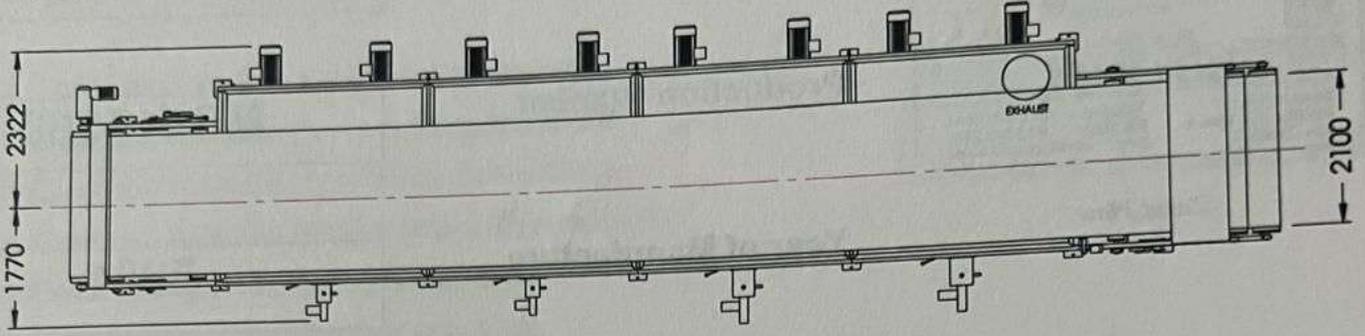


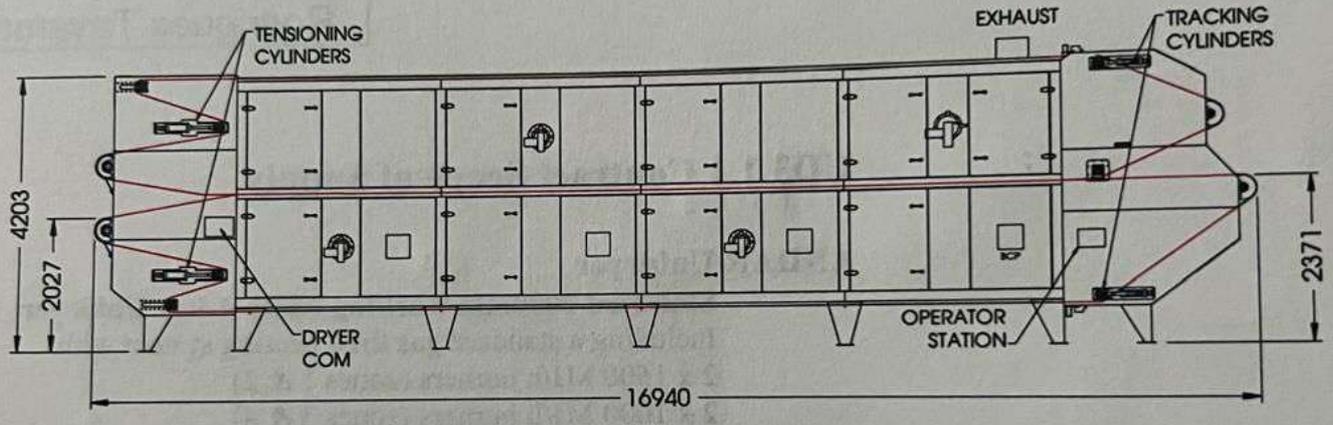
# UD3.1 Contract Specific ANDAR Equipment

Dimensions:

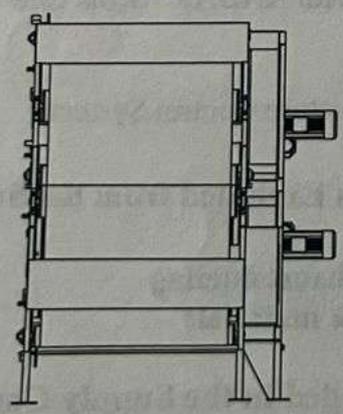
2m Working Width, 4-bay ANDAR Unidryer



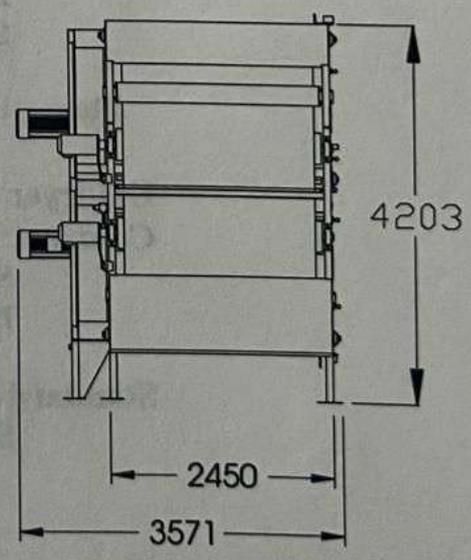
Unidryer Plan View



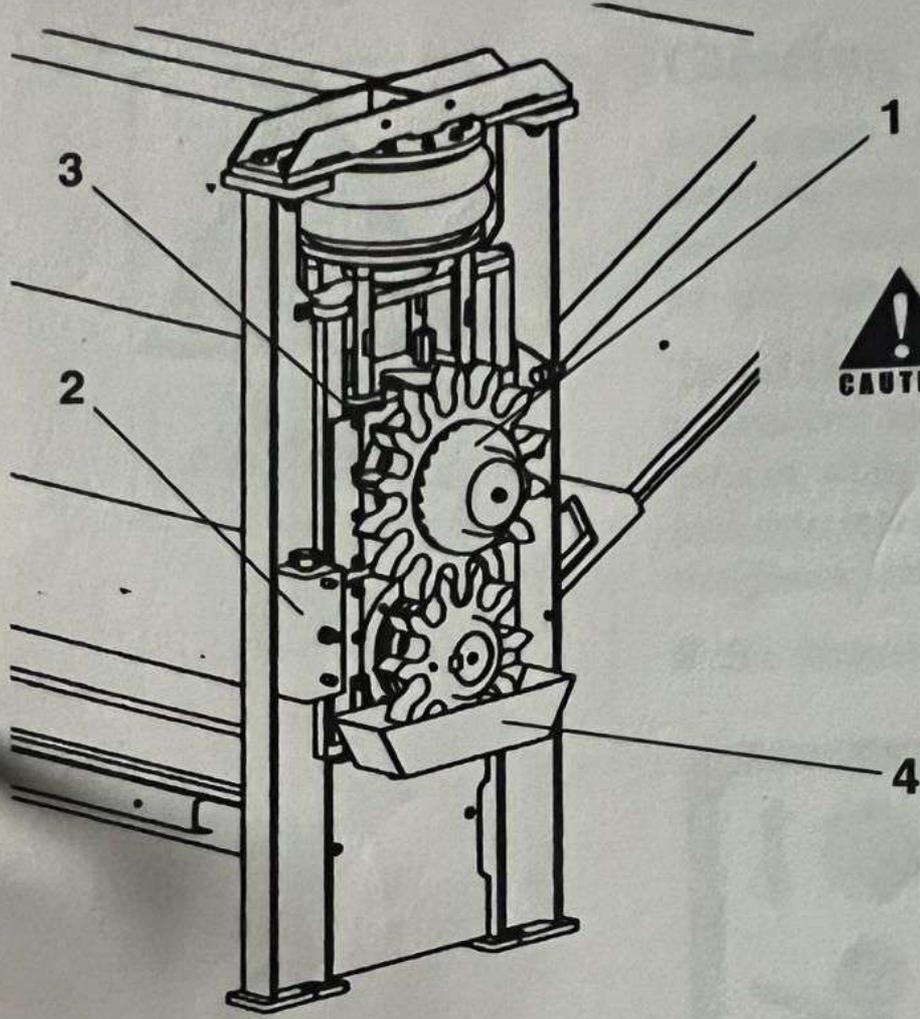
Unidryer Side Elevation (non drive side)



Infeed End Elevation



Outfeed End Elevation



### Gearbox

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### Main Be

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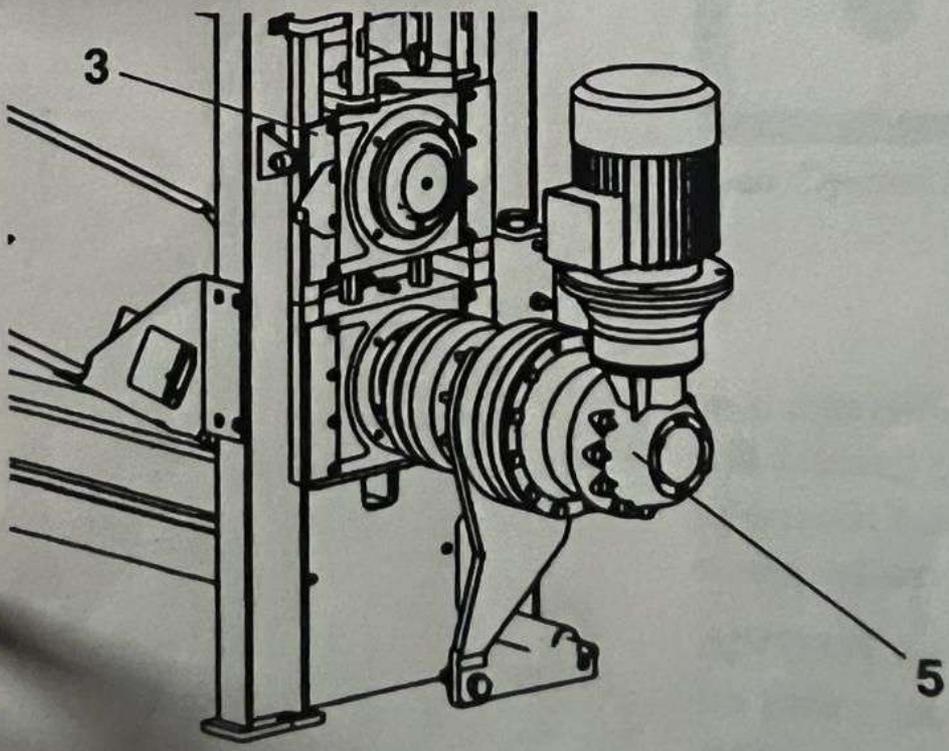
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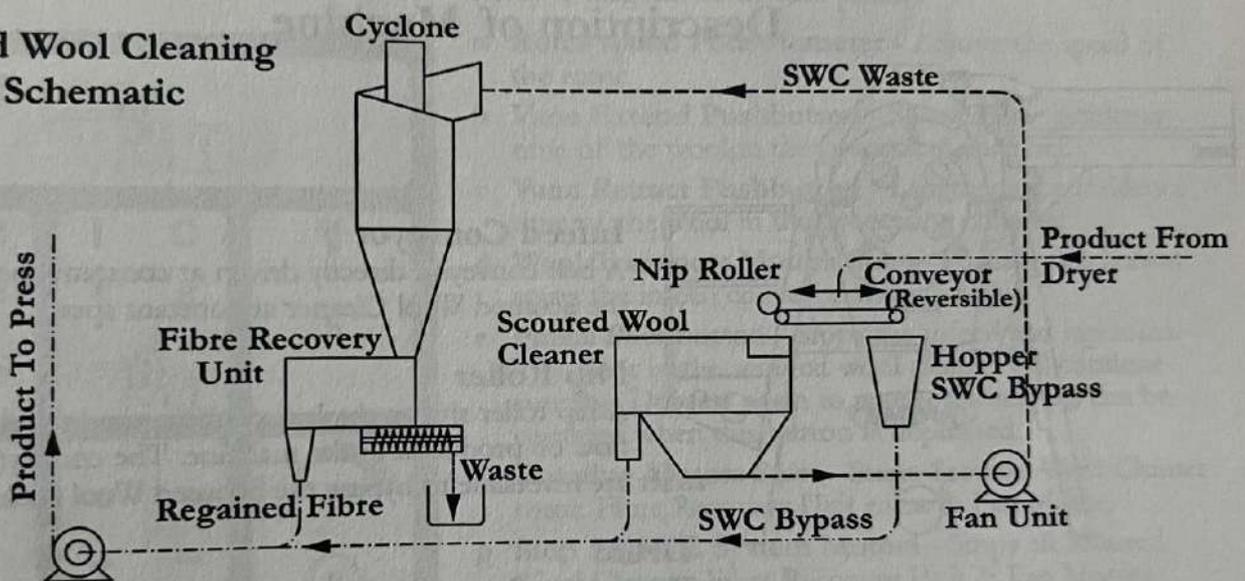
Important  
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Item	Components
------	------------

## SW2.1 Process Description

### Scoured Wool Cleaning System Schematic



### Process Description:

The ANDAR Scoured Wool Cleaner is designed to be supplied as a cleaner unit with waste removal fan and a cyclone unit for separating the waste. An optional modification is the fitting of a Fibre Recovery Unit to further process the waste from the bottom of the cyclone.

