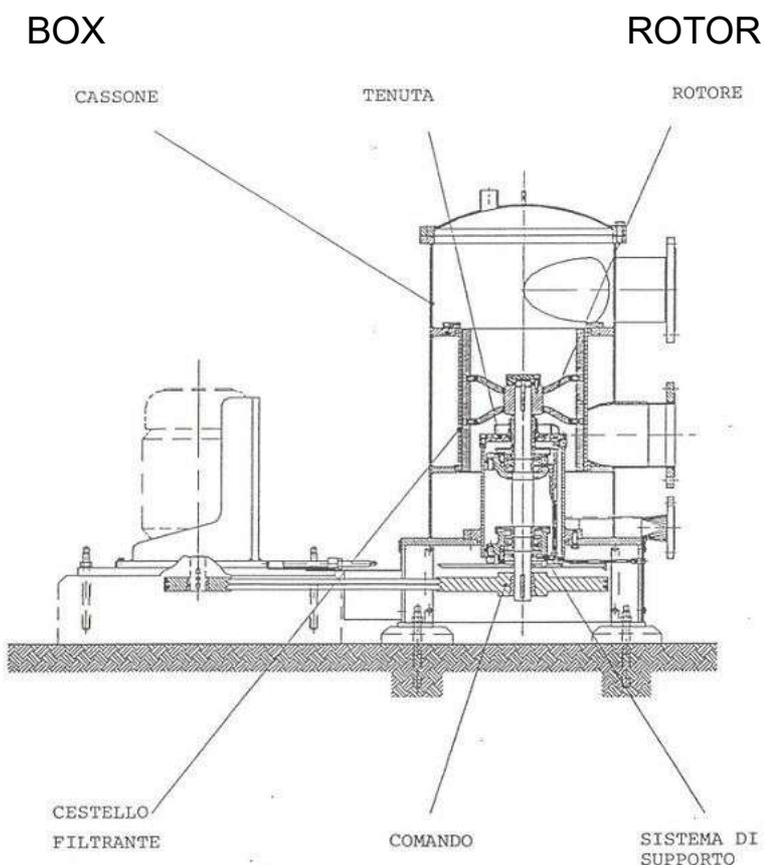


## **DRIVES TECHNICAL DETAILS :**

- ◆ Model : threephase motor
- ◆ Type : V5
- ◆ Nominal power : 22 kW
- ◆ Synchronous speed : 1470 l/min
- ◆ Frequency : 50 Hz
  
- ◆ Motor rounds : 1470 l/min
- ◆ Rotor rounds : 730 l/min
- ◆ Diameter motor side pulley : 280 mm
- ◆ Diameter CS3-T side pulley : 560 mm
- ◆ Wheelbase : 1053.8 mm
- ◆ Belts type : trapezoidal type SPB
- ◆ Lenght : 3350 mm
- ◆ n° Belts : 2



