

DEERFIELD TISSUE LLC

PM 1 AUGUSTA

Tsunami Slot Diffuser® Headbox

D O C U M E N T A T I O N

**HOGENKAMP RESEARCH, INC**

308 PLANTATION HILL ROAD, GULF BREEZE, FLORIDA 32561

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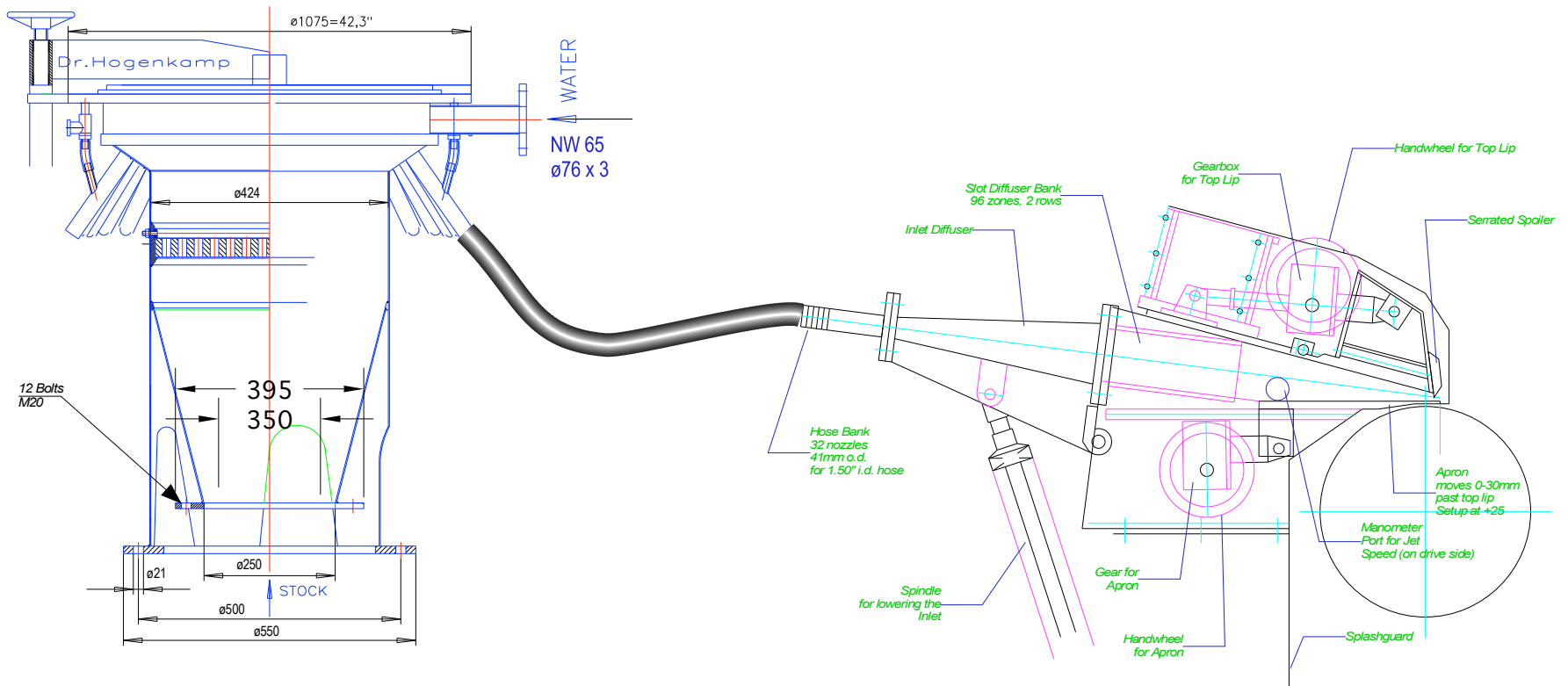
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# DESIGN SPECIFICATIONS

Headbox Pond Width	104.33" [2650mm]
Basis Weight Range	15 - 200 gsm
Speed Range	400-2000 fpm maximum
Consistency Range	0.20 - 1.2%
First Pass Retention	TBA
Flow Rate	1,000 - 4,000 gpm
Tonnage	60 stpd
Slice Lip Opening	1/2" operating, 2" max for cleaning
Grade	Towel, Bag, Linerboard
Furnish	Recycled or Pulp
Operation	Hydraulic Pressure
Material of Construction	316titanium stainless steel/DIN 1.4571

