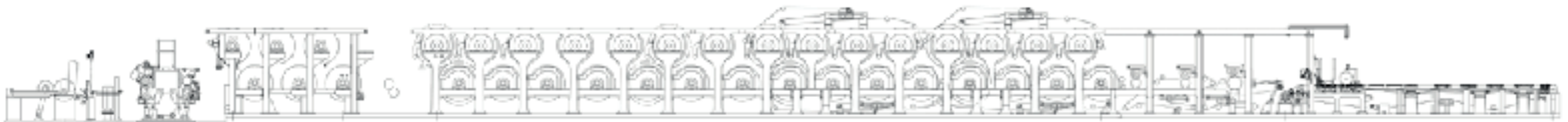


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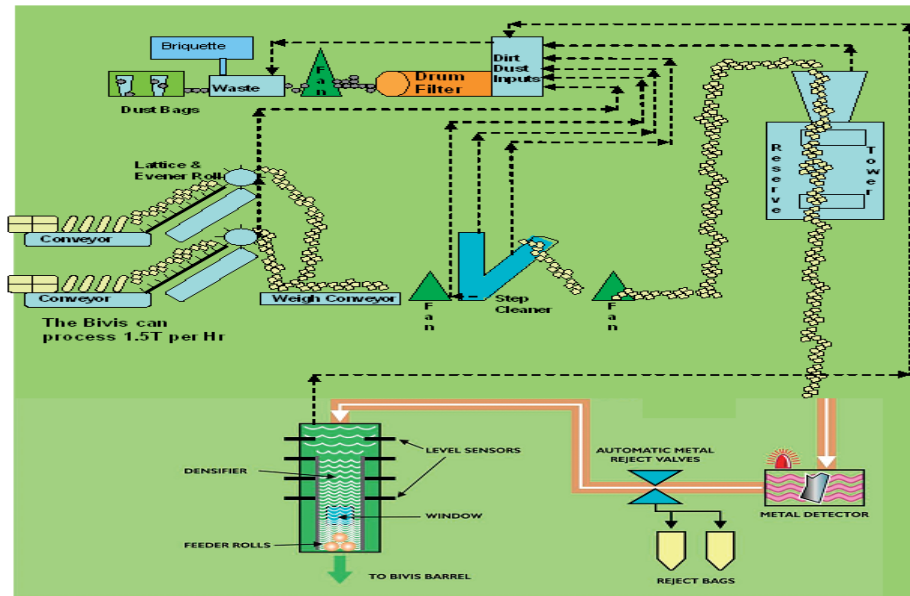
Pulp Stock Preparation



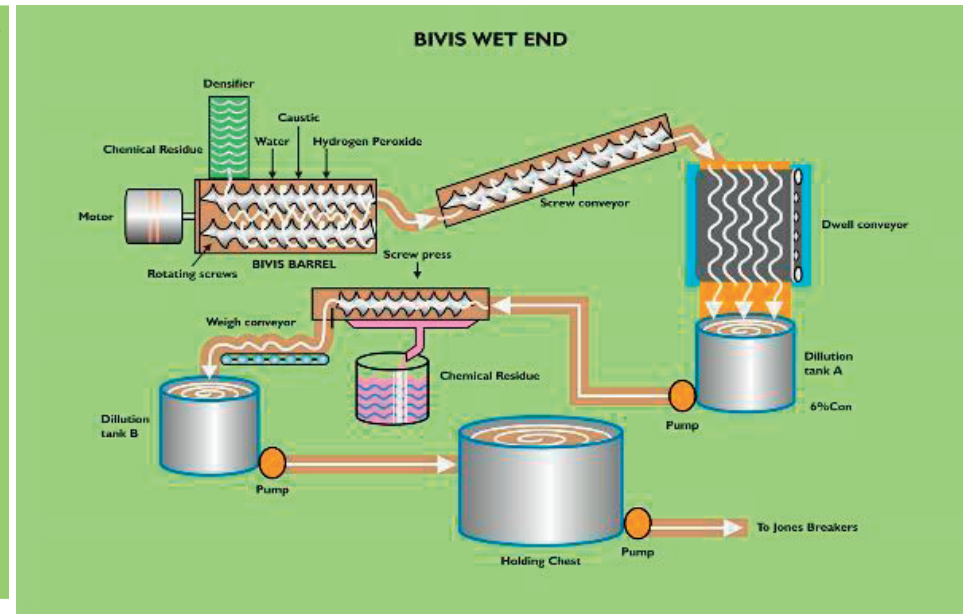
Pulp stock preparation

Bivis

Block Diagram of the Bivis Dry End



BIVIS WET END



Simply defined, a Bivis machine is a processing machine consisting of two identical co-rotating intermeshing self-wiping screw profiles operating within a closed barrel. Cletral developed pulping process jointly with research institutes and leading paper companies, applying proven twin-screw extrusion

technology used in the plastics, chemical, food and feed industries since the mid 1950's. Clextrol BIVIS machines provide continuous, automated processing for:

- Cotton Defibering or Fiber Cutting
- Chemical Impregnation
- Bleaching
- Washing




The BIVIS or TSM (Twin Screw Machine) process is completely different compared to conventional defibering processes. Fibres separation or fibres cutting are achieved by compression and shearing forces thanks to reverse threads screw components called reverse sections. Several shearing modules are required for an efficient fibres separation. Using a combination of reverse screw sections with varying geometries, the BIVIS machine efficiently processes wood chips, non-wood fibres, textile fibres, recycled fibres, virtually any cellulose raw material, to achieve optimum fibre separation or fibre cutting depending on the raw materials.


The highly efficient BIVIS system uses a fraction of the energy required by traditional processing equipment. Chemical impregnation Various chemical treatments may be performed by TSM machine. Cooking, Chemical Treatment and Chlorine Free Bleaching Treatment of cellulosic material with chemicals and bleaching agents is easily and efficiently accomplished by the BIVIS machine.


The high consistency of the material, plus the combined actions of temperature and pressure, accelerate the chemical reactions. Liquids or gases may be injected into the barrel at specific areas. The highly efficient BIVIS process greatly reduces the volume of chemicals required and dramatically lowers the volume of effluent to be treated.

Fibre Handling

Bales are fed into two conveyors, where they are broken up and transferred onto weigh conveyors. The comber is then sent through the cyclones for cleaning where heavy objects are disregarded in the rejects bins and lighter dust is also separated in the dust extraction systems. Metallic objects are detected and rejected as this would seriously damage the Bivis screws. The raw material is then fed through a densifier which aids in controlling the flow into the Bivis barrel. Water, caustic, and hydrogen peroxide are added to the raw material as it passes through the barrel between two rotating screws with intermittent windows, gaps which activate a shortening of the fibres. The fibres from the Bivis barrel are then fed into a dwell conveyor (a slow-moving belt allowing the chemicals to work the fibres.) it can take up to 30mins for the stock to travel the dwell process. This is necessary because of the short time the fibres spend in the Bivis barrel. Excess chemicals are squeezed out at the screw press and diluted to around 4% consistency before being sent to the Stock Chest.

020	Main unit	Main Motor and Drive	1.2 MW Motor and variable speed drive + Brand New Spare Motor	2008	ABB	ACS 800 - 690V HXR560LK6	
021	Main unit	Gear Box	Includes - Couplings - Lubrication oil system (Tank, Tank heater, Level sensor, and Duty stand-by pumps)	2011	LUFKIN	3PHS37 1200-450 2.663 ratio Rated for 1.2 MW Motor	
022	Main unit	Screw Sets	2 off Screw Sets each screw set Consists of: 4 off Reversing Sections 1°) 5RH18 length 100mm 2°) 5RH18 length 100mm 3°) 5RH14 length 140mm 4°) 5RH12 length 140mm	Various Years	Clextral	N/A	

023	Main unit	Barrel	<p>Main housing of Screw Set. Able to produce 1.8 t/hr throughput (B/dt) includes - Opening Hydraulic Unit - Brand New Spare Barrell Unit Twin Screw Machine with hydraulic lubricating station and Hydraulic Slewing Power Pack Power Rating 1000 kW Speed 1200 rpm Screw Shaft Speed 320rpm</p>	1993	Clextral	KRO 200 CB No 2010	

048	REFINERS	JCO1 - Dispersers	<p>The JCO1 Refiner drive equipment includes a gear, primary and secondary coupling, and a motor. The refiner is powered by an electric motor via the coupling.</p> <p>Capacity - 5-250 TPD Power range - 315KW Speed range - 1200RPM Consistency range - 2-6 % Max operating pressure 6 bar Weight (with coupling, without Motor) 1300 kg Length (with coupling, without Motor) 1765mm Width (with coupling, without Motor) 850mm Height (to top flange) 900mm</p> <p>3 x JCO1 Refiners. Includes;</p> <ul style="list-style-type: none"> - Plate Drive - Inlet Valve - Outlet Valve - By-pass Valve - Seal Water Valve - Flush Water Valve - Outlet Flush Water Valve - Inlet Pressure Transmitter - Outlet Pressure Transmitter - Inlet Temperature Transmitter - Outlet Temperature Transmitter <p>1 x JCO1 Fitted with TC3K (Attack bar) fillings 1 x JCO1 Fitted with SCH fillings 1 x JCO1 Fitted with LM fillings</p>	1995-2010	METSO	METSO OptiFiner RF-1	
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