◆ **Groups description**



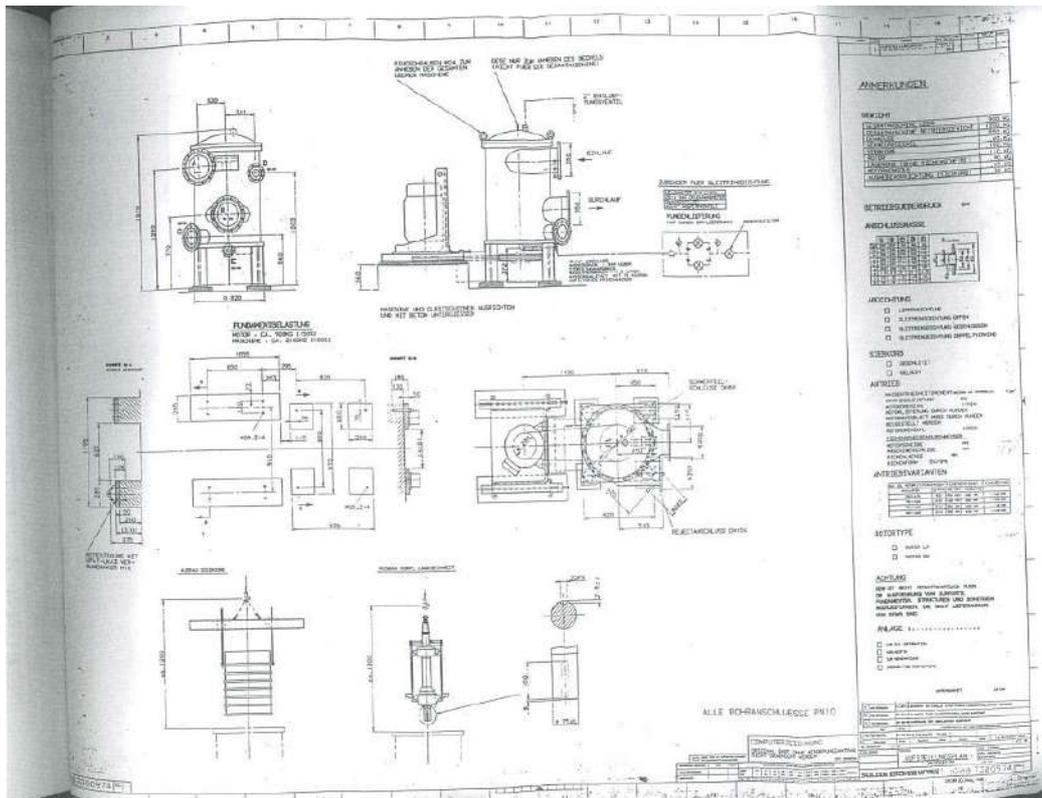
**FILTER BASKET    COMMAND DRIVE    SUPPORT SYSTEM**

◆ **MACHINE AND DRIVE TECHNICAL DETAILS :**

- ◆ Max absorbed power : 22 kW
- ◆ Max exercise pressure : 5 kW
- ◆ Min pressure of accepted : 0.35 kW
- ◆ CS3-T - dry weight (without principal command) : 600 kg
- ◆ CS3-T - full weight (without principal command) : 885 kg
- ◆ Max exercise temperature : 70 C°



## SCREEN OS4 (ESCHER-WYSS)



### TECHNICAL DATA :

- ◆ Motor rounds : 1475 min<sup>-1</sup> ( nominal rounds : 1500 min<sup>-1</sup> )
- ◆ Rotor rounds : 922 1032 1310 min<sup>-1</sup>
- ◆ Motor pulley : 250 280 355 mm
- ◆ Rotor pulley : 400 400 400 mm
- ◆ Number grooves : 5 5 5
- ◆ Numbers belts : 5 5 5
- ◆ Wheelbase : 1162 1139 1082 mm
- ◆ Belts length : 3350 3350 3350 mm
- ◆ Belts type/profile : SPB SPB SPB





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paper machines

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- ◆ Belts type/profile : SPB SPB SPB SPB
- ◆ Axial strenght ( C=1.6)
  - 37 kW static : 2800 - - N
  - dinamic : 2300 - - N
  - 45 kW static : - 4000 3900 N
  - dinamic : - 3000 2500 N
  - 55 kW static : - - 4500 N
  - dinamic : - - 3400 N



**EXTERNAL**



**INTERNAL WITH BASKET SLOTS**



**BASKETS REPLACEMENTS WITH HOLES (diameter 1.4 mm)**

## **OMEGA FILTER**

### **MODEL**

- ◆ Model : VR 5
- ◆ Project flow : 50 m<sup>3</sup>/h
- ◆ Dimensions : see drawing n° 86.12.05
- ◆ Running weight : 30.000 kg
- ◆ Filtering surface : - m<sup>2</sup>
- ◆ Medium height filtering surface : 1 mt
- ◆ Filtering substance : spheroidal quartz sand
- ◆ Nominal granulometry : - m<sup>3</sup>
- ◆ Sand volume : 9.8 m<sup>3</sup>
- ◆ Filter diameter : 2500 mm
- ◆ Filter height : 5990 mm

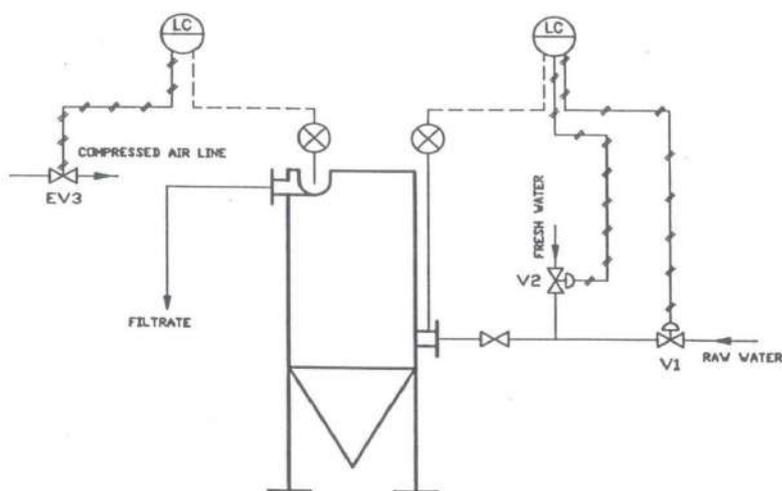
### **MATERIALS**

- ◆ External support structures : FE covered with inorganic zinc with SA 2.5
- ◆ Washer, channel weir filtered water, bottom curve and air pump : AISI 304