# SYSTEM OVERVIEW



RADIAL  
HEADER

HEADBOX

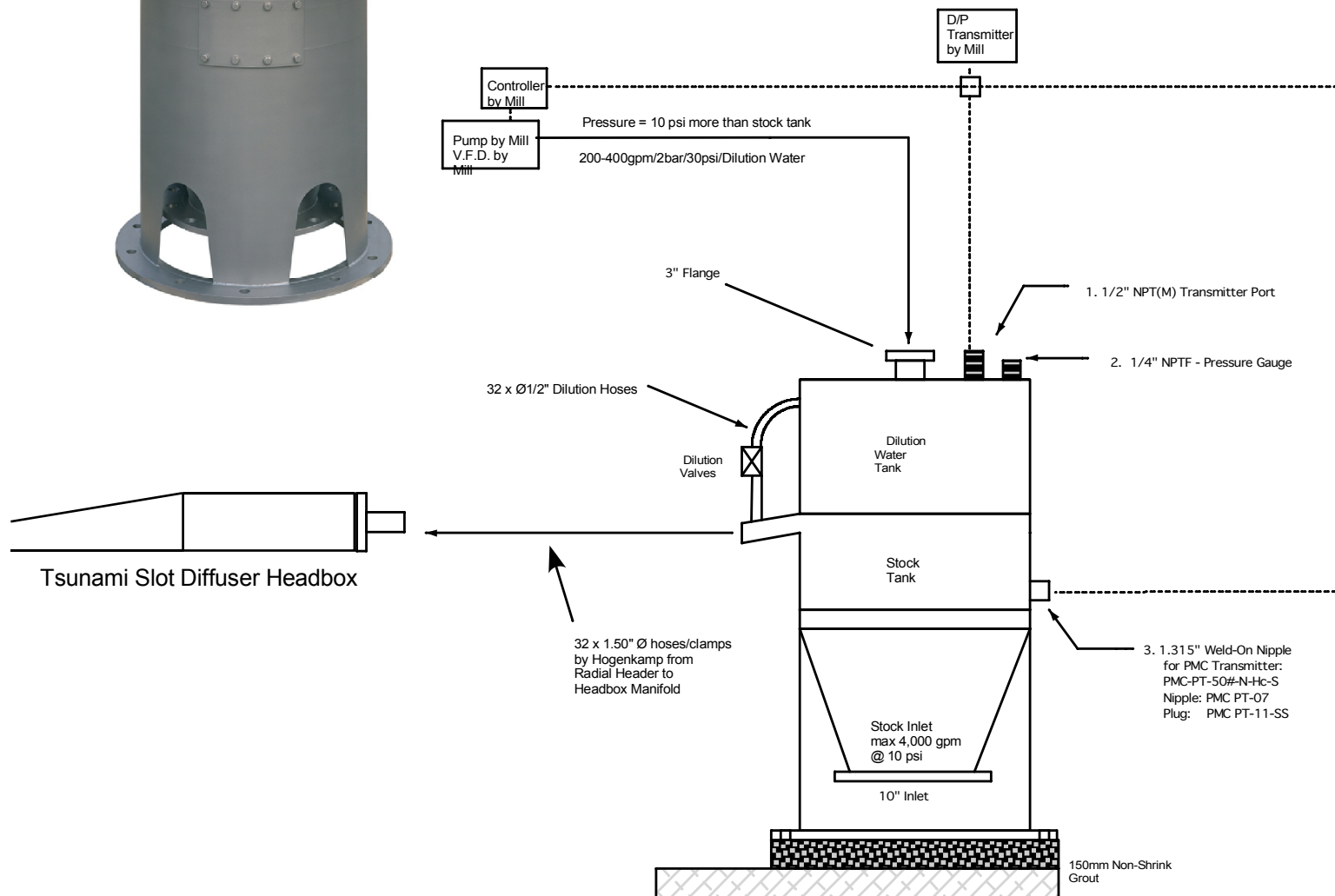
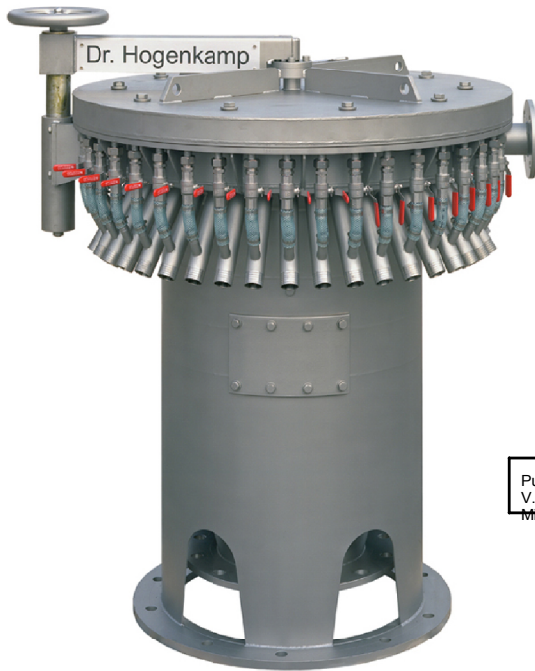
# RADIAL HEADER

## Function

- Distribute equal amounts of pulp into 32 hoses.
- CD basis weight control.
- Dampen pulsations in flexible hoses.