The Scoured Wool Cleaner has the following features:

1. Variable drum speed

# SP3.1 Contract Specific ANDAR Equipment

## Dimensions

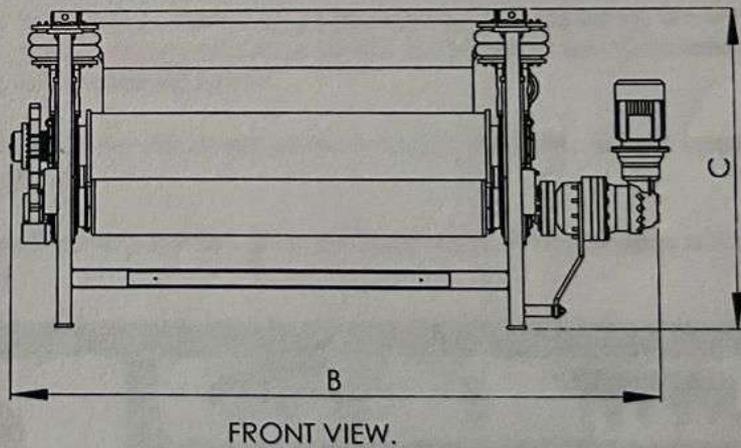
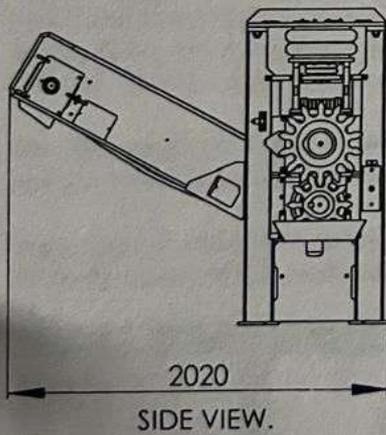
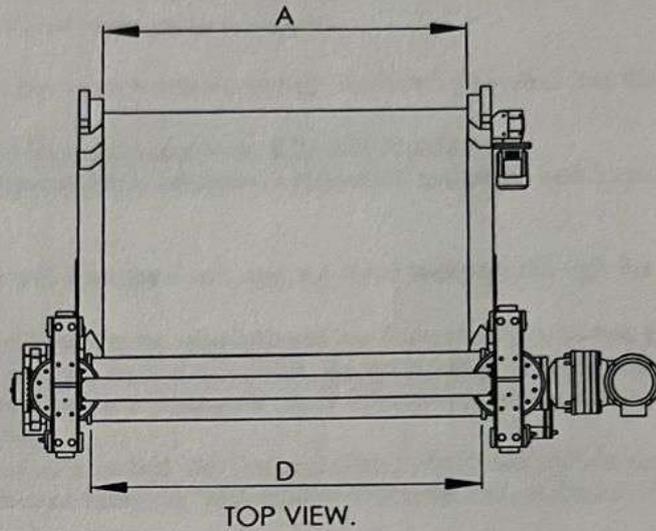
### Squeeze Press

A = 2000

C = 1616

B = 3490

D = 2100



SP3-4



Squeeze Press Information  
Sociedade Textil Manuel  
Rodrigues Tavares Lda  
Production No. 415282

# SP2.1 Process Description

## Description of Machine

The Squeeze Press has been designed by ANDAR using 3D solid modelling software and established life analysis techniques. This approach has enabled us to design an integrated squeeze press that reliably provides the squeeze loading necessary for liquid separation.

Squeeze pressure is applied by two air bellows situated above the press. These bellows push down on the top roller. A set of bellow arrangements lifts the top roller clear of the bottom roller when air pressure is diverted using a pneumatic valve.

Heavy duty SG Iron castings house the spherical roller bearings which support the top and bottom rollers. The squeeze press bearings are hermetically sealed, using a sealing arrangement unique to ANDAR in the wool industry. The use of this special sealing arrangement and carefully selected oil, ensures low maintenance and a long life for the squeeze press bearings.

The bottom squeeze roller is coated in 316 stainless steel. This roller is driven by an epicyclic shaft mounted gearbox that is coupled using a shrink fit disc. The top squeeze roller is nickel/chrome plated and covered with 50-60mm polyamide rope. It is driven by a one way clutch system, should the top roller start to slip or stall on the wool mat. Stainless steel covers protect the working components of the squeeze press.

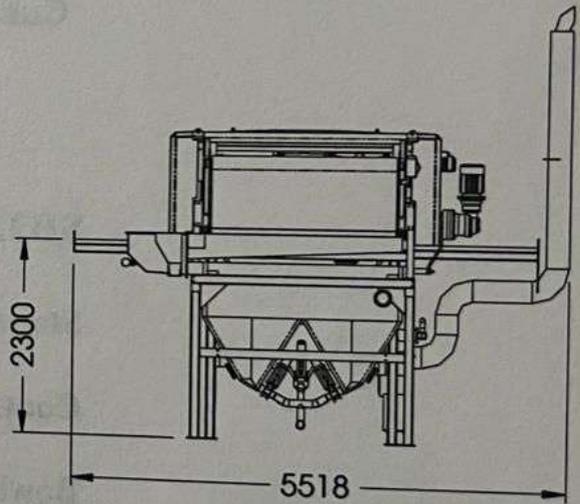
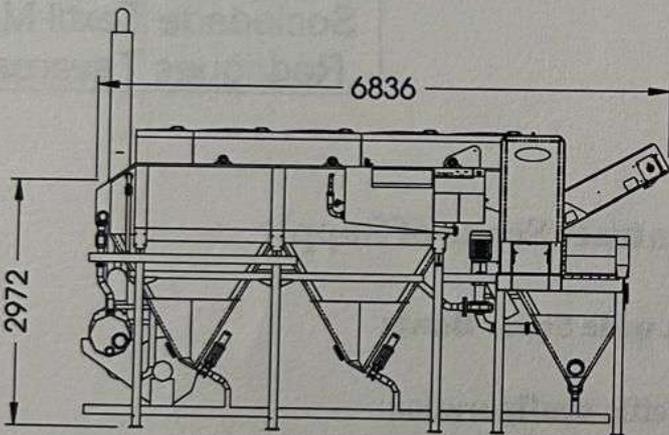
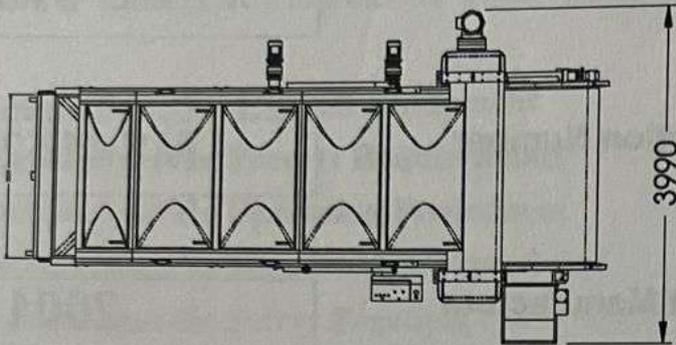
The outfeed conveyor is a PVC modular belt driven by drive sprockets. The conveyor is mounted in a stainless steel frame and is driven by a separate direct drive geared motor.

DRAWING NUMBER: REV: SSI-00000000  
ASSEMBLY  
M/C OPTIONS R 2.0  
DATE: 31/07/00  
SCALE: 1:5  
PRODUCT SCALE  
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# SB3.1 Contract Specific ANDAR Equipment