### CONTROL PANEL

- ◆ Electrical valve ( installed only if there is the operative control unit) : SCEM 1/2" PN 116 AN
- ◆ Pressure reducer with pressure gauge : CAMOZZI 3/8 0 : 10 BAR
- ◆ Sand air flowmeter : 10 Nm<sup>3</sup>/h MOD. RG/1/L/R FIL. 3/8"
- ◆ Air flowmeter washer : 1500 Nit/h MOD. R/M IN.S. FIL. 3/8"



**OPERATIV CONTROL UNIT**



## VIBRATING SCREENS



### VIBRATING SCREEN 1

- ◆ Plate dimension : 1800 mm x 550 mm
- ◆ Holes diameter : 4 mm

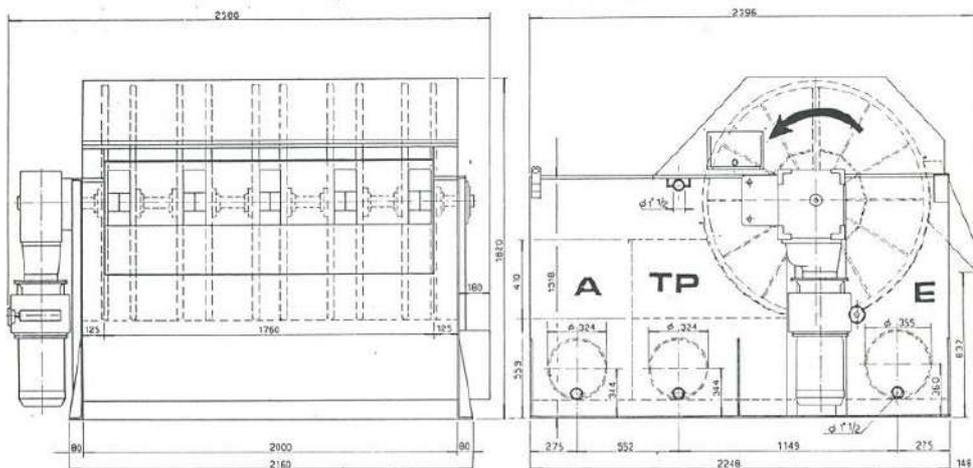




**VIBRATING SCREEN 2**

- ◆ Plate dimension : 1800 mm x 550 mm
- ◆ Holes dimension : 8 mm

**DISCOSTRAINER (SERNAGIOTTO)**



Portata mc/h	Coppie di dischi	Area filtraz. mq totali	Potenza KW comer.	Peso KG in funz. vuoto	Acqua lavaggio l/sec.		
477	5	10,97	4,18	5,5	1678	3500	3,2

▲ LA PORTATA E' RIFERITA AD ACQUE CLOACALI CON 300 p.p.m. E RETE FILTRANTE CON APERTURE DI 200.

A.affluente E.affluente TP.troppo pieno

		DIVISIONE 06	27045 CASTEGGIO Via Torino, 100 10131 83341 (n.5 linee urbane)	Posizione VA-31
ASSIEME		DIS N 60402644		DATA
DISCOSTRAINER DS 485		SCALA 1:13	DATA 25.6.87	APPROVAZIONE
A. Sernagiotto & C. S.p.A. - Via Torino, 100 - 10131 83341 (n.5 linee urbane) - Casteggio (PV)		EK DIG 42		DATA

10 SERNAGIOTTO S.P.A. DISCOSTRAINER

E = EFFLUENT  
TP = OVERFULL

- ◆ Flow : 477 m<sup>3</sup>/h
- ◆ Discs couple : 5
- ◆ Filtration area :  
total : 10.97 m<sup>2</sup>  
imm. : 4.18 m<sup>2</sup>
- ◆ Power : 5.5 kW
- ◆ Weight :  
empty : 1678 kg  
working : 3500 kg
- ◆ Water washing : 3.2 s<sup>-1</sup>



The flow is reported to cloacal waters with 300 p.p.m. and filtering net with opening of 200



**DISCOSTRAINER SERNAGIOTTO**

## **AIR COMPRESSOR**

- ◆ Model : M90 AC L
- ◆ Pressure : 7.5 bar
- ◆ Capacity : 16.7 m<sup>3</sup>/min – 590 ft<sup>3</sup>/min