## Operation

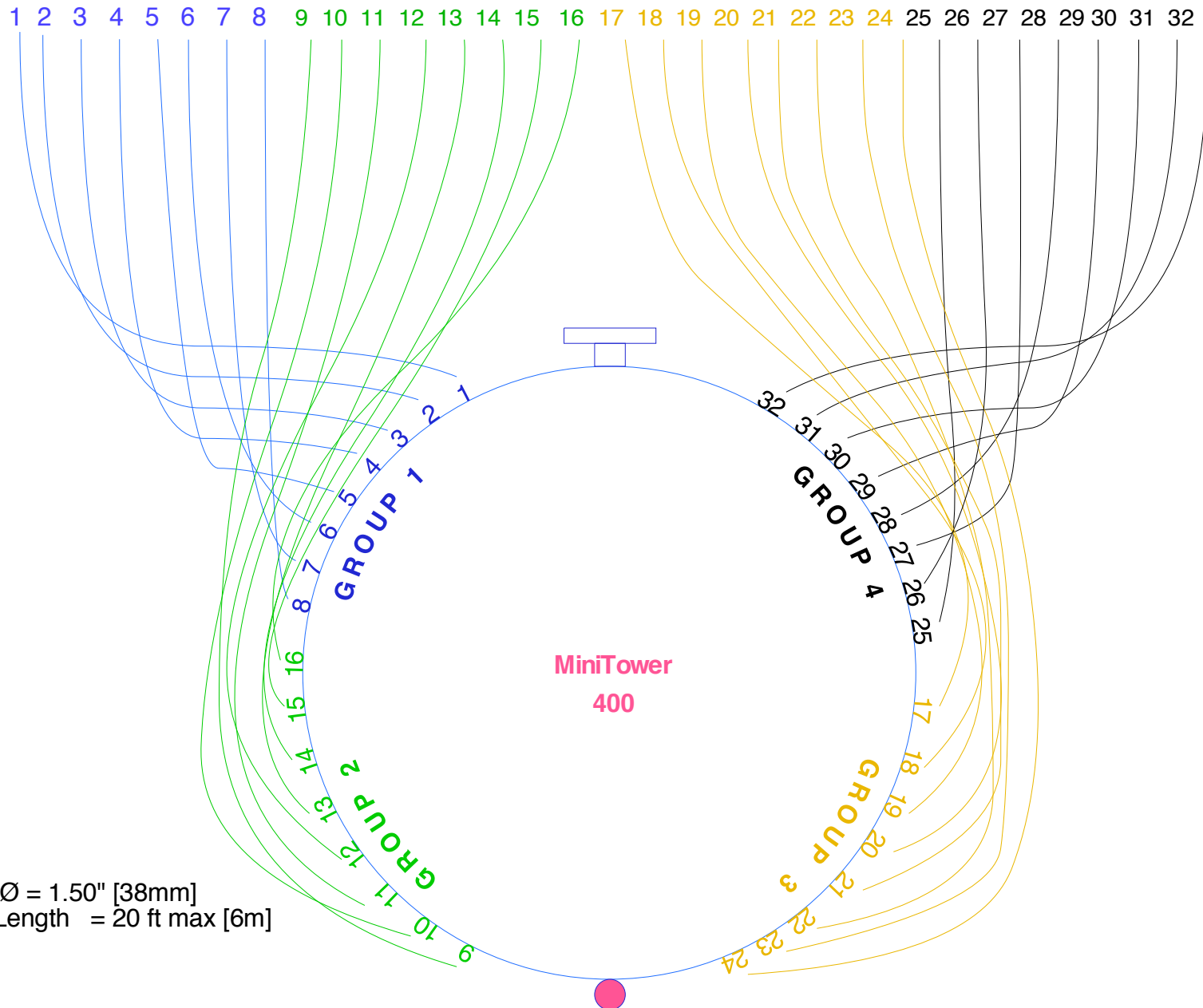
- Operator adjusts 32 dilution valves to change CD basis weight in 32 zones



Drive Side  
Triebseite  
Lado Transmission

## Deerfield Headbox - MiniTower Hose Layout

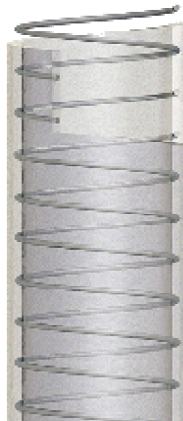
Tending Side  
Führerseite  
Lado Operador



### NOTES

1. Hose  $\varnothing$  = 1.50" [38mm]
2. Hose Length = 20 ft max [6m]

# HOSE



part number	inside Ø		weight	wall thickness	bending radius	pressure working-bursting		vacuum	roll lenght	volume
	mm	inch				kg/cm2	kg/cm2			
PA 01 006	6		110	2,7	13	7	35	9,5	60	0,016
PA 01 008	8		130	2,7	16	7	35	9,5	60	0,020
PA 01 010	10		150	2,7	18	7	35	8,5	60	0,024
PA 01 012	12		180	2,7	23	6	30	8,5	60	0,031
PA 01 014	14		205	2,7	26	6	30	8,5	60	0,036
PA 01 016	16	5/8"	250	3	30	6	30	8,5	60	0,044
PA 01 018	18		290	3,2	32	5	25	8,5	60	0,067
PA 01 020	20	3/4"	350	3,5	34	5	25	8,5	60	0,081
PA 01 022	22		380	3,5	38	5	25	8,5	60	0,093
PA 01 025	25	1"	500	4	42	5	25	8,5	60	0,116
PA 01 030	30		585	4	50	4	20	8,5	60	0,150
PA 01 032	32	1 1/4"	650	4,2	53	4	20	8,5	60	0,171
PA 01 035	35		700	4,2	58	4	20	8,5	60	0,188
PA 01 038	38	1 1/2"	800	4,5	63	4	20	8,5	30	0,114
PA 01 040	40		870	4,6	66	4	20	8,5	30	0,125
PA 01 045	45	1 3/4"	1100	4,9	74	4	20	8	30	0,178
PA 01 050	50	2"	1235	5	82	4	20	8	30	0,218
PA 01 060	60		1700	5,9	130	3,6	18	8	30	0,285
PA 01 064	64	2 1/2"	1800	5,9	138	3,6	18	8	30	0,281