## Dimensions

### Scour Bowls



Typical Double Hopper Bowl Layout

## SB2.1 Process Description

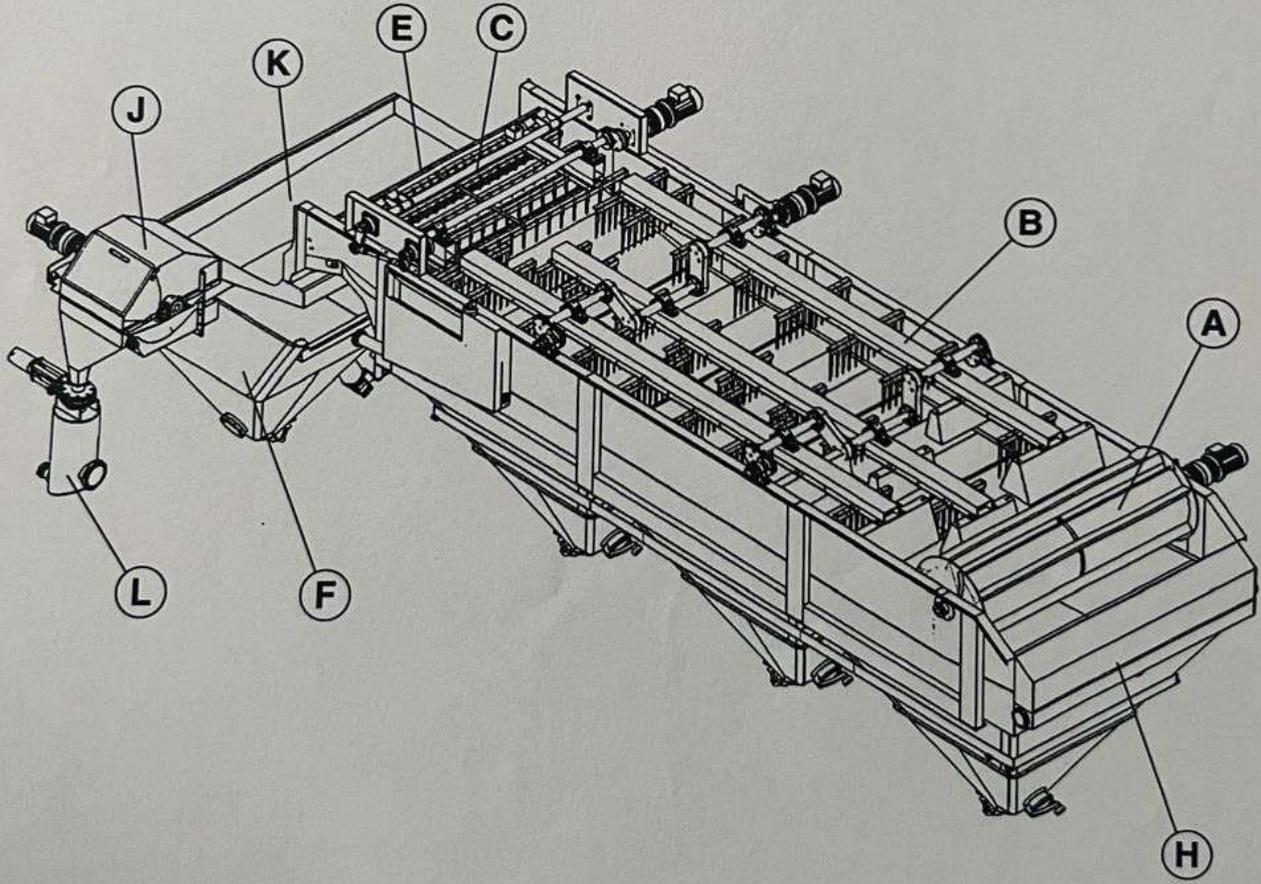
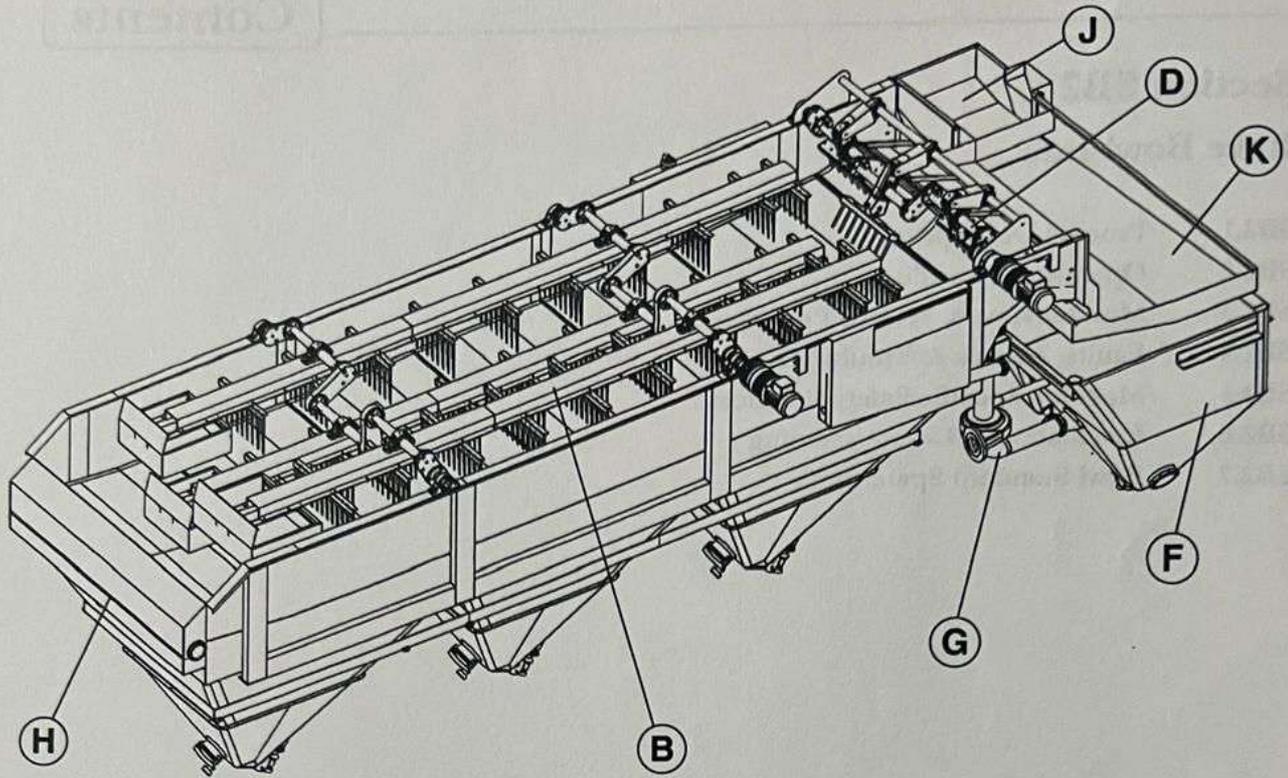
### Description of Operation

The wool is completely immersed as it enters the bowl, by either a perforated rotary dunker (A) or wetting out dunkers fitted to the infeed end of the main rake rails. The wool is moved along the bowl by the main rakes (B) and the head rakes (C) or throw rakes (D) to deliver the wool down the feed out tray (E) to the squeeze press. The flow of scour liquor from the feed out tray and squeeze press passes to the liquor return tanks (F) which act as a reservoir for the flowround pump (G) which returns the liquor to the bowl via the spraybox (H). This flowround liquor is circulated via a heat exchanger on hot scour bowls. Heat is applied to the heat exchanger by either steam, gas fired burner or by high pressure hot water.

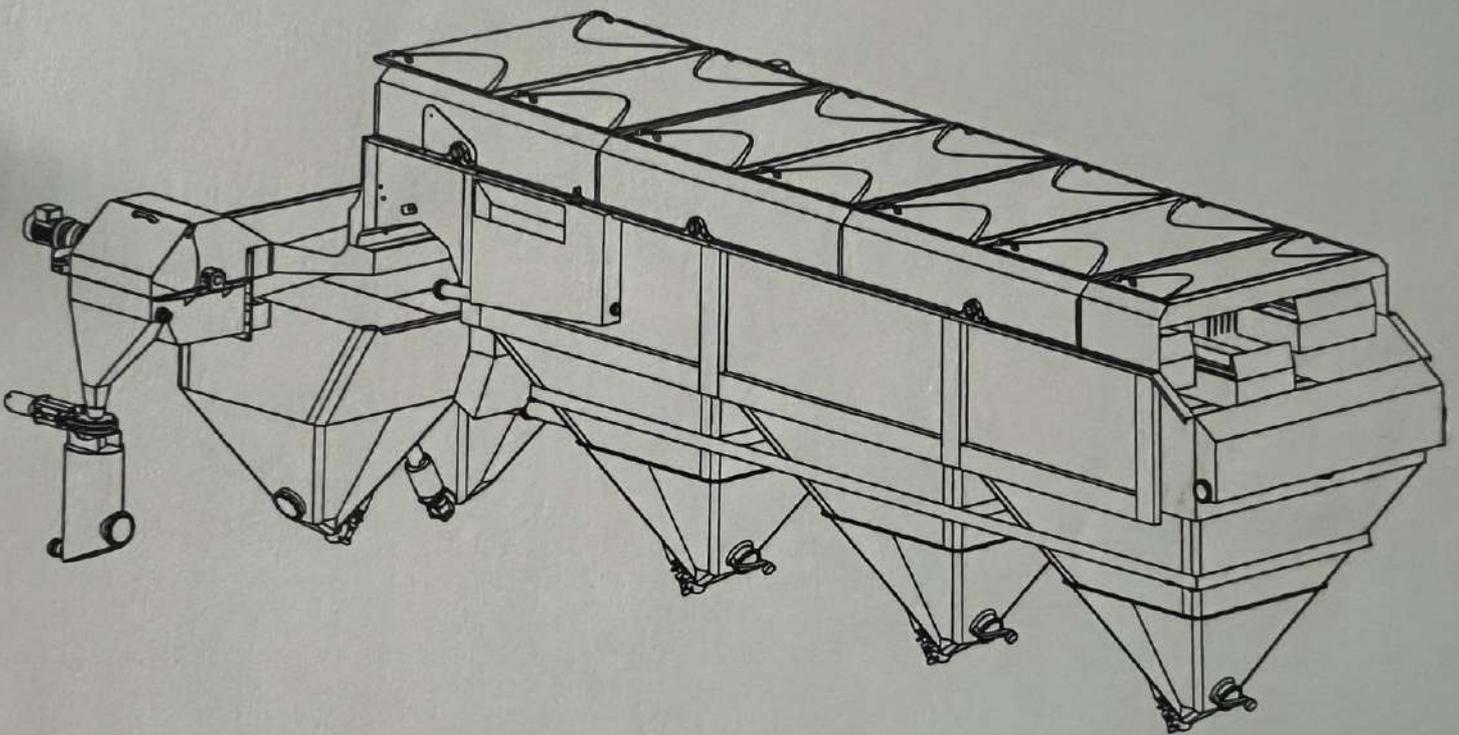
Liquor that drains from the feedout tray (C) and liquor squeezed from the wool mat by the squeeze press roller feeds via the return tray (J) to the flock catcher (H) which removes fibre in the liquor to prevent wool fibre entering the flowround pump (G). Flock is either manually removed from the flock catcher (H) or returned to the bowl via an automatic flock return system (K).

**Note:** Automatic flock return systems utilize a rotary flock catcher rather than a static flock catchment tray.

The level in the liquor return tank (F) is regulated by a special float valve water make up system, while a bowl overflow system into the liquor return tank maintains a constant liquor level in the bowl. In addition to the two stage bowl overflow ( level control ) there is a fixed level overflow to drain in the liquor return tank. Air operated valves automatically control the removal of heavy solids from the bottom of the bowls to the liquor treatment system. High performance pumps ensure efficient liquor circulation.



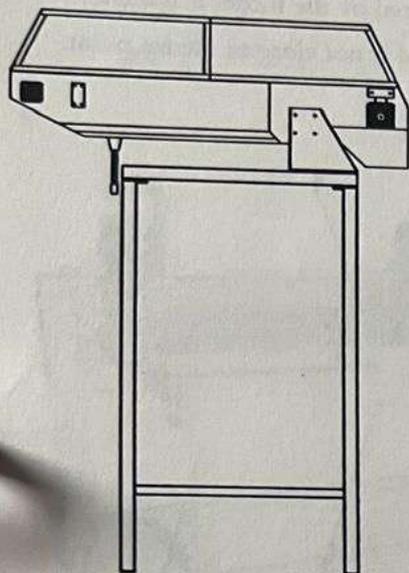
# Manual



**Section SB2**

## WB2.1 Process Description

### Introduction



The weighbelt system has the potential to provide the operator and management with many advantages if properly understood, operated and maintained.

It is designed to feed wool to the scour (or any other process) evenly at the optimum rate while simultaneously weighing and recording the supply.

By feeding the wool at a constant, but adjustable rate, scouring efficiency can be optimised for different wool types.

This manual covers the procedures for maintenance and repair (by suitably qualified trades people) and includes operating instructions sufficient for safe, efficient and reliable operation.

"ANDAR" commitment to customer service is assured by rigorous quality control and ongoing Research and Development, plus constant communication with Industry groups and end users.

### Description of Machine

#### General Operation

The weighbelt conveyor has been designed to control and record the flow rate of greasy wool entering the scour. The flow rate signal is obtained by weighing the wool passing over the conveyor and by multiplying the weight signal with a signal that is proportional to the belt speed. For the measurement of the platform load a strain gauge type loadcell supporting the weigh bar is used. The load cell mV output signal and the speed signal are transmitted to the processor which is programmed to suit the application. The measured flow rate signal is compared with the set point signal selected by the operator representing the desired rate of material flow. If the measured value is below the set value then the controller output current increases and if the measured value is above the set value the current output decreases. The PI action of the controller is tuned to minimise hunting or lengthy deviations.