## **AIR DRYER**



## **PULPER HIGH DENSITY STEEL RCM**

- ◆ Pulper HD20 RCM including  
Belt conveyor with weighing system and pulper cleaning system (poire) type RCM TSP 1300  
by Meccanica Fantini 1992  
including drive arrangement by gearbox and motor.  
Approximately dimensions : width 1600 mm, length 23300 mm

## **DIATERMIC FLUID GENERATOR (BONO)**

Composed by:

- ◆ Boiler
- ◆ Burner
- ◆ Cooling fan

The generator has the following characteristics :

- ◆ Type : OMP 10000/PA
- ◆ Year : 2002
- ◆ Potential : 1.000.000 cal/h
- ◆ Fluid temperature 300 C°
- ◆ Fuel : methane (CH<sub>4</sub>)

The burner group has the following characteristics :

- ◆ Type : RV 21"/19"
- ◆ Year ; 2002
- ◆ Potential max : 15697 kW/h
- ◆ Fuel : biogas-methane (CH<sub>4</sub>-biogas)



The centrifugal colling fan has the following characteristics :

- ◆ Manufacturer : Saivent
- ◆ Model : M710
- ◆ Year : 2002
- ◆ Flow : 22.000 MC/h
- ◆ Pressure : 4500 Pa
- ◆ Rounds : 2950/min
- ◆ Absorbed power : 45 kW
- ◆ Working temperature : 15 C°

It belongs to boiler group also the automation system and security, the electrical system and the circulation electrical pumps.

-N°2 Compressors Ingersoll Rand with motor and filters, 7.5 bar and 16.7 m<sup>3</sup>/min

-N°1 Refrigerator Dryer Arctic Star

-N°1 Tank 100 m<sup>3</sup> disassembled steel inox with vertical agitator economix

-N°1 Tank 100 m<sup>3</sup> assembled with vertical agitator economix steel inox

-N°1 Tank 20 m<sup>3</sup> for pulp, steel inox

-N°1 Screen RCM, quantity : 1500 l/h

-N°1 Tank 150 m<sup>3</sup> with vertical agitator economix removable, steel inox

-N°1 Tank 150 m<sup>3</sup> electrowelded, steel inox

-N°1 Fireplace steel inox

Tanks to quantify, steel inox

Various pumps

Various pipes stock preparation steel inox

## LIST MAIN SPARE PARTS

DESCRIPTION	POSITION	QUANTITY
DRIVE SHAFT COMPLETE PULPER	PULPER 25 MC.	1
BASKET HOLES 0,20	SCREEN S13	3
BASKET HOLES 1,4	SCREEN S12	2
ROTOR	SCREEN	1
BASKET SLOTS	SCREEN S15	1
BASKET SLOTS	SCREEN S15	1
ROTOR	SCREEN S15	1
BASKET HOLES	SCREEN T.M.	1
ROTOR	SCREEN T.M.	1
GEARS WHEELS	DRIVE M.C.	4
COMPLETE SUPPORTS	CALENDER	2
TILES RIBBON	PULPER 25 M.C.	34
VERTICAL PUMP TURO		1
PUMPS GROUP WITH BASEMENT		2
HYDRAULIC PISTONS	COMPACTOR	2
ADAPTER	COUCH-PIT	1
PUMPS GROUPS RCM		1
PERFORATED PLATE	SEPARATOR RCM	1
IMPELLER	REJECTS UNDER POPE	1
RUBBER CONVEYOR BELT	COMPACTOR	1
IMPELLER PLATE	PULPER 25 M.C.	1
COMPLETE SUPPORTS	1° PRESS	2
SUPPORTS	DRIVE M.C.	3
SUPPORT	DRIVE M.C.	1
COMPLETE SUPPORTS	HEAD ROLL	2
REDUCERS	DRIVE M.C.	3
PULLEY	SEPARATOR RCM	1
PINION GROUPS	DRIVE M.C.	1
MOTOREDUCER	ECONOMIX	1
IMMERSIONS PUMPS VARIOUS SIZES		4

IMMERSION PUMP CILINDRIC		1
IMPELLER	PULPER 25 M.C.	1
REDUCER	PULPER 25 M.C.	1
SUPPORTS	2° SUPERIORE PRESS	2
SUPPORT	DRYER CYLINDER	1
BEARING 23248 K C3	2° SUPERIOR PRESS	2
BEARING 23088 K	SUCTION ROLL	1
SET HEADS	PRESS ROLLS	2
VACUFOIL BOX	WIRE	1
HYDROFOIL	WIRE	1