Deerfield PM1 Augusta

# HEAD BOX

## Function

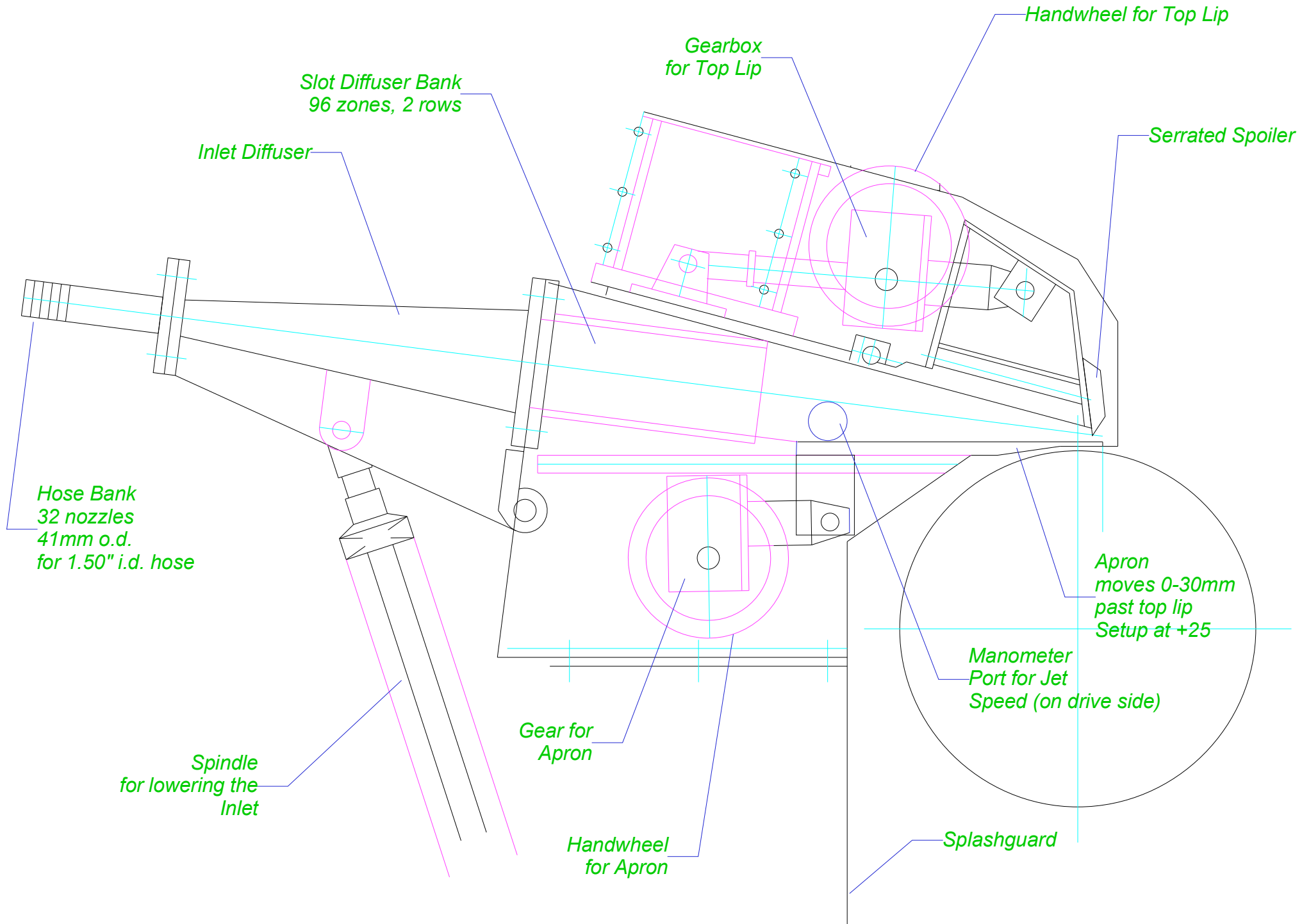
- Flow pulp evenly onto fourdrinier

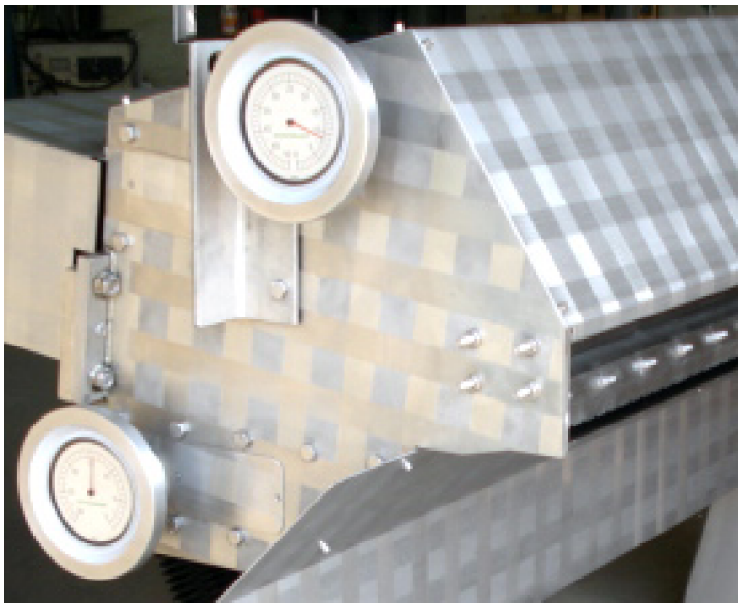
## Operation

- Operator adjusts slice lip to control jet speed
- Pressure adjusted by automatic controls
- CD Basis Weight adjusted by Dilution Profiling



