

2.0 EQUIPMENT

(1) ANDRITZ press

1. DTPA pump 24GP02
2. Double wire press feed moyno pump 21EP01
3. Andritz double wire press 21EE03
 - Headbox
 - Wires
 - Wire guides
 - Tension rolls
 - Drive rolls
 - Press rolls
 - Doctor blades
 - Table rolls
 - S-wrap rolls
 - Showers
 - Side deckles
 - Drive
 - Cantilever, or wire-changing, beam
 - Local panel
4. Clear water pump 21BP16
5. Shredding screw feeder 21EE06
6. Ascending screw feeder 21EE07
7. Heating screw 21EE08
8. Collecting screw 21EE09
9. Water heater 21EE15
10. Feeding screw feeder 21EE10
11. Disperger 21EE11
 - Rotor and stator
 - Inlet
 - Flushing and dilution water connections
12. Storage Tower I 21EB12 and agitator 21EE12
 - Tower
 - Agitator
13. Clear water tank II pump 21EP14
14. Clear water tank II pump 21EP13
15. Bleach liquor pump 24DP22 and connection

Except for the two clear water tank pumps and the two chemical pumps, all equipment is shown on P&I drawing E811-207. The water pumps, except for 21BP16, are on the second water circuit drawing, E811-210.

- Clear water pump 21BP16 is on the first water circuit drawing E811-206. The DTPA pump is on 100-M-118 and the bleach liquor pump is on 100-M-116.

2.3 DOUBLE WIRE PRESS (21EE03)

The purpose of the double wire press is to dewater the stock so that less energy is required to heat the stock before the disperger. In addition, the disperger operates more efficiently at a higher consistency because more energy is transferred to fiber and less to water.

2.3.1 Process Description

The press increases stock consistency from 7 percent to 28 percent. The operating principle is simple -- the two wires converge to form a wedge which squeezes water out of the stock.

The stock enters the double wire press headbox which distributes it evenly across the press. The headbox level control loop provides the setpoint to the press variable speed drive. It is interlocked to shut down the Moyno pump on high-high level, and alarms EMPTY at low-low level. Stock in the headbox is showered with clear water. The water valve is interlocked to open when the Moyno pump is running and the double wire press bypass valve is closed.

A pair of rolls carries the top wire from the stretch roll into the wedge. The bottom wire comes around the stretch roll, then a wire turning roll and across the pulp feed board into the wedge. The wedge zone converges between the table rolls.

The stock is pressed between 12 sets of tables rolls and filtrate runs off the wire. It drains into a saveall pan beneath the lower wire. The two wires exit this zone and travel between three sets of S-wrap rolls, arranged diagonally. The wires then ascend between the three sets of press rolls. Here more moisture is pressed out. The press section ascends so that water runs off down a gutter and does not rewet the sheet in the double wire press.

The stock is discharged into a trough containing a shredding screw. The shredding screw breaks the high consistency mat into chunks and feeds the ascending screw.

Water that is pressed from the stock drains to cloudy water tank I.

It's possible to bypass the double-wire press, the screw feeders and the disperger and deliver stock directly to storage tower I. The bypass line takes off just downstream from the mag flow meter. A pair of switching valves control the direction of flow. These valves can be controlled only from the DCS.

2.3.2 Component Description

2.3.2.1 Headbox

The stock enters the headbox through two separate lines. The headbox distributes the stock onto the wires evenly across the width of the press.

2.3.2.2 Wires

There are two wires -- top and bottom -- each 100.4 inches wide. The top wire is 41 feet, 4 inches long and the bottom wire is 45 feet 9 inches long.

2.3.2.3 Wire Guides

Each of the wires is guided by a typical felt or wire guiding system equipped with a guide paddle and movable guide roll.

2.3.2.4 Tension Rolls

There's a pneumatically operated stretch, or tensioning, roll on each wire run. The tension should be equal on the wires. Tension is controlled from a local panel.

2.3.2.5 Drive Rolls

The discharge roll on each wire run is also the drive roll.

2.3.2.6 Press Rolls

There are six press rolls before the discharge. These are arranged in pairs of two -- with three on the top wire and three on the bottom wire.

2.3.2.7 Doctor Blades

Doctor blades on the discharge rolls remove the sheet and clean the wires.

2.3.2.8 Table Rolls

There are 24 table rolls, 5-1/8 inch diameter, arranged in pairs.

2.3.2.9 Showers

There's a shower on each wire return run to clean the wire. The shower water comes from clear water tank I and drains to the lower saveall pan. Shower water is supplied through a valve that is interlocked to open as long as the Vario Split shower water booster pump drive is running and the double wire press is running.

2.3.2.10 Side Deckles

Side deckles keep the stock from running off the wires at the sides.

2.3.2.11 Drive

A variable speed motor drives the double wire press. The speed indicating controller receives its setpoint from the controller in the headbox level loop. A number of permissives must be satisfied for the drive to start and continue to run. These are discussed in the "Controls" portion of this training material.

2.3.2.12 Cantilever, or Wire-Changing, Beams

The cantilever beams support the upper portion of the press when it is opened for wire changes.

2.3.3 Safety

There are numerous nips on the double wire press.

To isolate the double wire press for maintenance:

1. Lock out the double wire press drive 21ED03 (MCC 24).
2. Lock out the shredding screw drive 21ED06 (MCC 24).
3. Lock out the Moyno pump drive 21ED01 (MCC 24).
4. Close the manual valves on the feed lines to the headbox.
5. Close the manual valve on the shower line.