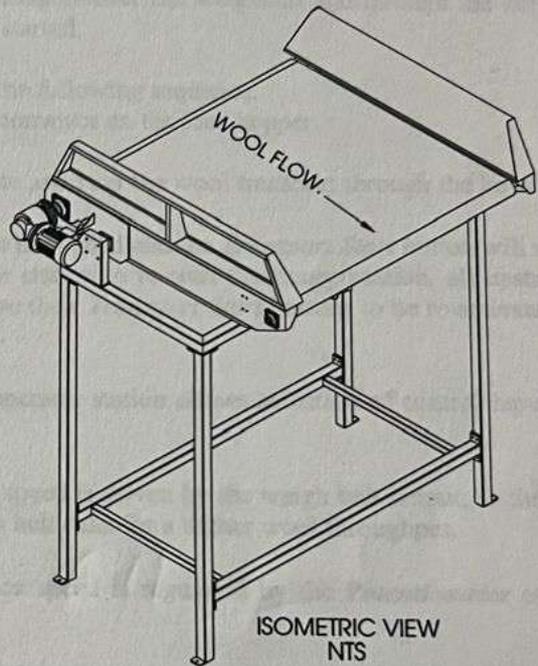
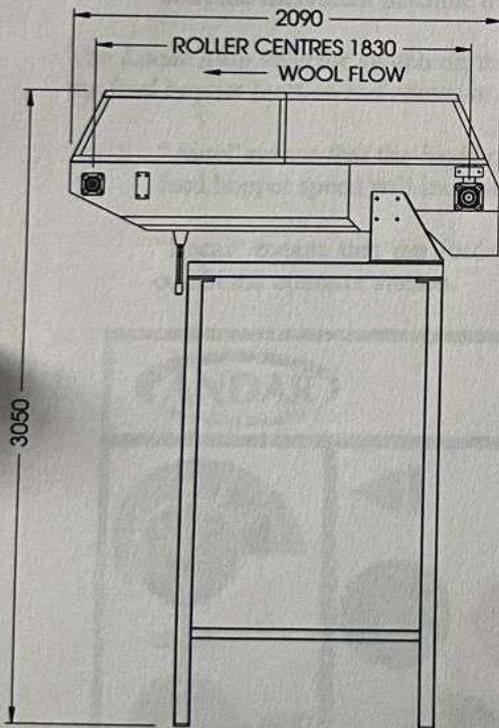
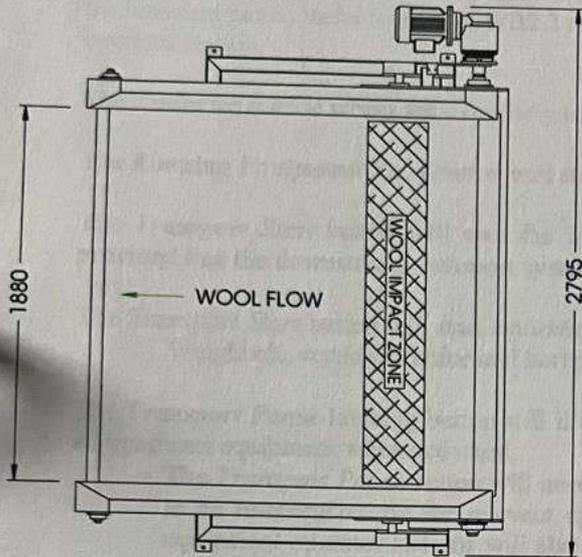
The controller output regulates the speed of the No.2 feed hopper vertical brattice that feeds wool onto the weighing conveyor.

#### Additional Features

- Option of automatic or manual control of the speed of the feeder.
- Easy zero tare setting.
- Easy span calibration.
- Automatic 'holding speed' for the feeder when there is no wool on the weighbelt.

# WB3.1 Contract Specific ANDAR Equipment

## Dimensions

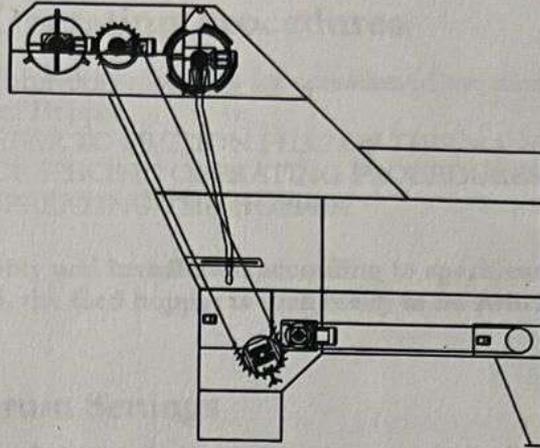


WB3-5



Weighbelt  
Sociedade Textil Manuel  
Rodrigues Tavares Lda  
Production No. 415222

## FH2.1 Process Description

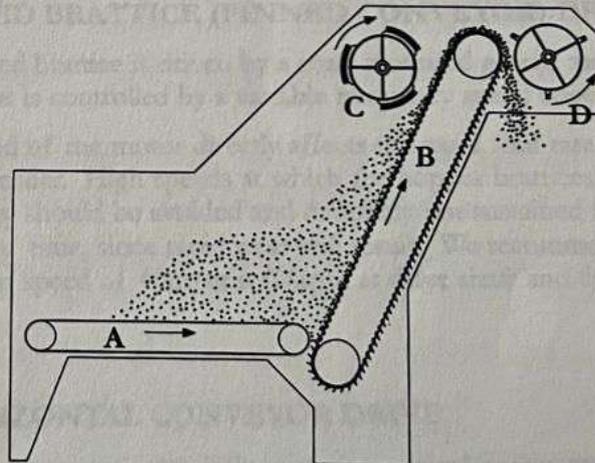


### Machine Construction

The main panels of the hopper feeder consist of a heavy 4mm plate construction. There are 3.6m & 4.0m height options available. The vertical spiked brattice consists of a PVC belt with plastic strips & pins which is driven by a large diameter drive drum. The horizontal conveyor consists of a PVC belt and rollers. Both the conveyors are driven by shaft mounted gearboxes. Two shaft mounted gearboxes drive the comb and beater drums. These give an even feed and take off from the pin sheets.

### Key

- A Horizontal conveyor
- B Spiked brattice
- C Comb Drum
- D Beater Drum



### Process Description

Material on the horizontal conveyor (A) is moved towards the spiked brattice (B). The vertical brattice picks up the material and carries it up past the comb beater drum (C), and over the top of the feeder. The comb drum rotates in the opposite direction to the vertical brattice and provides a smooth even flow of material. The material is then removed from the vertical brattice by the beater drum (D), and feeds onto a conveyor, weighbelt or drum opener.

## DO2.1 Process Description

The pins are designed and proven to minimise forces on wool fibres during opening and transport of wool through the machine.

### Concave Grates

There is a heavy-duty steel concave dirt removal grate immediately under each drum. Each grate is comprised of a set of grill bars running across the direction of wool flow through the machine.



*Fig DO2.9 Standard Concave grate with rotating drum removed, showing internal cleaning teeth sets*

The grate bars are cleaned by a series of fixed cleaning teeth, one set at each side of the machine and two further sets mounted above the grates in the middle working space of the machine.

Each concave grate is mounted on low friction slides, enabling the grates to be worked back and forwards, horizontally against the cleaning teeth by hydraulic rams. A hydraulic power pack is included with the multi drum opener to drive the hydraulic rams.

The concave grates are longer than the width of the multi drum opener so that there is always grate under the drums when the concaves are moved for cleaning.

The standard drum opener is fitted with "short stroke grates". These grates are one third longer than the width of the machine, that third being the length of each cleaning stroke.

Two proximity switches fitted to the drum opener frame above each concave grate detects when the grate reaches the full extent of its travel in both directions.

A backup whisker switch is used to ensure detection of the grate if it continues extending past the outer proximity switch for any reason.

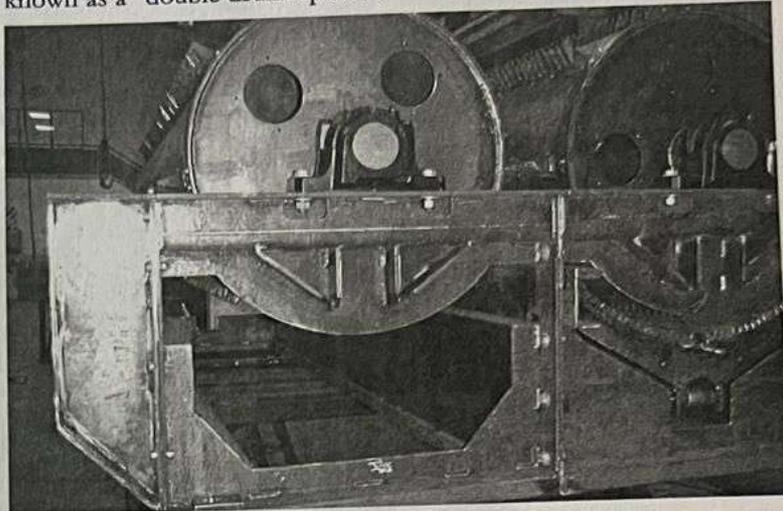


*Fig DO2.8 Hydraulic power pack*

## DO2.1 Process Description

### Drums

The standard multi drum opener has 2 rotating drums and is also known as a "double drum opener".



*Fig DO2.6 Double drum opener during assembly showing rotating drums*

The rotating drums are driven at a fixed speed by individual shaft mounted gearboxes and electric motors.

Each drum is constructed from rolled steel and fitted with 8 evenly spaced tooth bars that hold the opening pins.

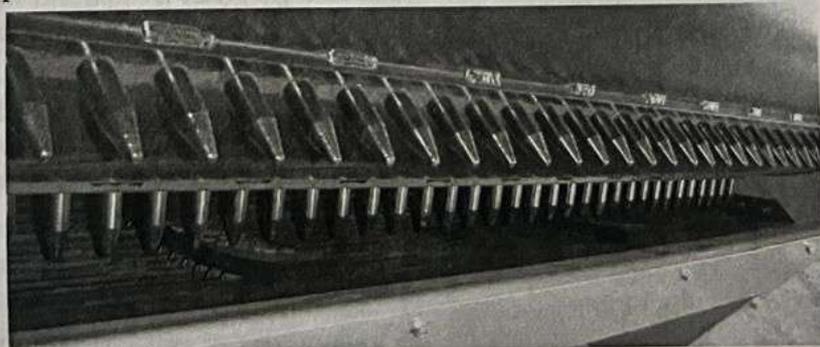
Each drum rotates such that the wool is forced under the drum.

### Drum Pins

The standard Drum Opener drums are fitted with conical ended round pins mounted at regular intervals along the drum.

### Tooth Bars

The pins are positioned at a half space offset on alternate tooth bars around the drum, i.e. teeth on the following tooth bar will contact wool at the nip roller at points halfway between adjacent teeth on the previous tooth bar.



*fig DO2.7 Standard tooth bar installed on a rotating drum (showing round drum pins)*

# DO2.1 Process Description

## Infeed Conveyor

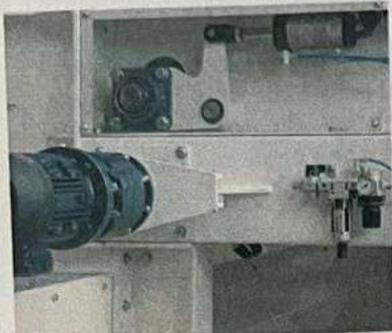


Fig DO2.2 Infeed Conveyor Drive



Fig DO2.3 Feed Conveyor Idler Roller Bearing Adjustment

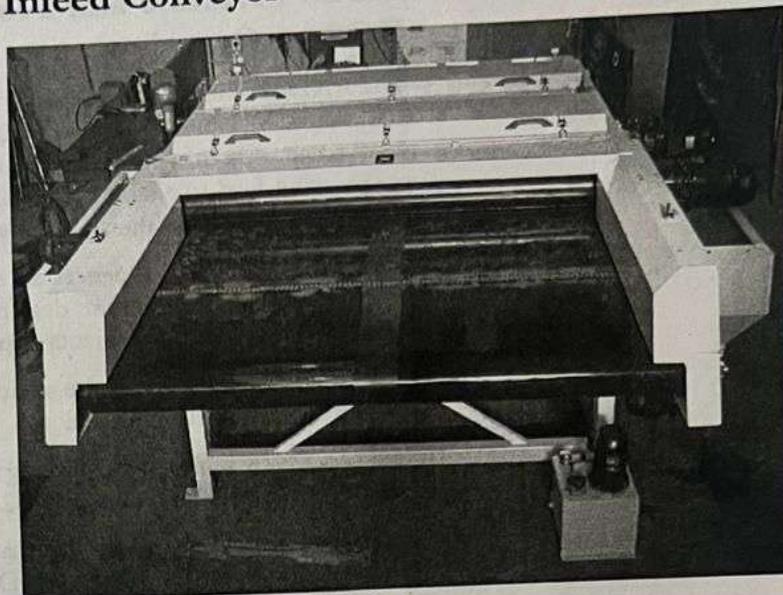


Fig DO2.5 Multi-drum opener infeed conveyor

A horizontal belt conveyor built into the infeed side of the drum opener delivers wool into the machine. This wool is normally fed on to the conveyor by a greasy wool feed hopper upstream of the opener.