# HEADBOX PARTS





# TOP LIP CONTROL

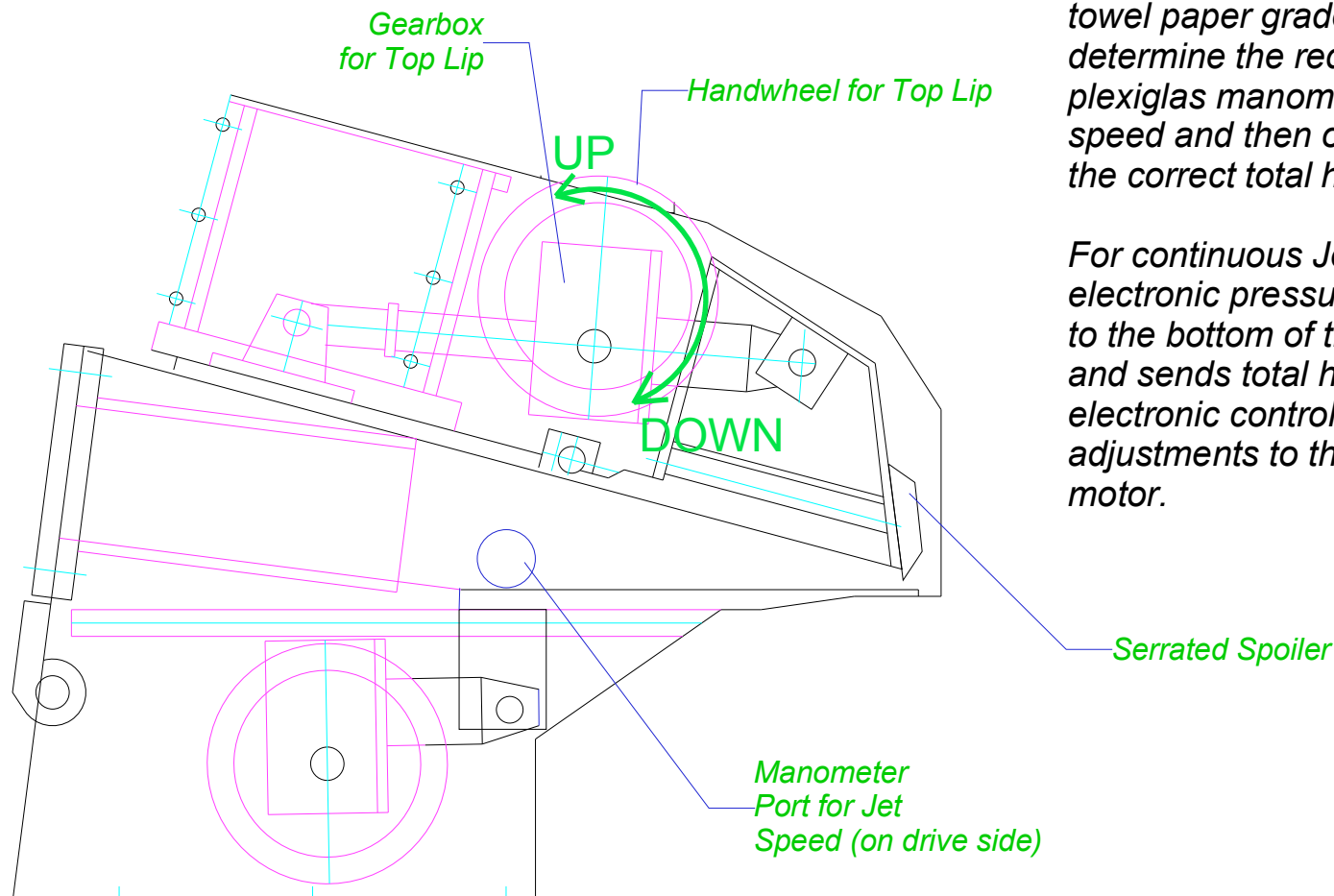
## Function

- Adjust the jet speed to match the wire speed.

## Operation

13mm [1/2"] is a normal lip opening for the towel paper grade. The operator must determine the required total head in the plexiglas manometer to create the target jet speed and then open/close the top lip until the correct total head is reached.

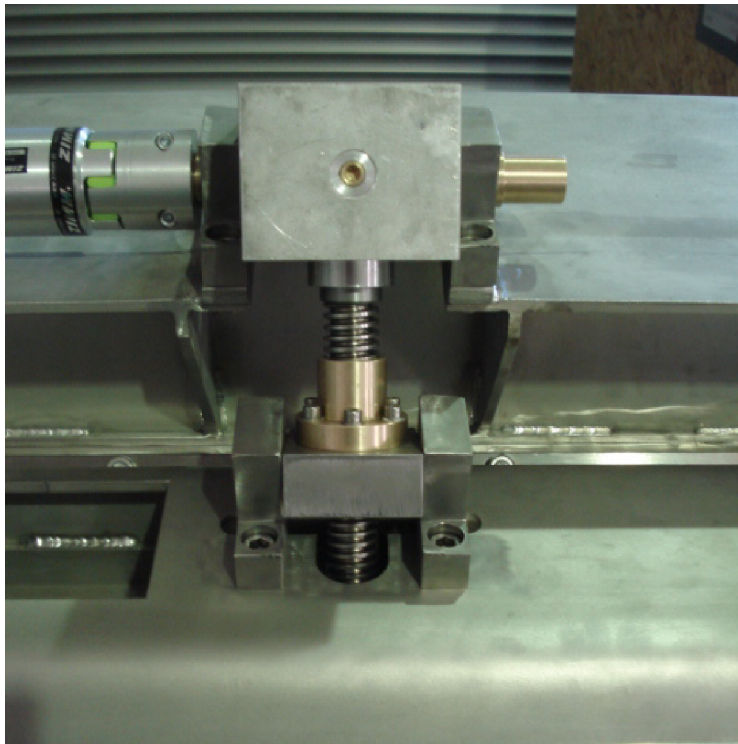
For continuous Jet Speed control, an electronic pressure transmitter is mounted to the bottom of the plexiglas manometer and sends total head signals to the electronic controller which then makes fine adjustments to the flow valve or fan pump motor.



