

SECTION 1 - SPECIFICATION DATA - FARREL-KUSTERS SWIMMING ROLL

Customer Manchester Machine Co. - for Groveton Paper Co.

Location Groveton, New Hampshire

Purchase Order # 25233 Farrel Order # 71H4535

Application Information

Location: Machine 2-roll- Fixed Queen 24" Calender Roll Position Bottom

Roll Dimensions: Diameter 19.0" Face Length 118.0"

Over-all Length 155.0" Brg. Cent. Dist. 144.0"

Drive Arrangement: Surface Driven

Design Speed (FPM) 1500 FPM

Design Load: 1000 PLI (maximum) 5 PLI (minimum)

Roll Specifications

Shell Material Farrelloy Surface Hardness 74

Roll Face Finish 8

* Internal Pressure 118 PSI, maximum. 5 PSI, minimum

Roll Weight 8,000 lbs.

Maximum Operating Temperature 150 °F

Control System

Operators' console
Components by Farrel - Enclosure by others

Pump Unit

Std. for one non-driven roll

200 gal. capacity

Electrical Cabinet Standard A.C. controller two motors

Paint Specifications

Hammertone grey

Services Required

Electric: 575 volts 3 phase 60 cycles (Hertz)

Filtered Dry Air: 20 PSI minimum

Water: 21 GPM at 80 °F maximum 150 PSIG (For heat exchanger)

*Refer to S-Roll loading chart at the end of Section 10

MANCHESTER 24" DIA X 118" QUEEN ROLL

#4 Paper Machine

Calendar Roll Grinding Specification

Swimming Roll

Diameter 19" nom.
Crown Straight

Queen Roll

Diameter 24" nom.
Crown (dia) -0.004" (Concave)

Marked on wrapper of newly ground roll and verified by Pi tape measurement.

Swimming Roll Markings

TS Head

DS Head

Initial Roll to go in machine at LPT

1.42.011.0.011

1.42.011.0.011

Pi Tape Measurements: TS = 18.905" M = 18.906" DS = 18.908"

Other Swimming Roll

T22223
SPARE
Farrell Nameplate

T22223
SPARE

Queen Roll Markings

Manchester

Initial Roll to go in machine at LPT

None

None

Pi Tape Measurements: TS = 23.807" M = 23.804" DS = 23.808"

Other queen roll

11462 (Stamped
on face of cplg hub)

PM4 Calendar Rebuild – Calendar Controls

Control Narrative

Revision 0: January 4, 2012

Christopher M. Hurd

Loops:

- PIC-4141: Calendar Swim Roll Pressure Control
- PIC-4142A: Calendar Swim Roll TS Loading Pressure Control
- PIC-4142B: Calendar Swim Roll DS Loading Pressure Control
- PI-4143: Calendar Nip Loading Pressure Indication
- SI-4144: Calendar Speed Indication
- 40MP59: Calendar Roll Loading Hydraulic Pump #1 (Pond Side)
- 40MP60: Calendar Roll Loading Hydraulic Pump #2 (Railroad Side)
- 40MP61: Calendar Swim Roll Pressure Hydraulic Pump #1 (Pond Side)
- 40MP62: Calendar Swim Roll Pressure Hydraulic Pump #2 (Rail Side)
- 40M???: Calendar Swim Roll Doctor Oscillator
- 40M???: Calendar King Roll Doctor Oscillator

PIC-4141: Calendar Swim Roll Pressure Control

Main:

The calendar swim roll pressure is controlled by modulating a control valve in the recirculation line at the swim roll hydraulic unit. The swim roll pressure controller setpoint is determined proportionally to the swim roll nip loading in pounds per linear inch (PLI) based on Figure 1. The calculated setpoint can be biased in the range of +10 PSIG to -10 PSIG by an operator entered value up to a maximum roll pressure as determined by Figure 1.

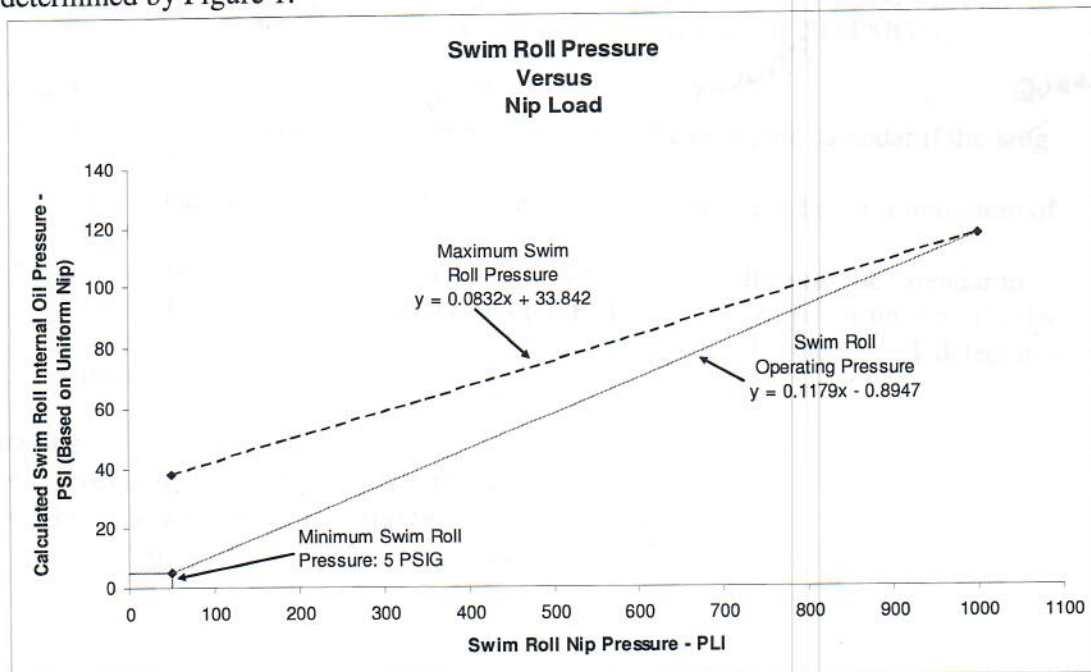


Figure 1 – Swim Roll Pressure Setpoint vs. Nip Load