The infeed conveyor is driven by a shaft mounted motor and gearbox. The belt speed is controlled using a variable frequency drive (VFD).

The idler roller of the feed conveyor is mounted on take-up bearings. These bearings can be adjusted easily by moving the bearings in the appropriate direction to tension and track the belt. Tracking strips fitted to the underside of the feed conveyor belt also assist with belt tracking.

### Nip Roller

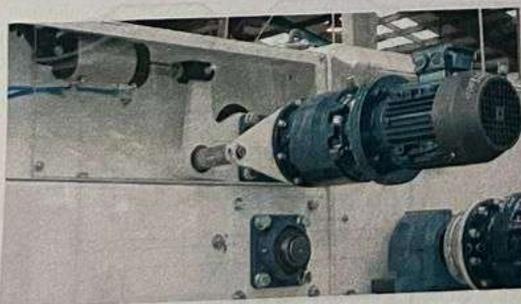


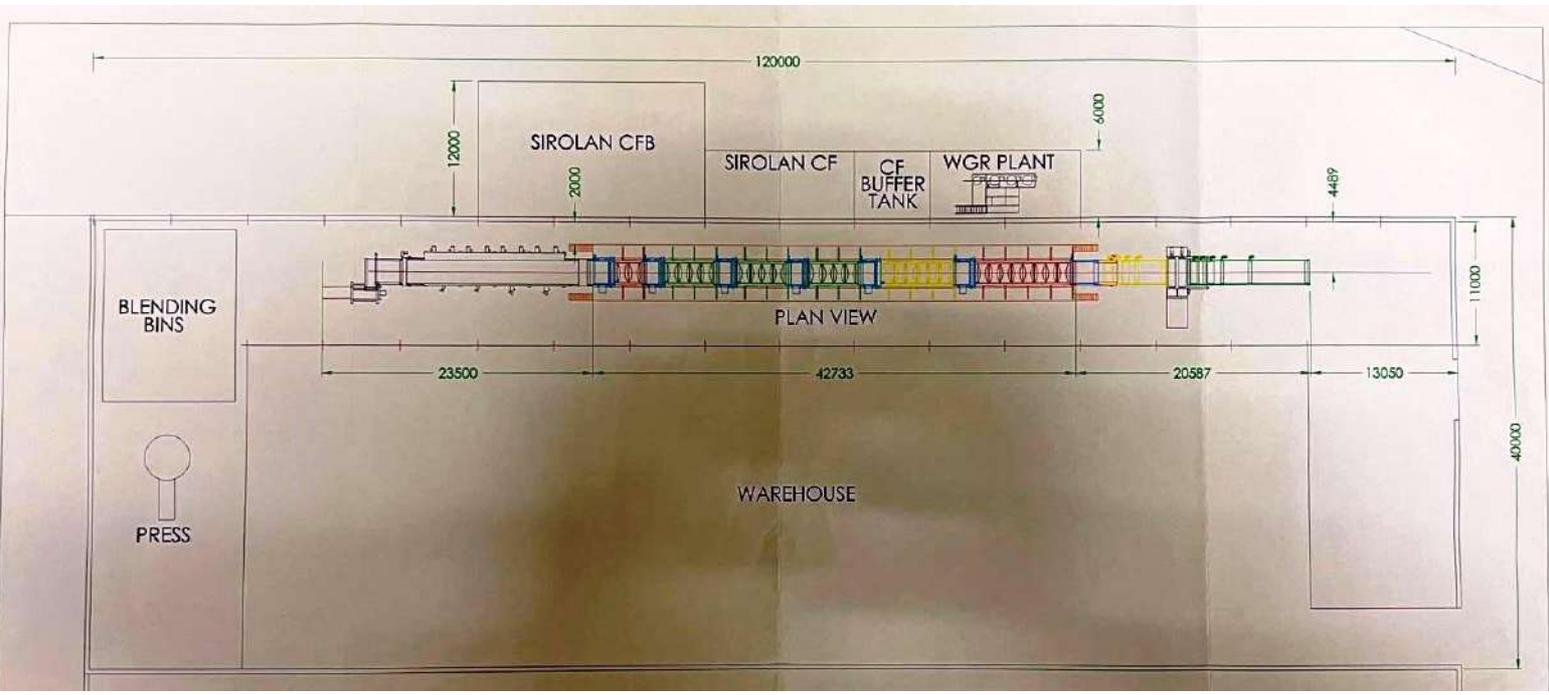
Fig DO2.5 Nip roller drive & air cylinder

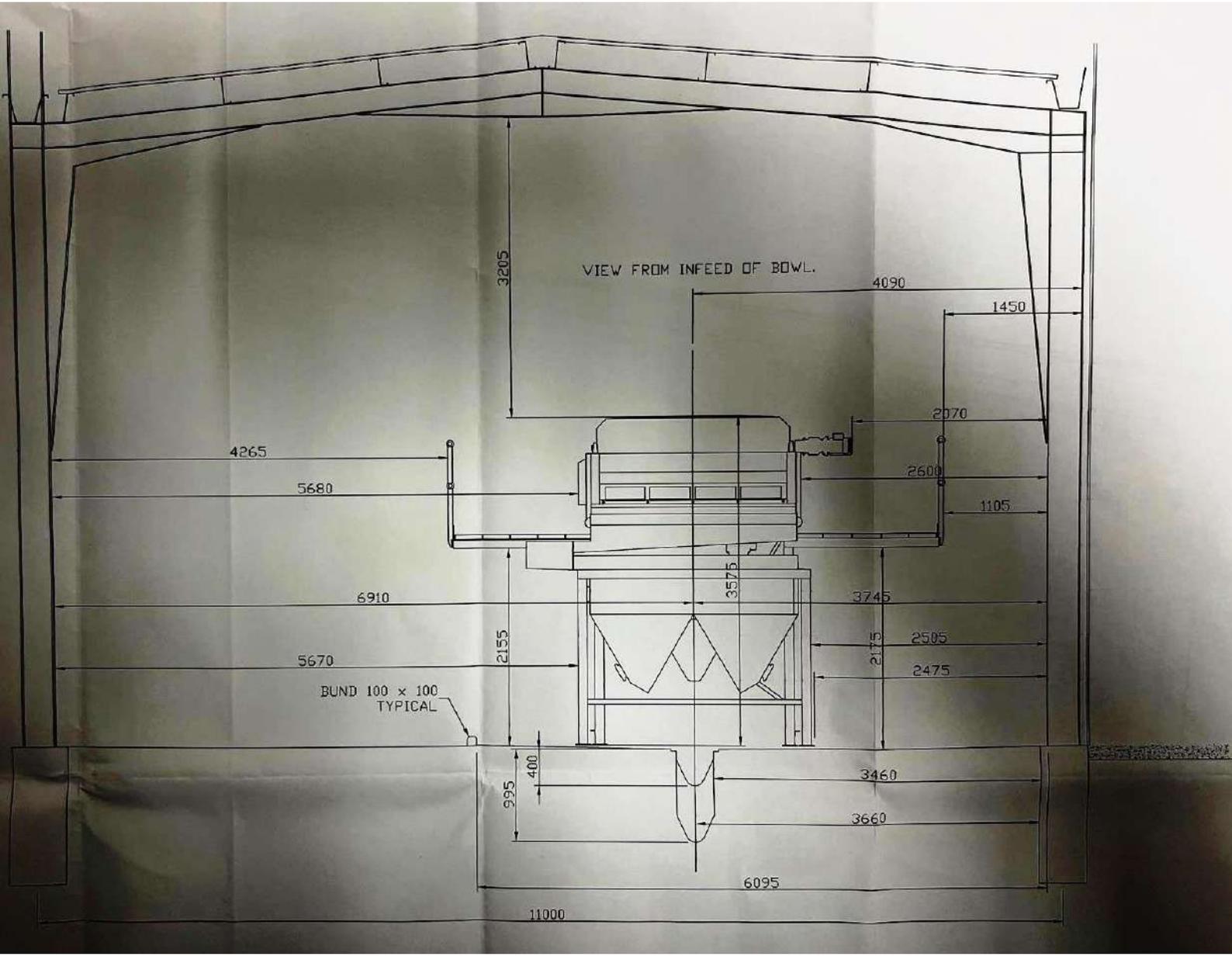
A nip roller is mounted above the belt conveyor drive roller at the drum entry end of the infeed conveyor and helps control the flow of product into the machine.

The roller is installed on a pivoting mount fitted with two pneumatic cylinders that enable the operator to lift and lower the nip roller. This is done using a manual lever valve mounted adjacent to the air regulator on the side of the machine.

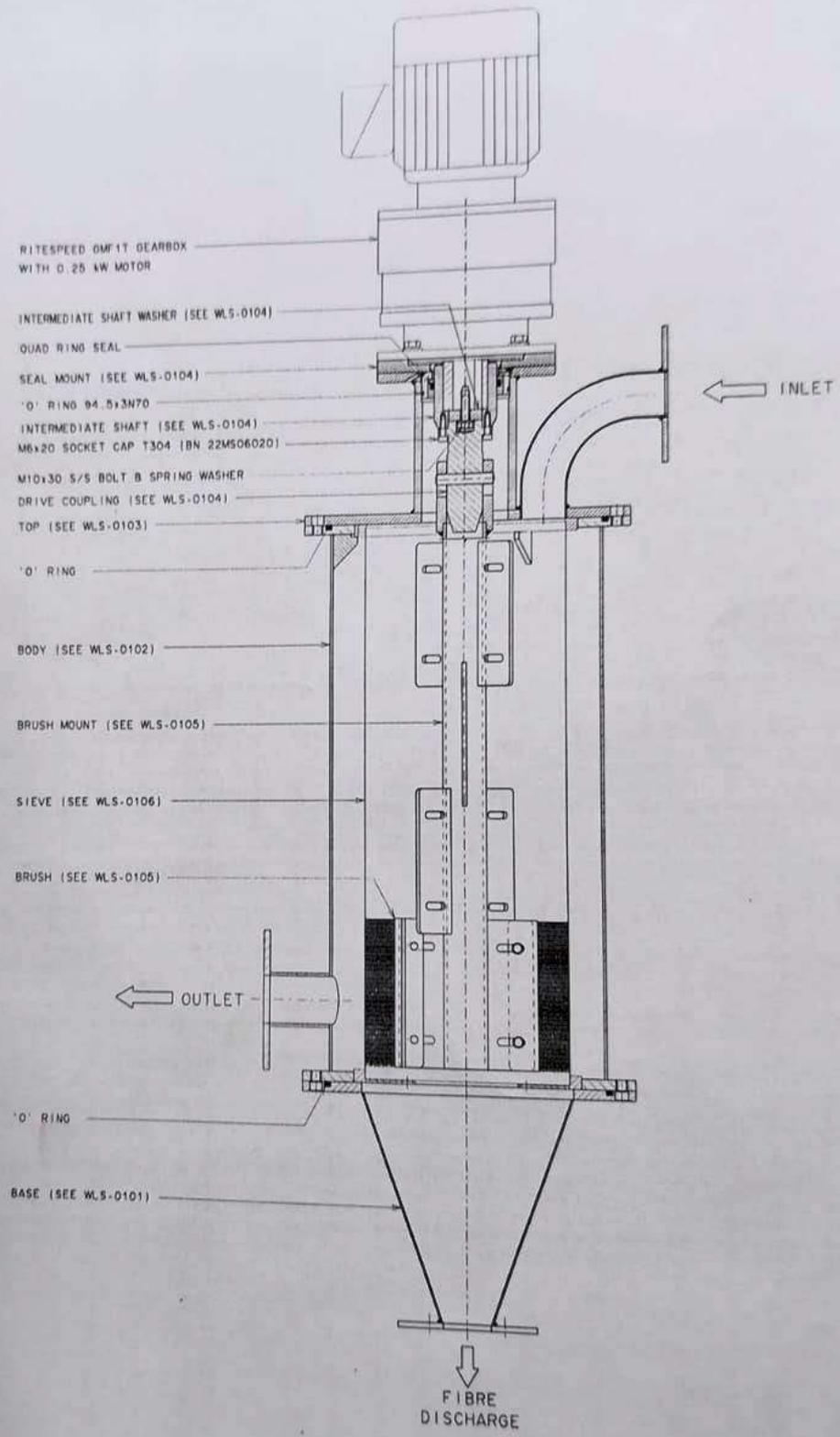
The pneumatic cylinders maintain the downward nip force on the wool. This downward force can be varied by altering the air pressure to the pneumatic cylinders by adjusting an air regulator mounted on the side of the machine.