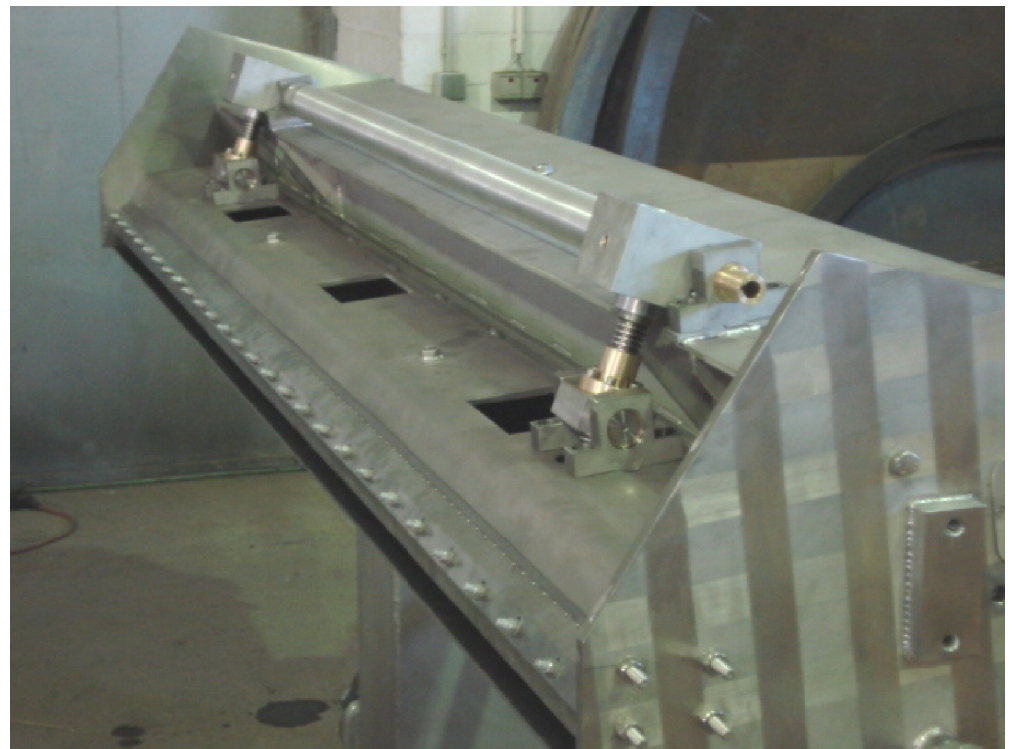
# TOP LIP ASSEMBLY



Tending Side Gearbox w/ Extension shaft to Handwheel



Drive Side Gearbox w/ Stub shaft.  
Can be motorized in the future.



Top Lip Assembly w/ access ports to internal hinge bolts.

## TOP LIP SPOILER BAR



Spoiler is reversible.  
Can be used straight side or serrated side into the flow.



Channels change phase over each foil.

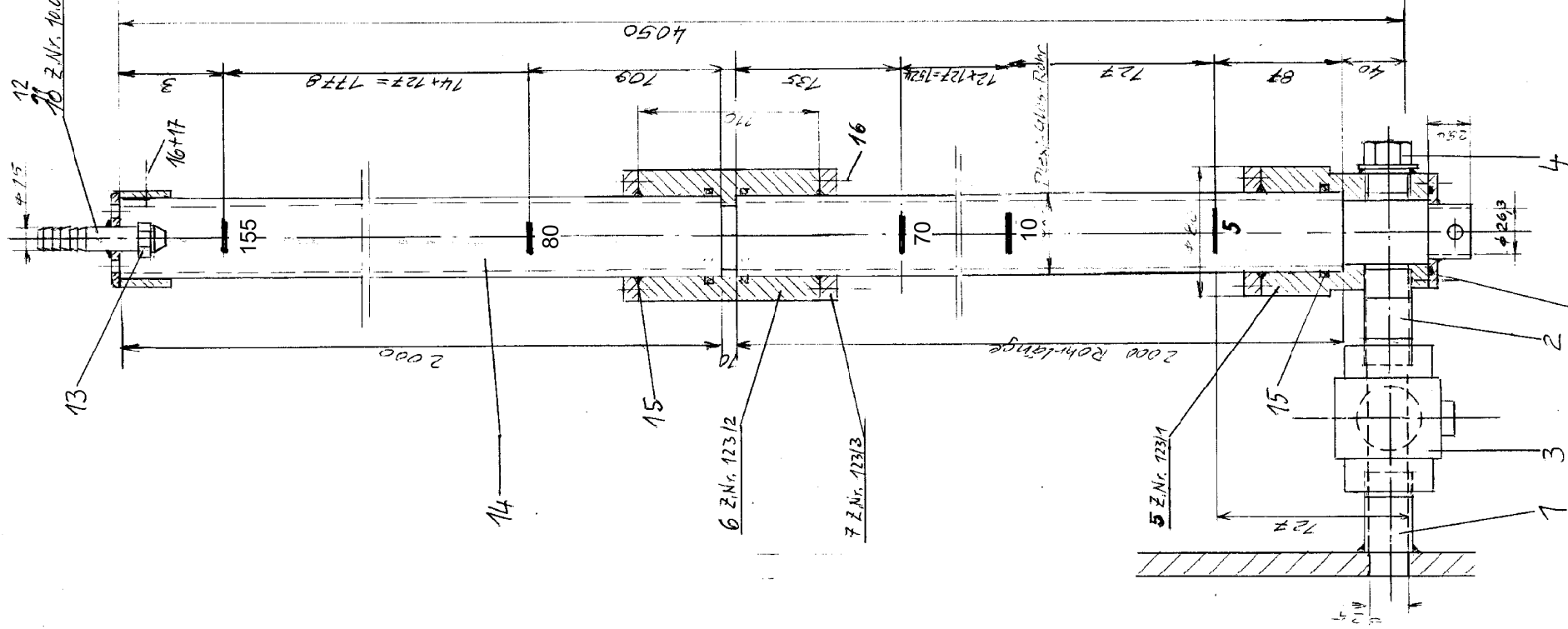
The Top Lip Spoiler Bar adds a final jolt of turbulence to the stock as it leaves the headbox. The Hogenkamp spoiler has two edges - a flat and a serrated - which can be used as you choose according to the results of trials. The serrated edge creates peaks and troughs in the jet. When the jet passes over a foil blade, the trough jumps up and the peak drops down. This phase change action mixes the fibers and improves the formation.