# TANKS LIST

C01 60 m<sup>3</sup>  
C02 60 m<sup>3</sup>  
C14 100 m<sup>3</sup>  
C12 100 m<sup>3</sup>  
C22 150 m<sup>3</sup>  
C26 100 m<sup>3</sup>  
C11 15 m<sup>3</sup>  
C20 15 m<sup>3</sup>  
C25A 15 m<sup>3</sup>  
C06 20 m<sup>3</sup>  
C07 12 m<sup>3</sup>  
C08 12 m<sup>3</sup>  
C09 20 m<sup>3</sup>  
C10 25 m<sup>3</sup>  
C13 16 m<sup>3</sup>  
C13.1 16 m<sup>3</sup>  
C16 30 m<sup>3</sup>  
Tank discharge disperger 6 m<sup>3</sup>  
Little tank starch C.13 5 m<sup>3</sup>  
Tank cleaners 20 m<sup>3</sup>  
Tub 2° waters 28 m<sup>3</sup>  
Silo collegated to 2° waters 6 m<sup>3</sup>  
C28 3 m<sup>3</sup>  
Starch kitchen 2 m<sup>3</sup>

## **PUMPS LIST**

N°13 pumps not dismatled

N° 2 water pumps

N°2 high pressure cleaning pumps

N°1 pump

N°2 discharging, trimming and break pumps

N°10 condense drain pumps and vacuum condensation pumps

N°2 cooling gas compressor pumps

N°1 single screw starch plant pump

N°7 H2O boiler pumps

N°2 Diatermic oil pumps

## FELT AND WIRES

### WIRES

Cristini	TRIOTWIN	(31,250 x 4,200)	n.359372	
NTI	NOVASINT 2	(30,860 x 4,100)	n.162B	(BOX 8)
Usata				
Cristini	TRIOPLAN			(BOX 7)

### PICK UP FELT

Cristini	Hydrosmooth	(15,3 x 4,2)	n. 363561	
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### 2ND PRESS FELT

Albany	Dynatex III	(15,5 x 4,180)	n. 456813,02	
Albany	Dynatex III	(15,5 x 4,150)	n. 459146,04	
Binet	Binlam 35,UW-60.FG	(15,5 x 4,12)	n. 16558	
CRISTINI	Hydrocomb	(15,50 x 4,15)	n. 365637	

### DRYERS FELT

#### UNO RUN (1ST BATTERY)

Cristini	UNADYNE	(34,00 x 4,00)	n. 331306	
Albany	Aeroclean	(34,00 x 4,00)	n. 506325,02	

#### 2ND AND 3RD BATTERIES

Albany	Aerorun	(26,0 x 4,00)	n. 5016380,02	
Crinstini	Dynaflat	(26,0 x 4,00)	n. 360102	

#### 5TH BATTERY

Binet	Binperm R.53.R	(34,0 x 4,00)	n. 22052	
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**MISCELLANEOUS ( FOILS, BOARDS, ETC )**

**BOX 1**

Vacufoil Boards (USED)

**BOX 2**

Foils for low vacuum

**BOX 3**

Vacufoil Boards (USED in good condition)

**BOX 4**

Foils (different grades USED)

**BOX 6**

Foils for UHLE BOX (about 20 )

**BOX 7**

Used WIRE (unknow manufacturer)

**BOX 8**

Wire NTI

**PACK A** wired

Vacufoils BOARDS (NEW)

**PACK B** wired

Foils for Low Vacuum Boxes

**MOTORS LIST (DISMANTLED AND STORED NEAR THE WET END)**

<b>MANUFACTURER</b>	<b>POWER KW</b>	<b>RPM</b>	<b>AC/DC</b>
SIEMENS	55	1475	AC
BROOK CROMPTON	22	1470	AC
FELM	11	970	AC
SIEMENS	22	1460	AC
ABB	110	1486	AC
ABB	110	1486	AC
BROOK CROMPTON	30	1470	AC
ABB	37/55 ??	??	AC
SPZ	22	2940	AC
SIEMENS	18,5	1460	AC
SIEMENS	11	1455	AC
ELDRIVE	37	2950	AC
BROOK CROMPTON	30	1475	AC
ABB	22	1475	AC
?????	125	2970	AC
BROOK CROMPTON	22	970	AC
ABB	110	1486	AC
ABB	110	1486	AC
BULL ELECTRIC LTD	255	?	DC
SIEMENS	0,125/4,80	50/1910	DC
SIEMENS	2,06/72,5	50/1760	DC
COMELMAR ITALIA	172	1600	DC
SIEMENS	8,15/173	50/1060	DC