 <b>ANNETT &amp; DARLING LTD</b> 1/2 St. George's Lane, London W11 1LJ, U.K. Tel: 01-854-5611, Fax: 01-854-5612		Dept: Prod. 1. 8/84 Drawn: 1. 8/84 Date: 1. 8/85
<b>ROTARY FIBRE STRAINER</b> <b>ASSEMBLED CROSS-SECTION</b> <b>WRONZ LOOP SYSTEM</b>		Size: (FRO) CONTACT: 1 Part: ANDAR Drawing Number: WLS-0108 Rev: C



SWP

## SC2.1 Process Description

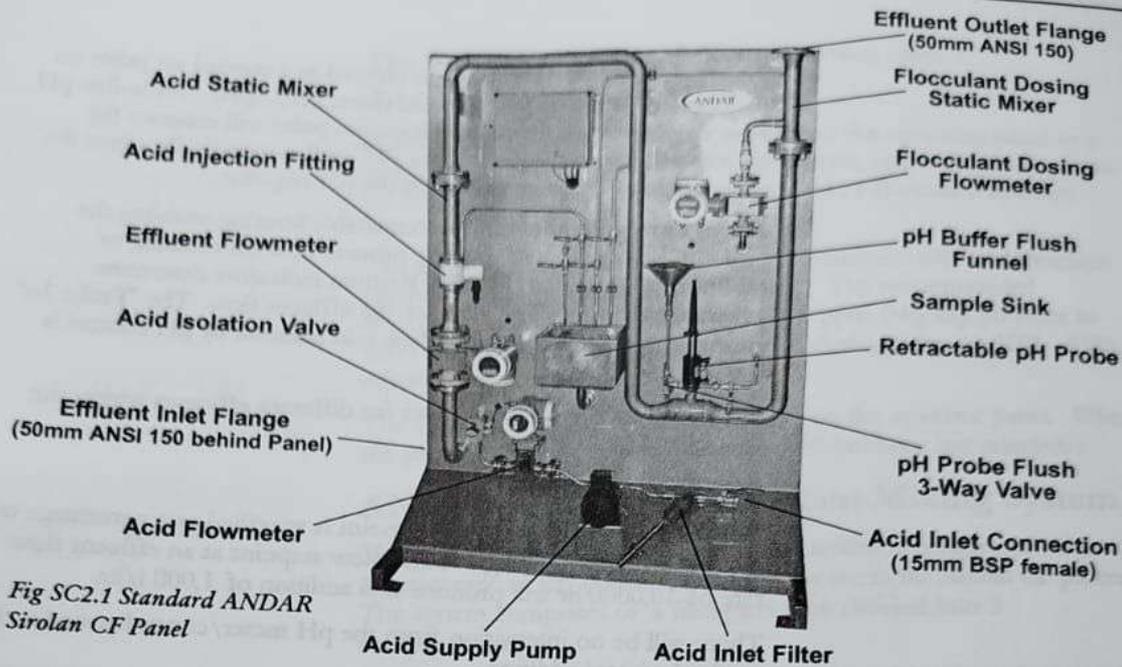


Fig SC2.1 Standard ANDAR Sirolan CF Panel

## SC2.1 Process Description Overview

The Sirolan CF Process removes dirt and residual grease from woolscour heavy flowdown by a process of pH adjustment of the effluent, followed by polymer addition to produce solid floc that can be removed by downstream separation equipment.

### Effluent Supply

Raw effluent is pumped through the Sirolan CF panel. A flowmeter near the panel inlet provides a 4 - 20mA signal which can be used to control the flow of effluent from the customer's storage and supply system.

### Acid Addition

Acid is injected into the effluent flow using a special injection fitting followed by a static mixer. Effluent is prevented from flowing back through the acid supply line by a non-return valve and actuated isolation valve. The acid supply pump is mounted on the Sirolan CF panel and controlled by a variable frequency (VF) drive, allowing the acid injection rate to be regulated. A flowmeter on the acid supply monitors the acid flow.

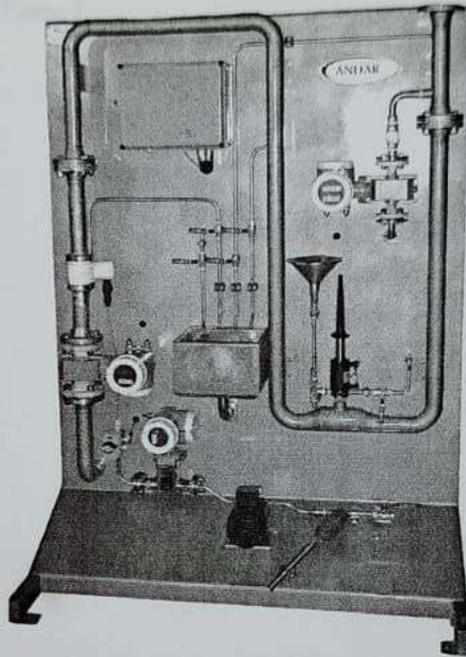
Acid addition can be controlled 2 ways:

#### By pH Control

This is the normal method of controlling acid addition. The pH



# Operation & Maintenance Manual



## Section SC2 Sirolan CF Information

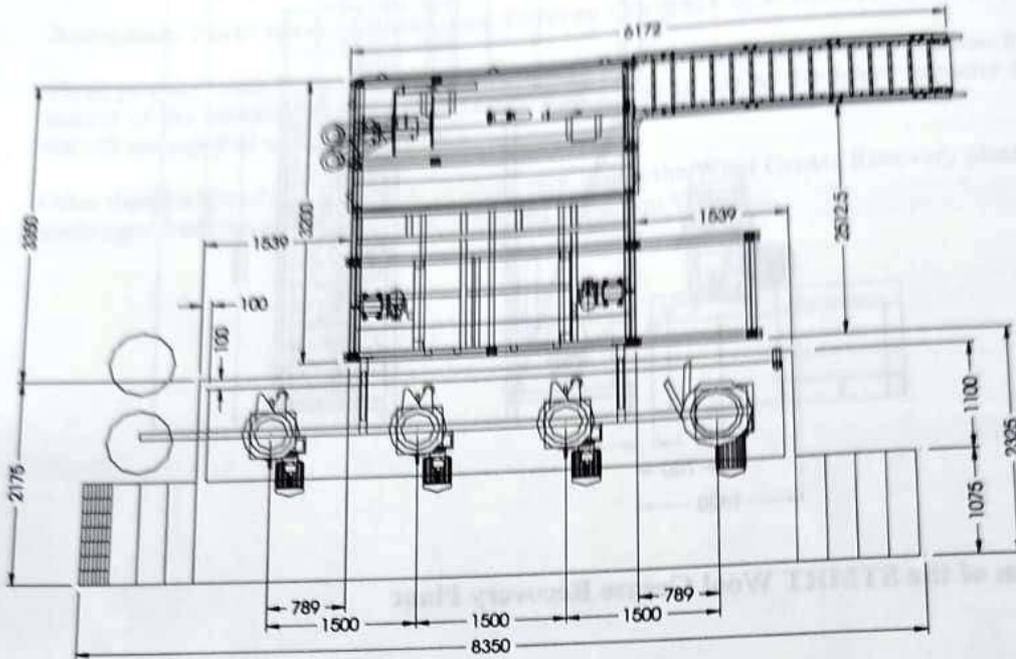
ADM Group Ltd  
Seadown Road  
PO Box 435 Timaru  
New Zealand  
Telephone 64 3 688 2044  
Facsimile 64 3 688 2640  
Email [email@andar.co.nz](mailto:email@andar.co.nz)  
Internet [www.andar.co.nz](http://www.andar.co.nz)



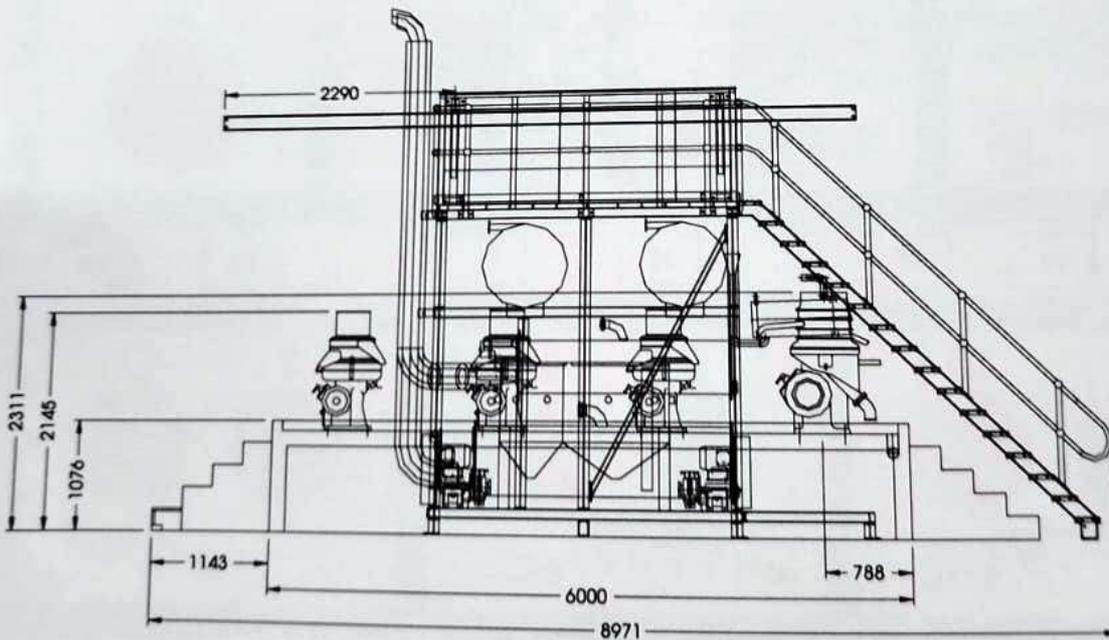
Sirolan CF Information  
Issue 1101

# WR3.1 Contract Specific ANDAR Equipment

## Dimensions



## Plan view of STMR Wool Grease Recovery Plant



## Front Elevation of STMR Wool Grease Recovery Plant

WR3-5

**ANDAR**  
 ADM Group Ltd  
 Wool Grease Recovery Plant  
 Sociedade Textil Manosol  
 Rodrigues Tavares Lda  
 Production No. 415280



# Operation & Maintenance



## Section WR3 Contract Specific Information Wool Grease Recovery Plant

ADM Group Ltd  
Seadown Road  
PO Box 435 Timaru  
New Zealand  
Telephone 64 3 688 2044  
Facsimile 64 3 688 2640  
Email [email@andar.co.nz](mailto:email@andar.co.nz)  
Internet [www.andar.co.nz](http://www.andar.co.nz)

WR3-1



Wool Grease Recovery Plant  
Sociedade Textil Manuel  
Rodrigues Tavares Lda  
Production No. 415280

# SW3.1 Contract Specific ANDAR Equipment

## SW3.1.2 ANDAR Machine Options Selected

Serial Number

SW1 4152

Customer

S. [REDACTED] a

Grate

Short  
2.6m

Long  
3.0m

Grate Side

L.H.