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# TOTAL HEAD MANOMETER

2 acrylic tubes  
50 x 5 x 2000mm

Shower Nozzle  
Lechler 214.184.17



17	2	Sechsk. Muli M6		44 DIN 934
16	18	Sechsk. Schra M6x16		44 DIN 933
15	7	O-Ring 50x3	Gummi	
14	2	Flexglasrohr 50,5x200		
13	1	Lechlerdüse		214.184.17
12	1	Rohr 60x5x30	1008.123/5	1.4571
11	1	Blech 60x5	1008.123/5	1.4571
10	1	Rund 15x70	1008.123/5	1.4571
9	1	Rohr 33,4x5x28	1008.123/4	1.4571
8	1	Rund 80x10	1008.123/4	1.4571
7	3	Rund 80x10	1008.123/3	1.4571
6	1	Rund 80x113	1008.123/2	1.4571
5	1	Rund 80x103		1.4571
4	1	Gew. Stopfen		14571 DIN 510
3	1	Muffen Kugelhalm 14	B 5 A	1.4408 22.3966.667
2	1	Doppelknippel 1" x 60		1.4571
1	1	Schweißnippel 1" x 50		1.4571
14	1	Bearbeitung	Z.Nr.	

Stauhöhen anzeiger-Rohr  
M 1:2,5

Z.Nr. Nr. 10.08.122

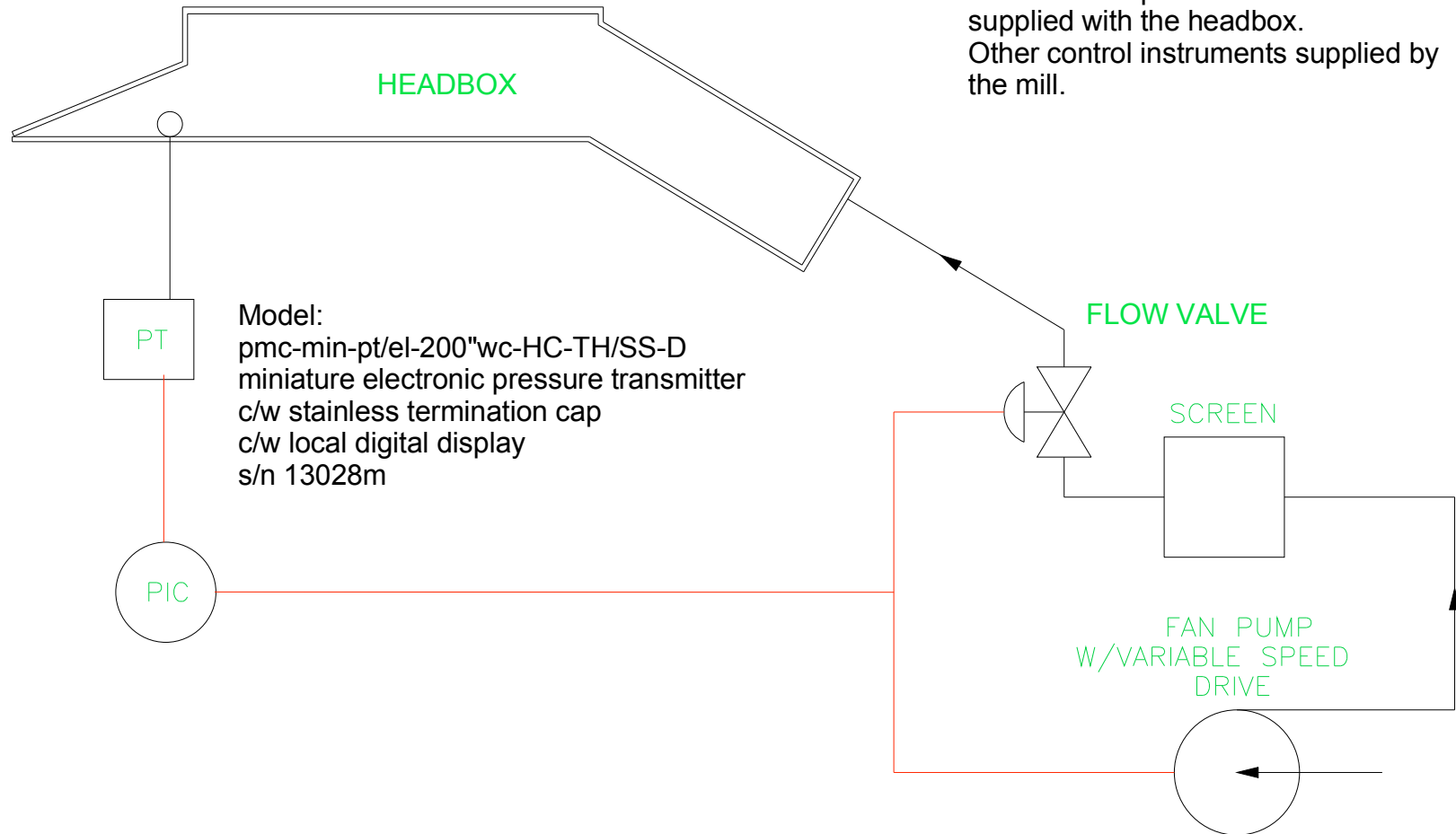
Einzelteile s. Z.Nr. 10.08.123

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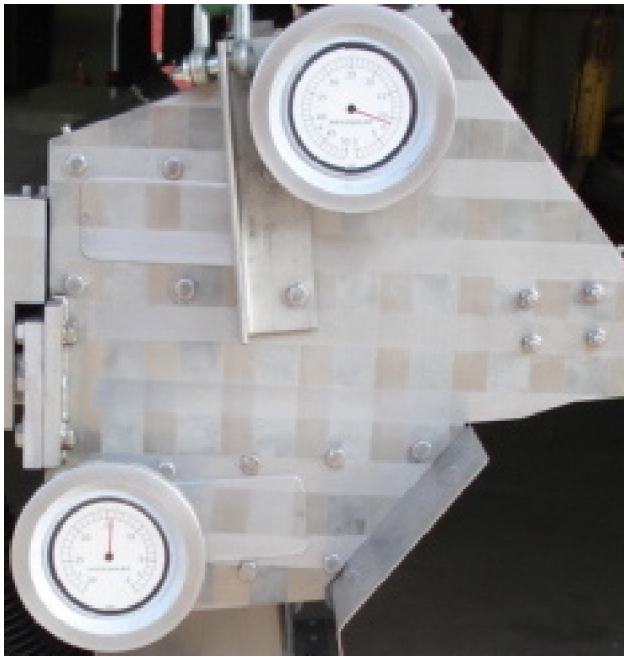
# JET SPEED CONTROL