R.H.

Primary Colour

Abbey  
White

Specific

Secondary Colour Motors/G-Box

Abbey  
White

ADM Motor  
Blue Specific

Infeed Conveyor

Yes

No

Nip Roller

Yes

No

Incline Conveyor

Yes

No

Electricity Main Supply

380-415V AC  
50Hz  
3 Phase

Specific

Control Voltage

220-250V AC  
50Hz Single  
Phase

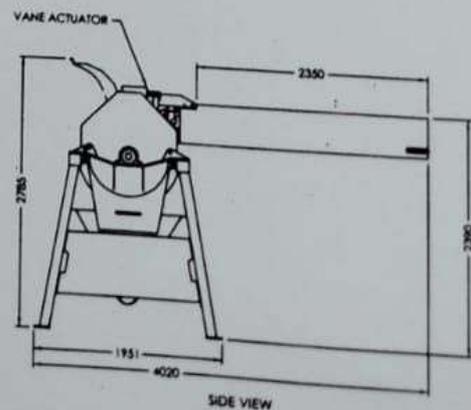
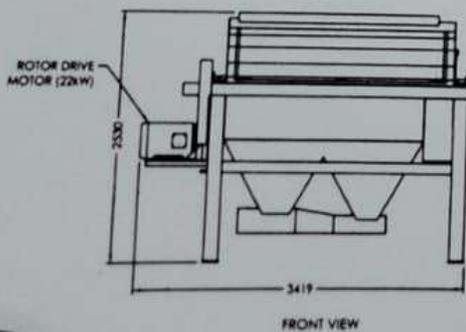
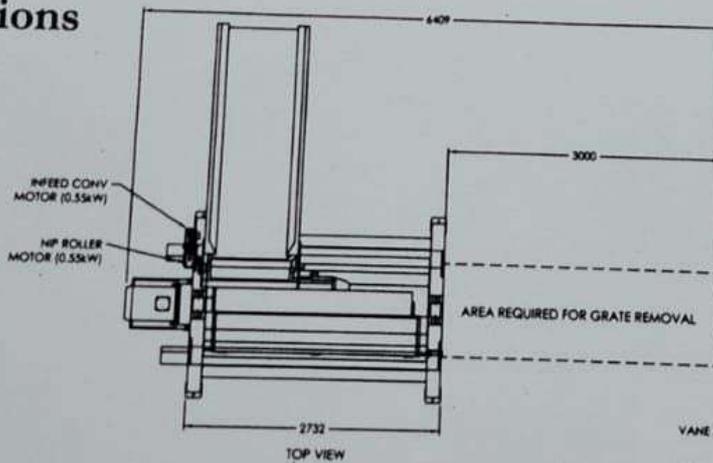
Specific

Instrument Voltage

24V DC

Specific

## Dimensions



ADM Group Ltd  
SWC Information  
Tavares  
Prod. No. 415271

SW3-6



## Operation & Maintenance Manual



### Section SW3 Contract Specific Information Scoured Wool Cleaner

ADM Group Ltd  
Seadown Road  
PO Box 435 Timaru  
New Zealand  
Telephone 64 3 688 2044  
Facsimile 64 3 688 2640  
Email [email@andar.co.nz](mailto:email@andar.co.nz)  
Internet [www.andar.co.nz](http://www.andar.co.nz)



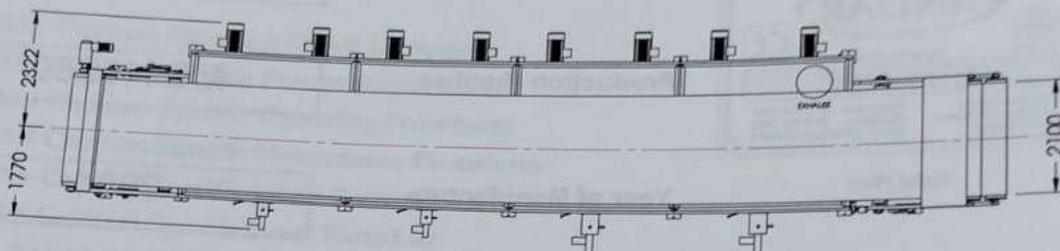
SWC Information  
Tavares  
Prod. No. 415271

SW3-1

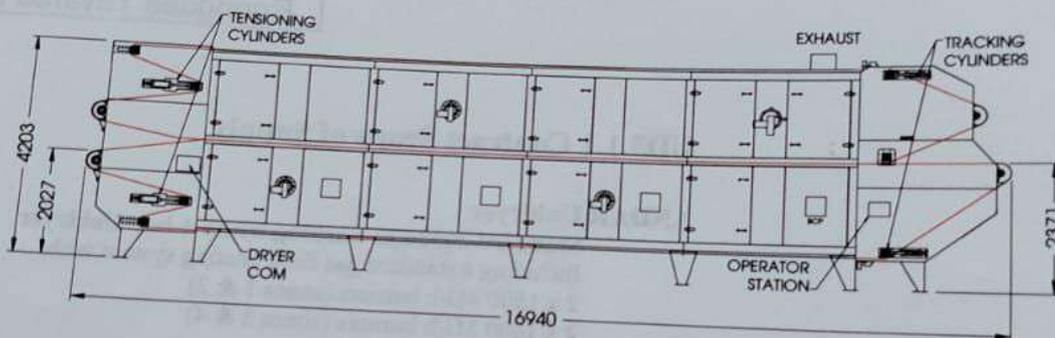
# UD3.1 Contract Specific ANDAR Equipment

Dimensions:

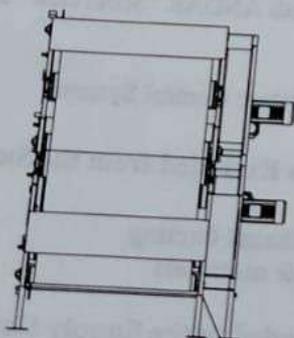
2m Working Width, 4-bay ANDAR Unidryer



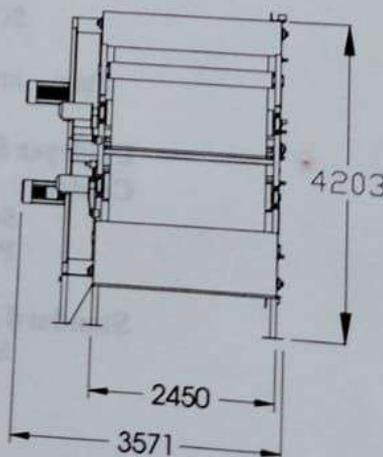
Unidryer Plan View



Unidryer Side Elevation (non drive side)



Infeed End Elevation



Outfeed End Elevation

UD3-4



Unidryer Information  
Sociedade Textil Manuel  
Rodrigues Tavares Lda  
Production No. 415260

# UD3.1 Contract Specific ANDAR Equipment

## Squeeze Press Customer Specifications



Serial Plate

Serial Number

UD1 4152

Production Number

MS415260

Year of Manufacture

2001

Customer



### UD3.1.1 Contract Scope of Supply

#### ANDAR Unidryer

Standard 2000mm working width 4-bay Unidryer

Including a standard gas fired heating system with:

2 x 1500 MJ/h burners (zones 1 & 2)

2 x 1000 MJ/h burners (zones 3 & 4)

#### Electrical Control System

Standard Unidryer Electrical Control System

Including PLC control with ANDAR "Scourview" supervisory SCADA package.

Plus: Integration of Streat Moisture Control System

#### Unidryer System Components Excluded from the Supply Contract

Supply of Unidryer exhaust ducting

Point to point wiring & materials

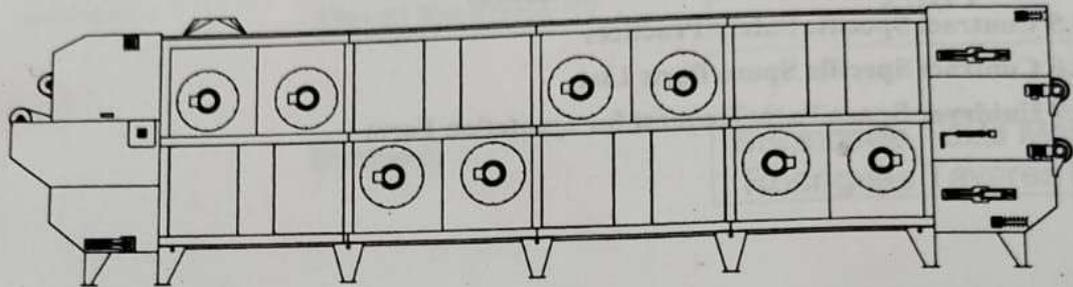
#### Standard Plant Options Included in the Supply Contract

Streat Moisture Control System





# Operation & Maintenance Manual



*Medidas dos Tapetes*

36950 mm    2160 mm 

## Section UD3 Contract Specific Information Unidryer

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UD3-1

**ANDAR**  
ADM Group Ltd  
Unidryer Information  
Sociedade Textil Manuel  
Rodrigues Tavares Lda  
Production No. 415260

# SP3.1 Contract Specific ANDAR Equipment



Serial Plate above for  
Squeeze Press No 1

## Squeeze Press Customer Specifications

Serial Number **SP 4152**

Production Number **MS415240**

Year of Manufacture **2001**

Customer **[REDACTED]**

## SP3.1.1 Contract Scope of Supply

### Standard 2m wide Squeeze Presses

#### Contract specific configuration

Presses 1-3 have a surface speed of 7.4m/min, this is because of the throwforks that have been fitted to bowls 1-3

Presses 4-6 have a surface speed of 4.2m/min, for the standard headrakes that have been fitted

Presses 1-3 have grooved bottom rollers

Press 1 has the top bearing block offset

Presses 1 & 2 have 50mm continuous Polyamide ropes fitted

Presses 3-5 have 60mm dis-continuous Polyamide ropes fitted

Press 6 has 60mm dis-continuous Polyester rope fitted

#### Electrical Control System

PLC controlled as part of Scourview

Operator station control logic is part of the corresponding bowl

Presses 1 & 6 are VF controlled

## SP2.1 Process Description

### Description of Machine

The Squeeze Press has been designed by ANDAR using 3D solid modelling software and established life analysis techniques. This approach has enabled us to design an integrated squeeze press that reliably provides the squeeze loading necessary for liquid separation.