Fine continuous control of the Jet may be achieved by adjusting either the fan pump motor or the flow valve position.

An electronic pressure transmitter is supplied with the headbox. Other control instruments supplied by the mill.



# J E T   V S .   T O T A L H E A D ,   L I P O P E N I N G



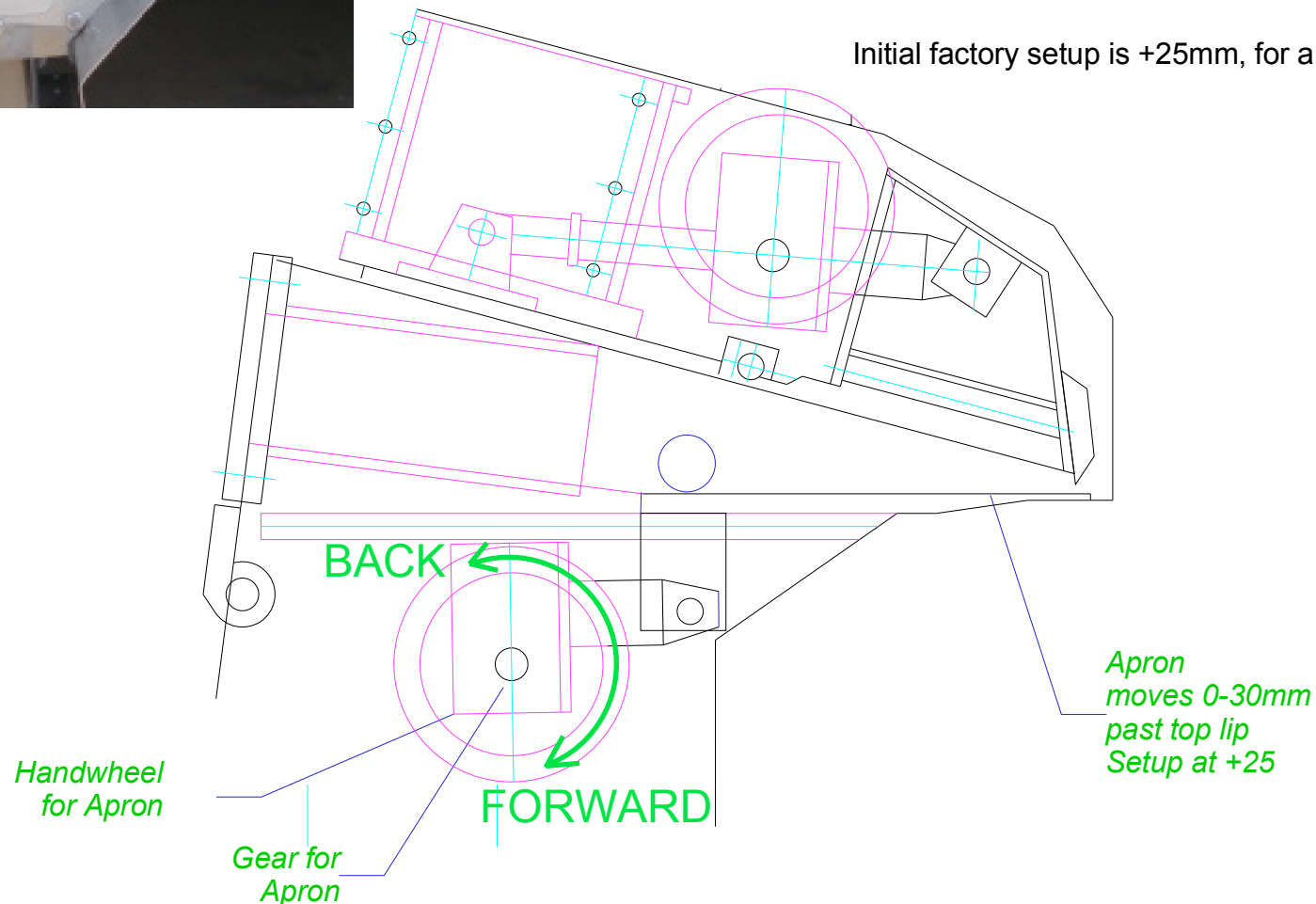
# APRON

The APRON is the flat moveable stainless steel floor. It slides back and forth so as to change the jet angle and jet deposition point vis-a-vis the forming board.

With the apron forward, the jet becomes flatter, the formation usually improves and the md:cd tensile ratio usually squares up.

With the apron back, the jet pressure forms into the wire creating a faster drainage, more md tensile and less cd tensile.

Initial factory setup is +25mm, for a flat jet angle.



# ATTACHMENTS

## SUB - COMPONENT MANUALS

- PMC
  - 1x Transmitter
  - 2x Seal Pressure Gage
- ZIMM
  - 2x Top Lip Gearbox
  - 2x Apron Gearbox
  - 2x Inlet Gearbox
- SIKO
  - 1x Top Lip Handwheel
  - 1x Apron Handwheel