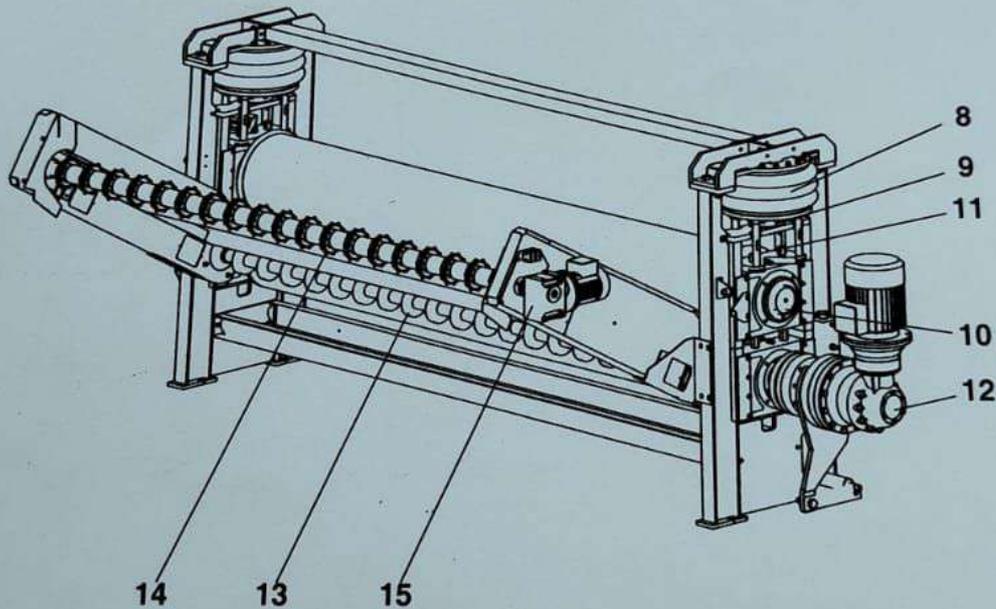
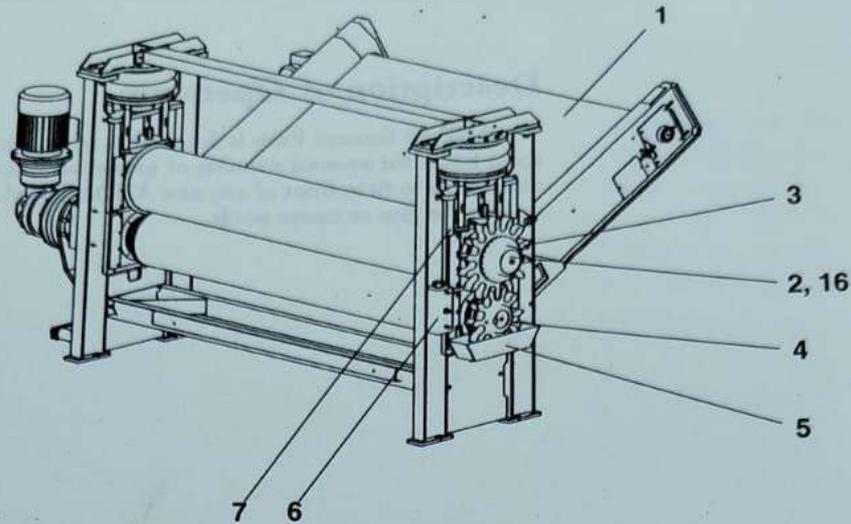
Squeeze pressure is applied by two air bellows situated above the press. These bellows push down on the top roller. A set of bellow arrangements lifts the top roller clear of the bottom roller when air pressure is diverted using a pneumatic valve.

Heavy duty SG Iron castings house the spherical roller bearings which support the top and bottom rollers. The squeeze press bearings are hermetically sealed, using a sealing arrangement unique to ANDAR in the wool industry. The use of this special sealing arrangement and carefully selected oil, ensures low maintenance and a long life for the squeeze press bearings.

The bottom squeeze roller is coated in 316 stainless steel. This roller is driven by an epicyclic shaft mounted gearbox that is coupled using a shrink fit disc. The top squeeze roller is nickel/chrome plated and covered with 50-60mm polyamide rope. It is driven by a one way clutch system, should the top roller start to slip or stall on the wool mat. Stainless steel covers protect the working components of the squeeze press.

The outfeed conveyor is a PVC modular belt driven by drive sprockets. The conveyor is mounted in a stainless steel frame and is driven by a separate direct drive geared motor.

## SP2.1 Process Description



### Parts Description

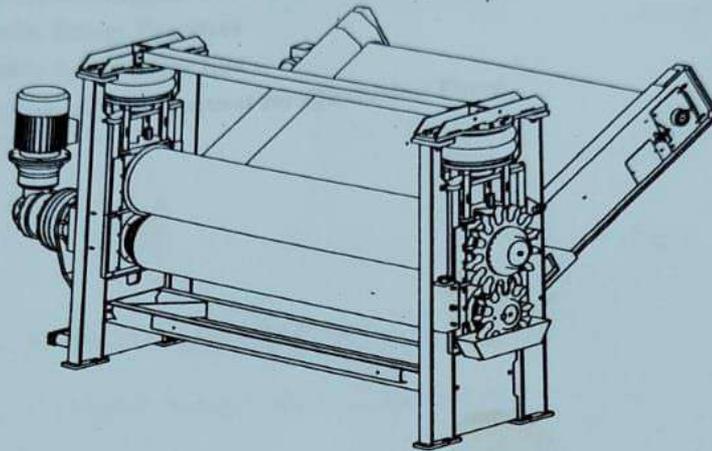
- |                               |                                     |
|-------------------------------|-------------------------------------|
| 1. Modular Belt               | 8. Load Bellows                     |
| 2. Top Roller Ratchet Gear    | 9. Lift bellows                     |
| 3. Top Roller Drive Gear      | 10. HDDF Mechanical seal            |
| 4. Bottom Roller Drive Gear   | 11. Press Limit Switch (High Level) |
| 5. Oil Tray                   | 12. Squeeze Press Drive Gearbox     |
| 6. Main Bearing Oil Reservoir | 13. Idler Discs                     |
| 7. Nylon Bearing Guide        | 14. Drive Sprockets                 |
|                               | 15. Outfeed Conveyor Drive Gearbox  |
|                               | 16. Ratchet Gear Spring             |



Squeeze Press Info  
Issue 0102



# Operation & Maintenance Manual



## Section SP3 Contract Specific Information Squeeze Press

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SP3-1

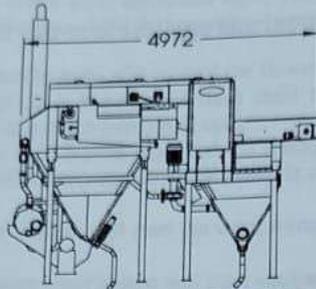


Squeeze Press Information  
Sociedade Textil Manuel  
Rodrigues Tavares Lda  
Production No. 415240

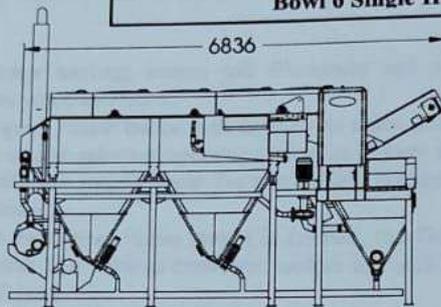
# SB3.1 Contract Specific ANDAR Equipment con't

## Dimensions

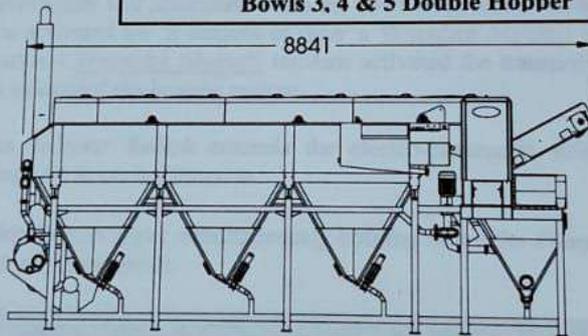
### Dimensions for Different Scour Bowl Lengths



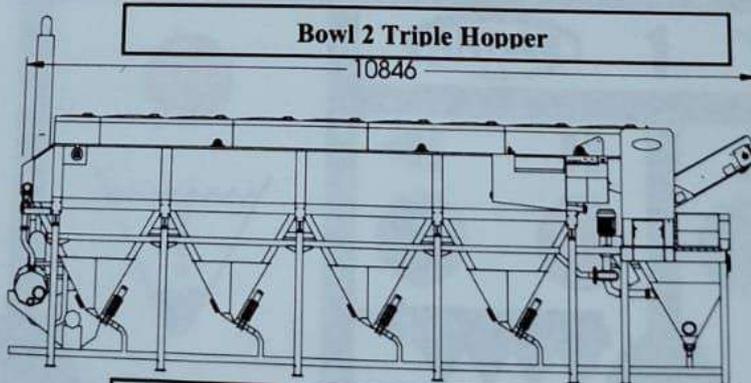
**Bowl 6 Single Hopper**



**Bowls 3, 4 & 5 Double Hopper**



**Bowl 2 Triple Hopper**



**Bowl 1 Quad Hopper**

SB3-5

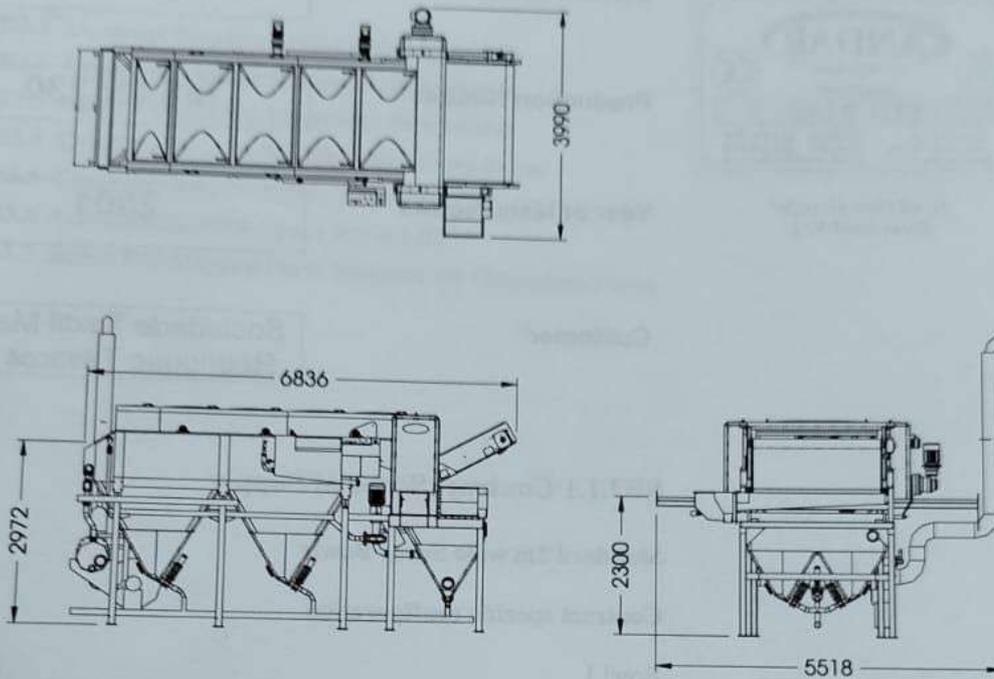


Scour Bowl Information  
Sociedade Textil Manuel  
Rodrigues Tavares Lda  
Production No. 415230

# SB3.1 Contract Specific ANDAR Equipment

## Dimensions

### Scour Bowls



Typical Double Hopper Bowl Layout

## SB3.1 Contract Specific ANDAR Equipment

### Scour Bowl Customer Specifications



Serial Plate above for  
Scour Bowl No 1

Serial Number

SB 4152

Production Number

MS415230

Year of Manufacture

2001

Customer



### SB3.1.1 Contract Scope of Supply

#### Standard 2m wide Scour Bowls

#### Contract specific configuration

Bowl 1

Quad hopper, dunker drum, mainrakes, throwfork outfeed

Bowl 2

Triple hopper, mega dunkers, mainrakes, throwfork outfeed

Bowl 3

Double hopper, mega dunkers, mainrakes, throwfork outfeed

Bowls 4 & 5

Double hopper, mega dunkers, mainrakes, headrake outfeed

Bowl 6

Single hopper, dunker drum, extended headrake outfeed

Manual floc return fitted

Flowround pump impellers trimmed to 200mm

#### Electrical Control System

PLC controlled as part of Scourview

Operator station control logic is part of the corresponding bowl

All throwforks and headrakes are VF controlled

Mainrakes in Bowl 1 are VF controlled

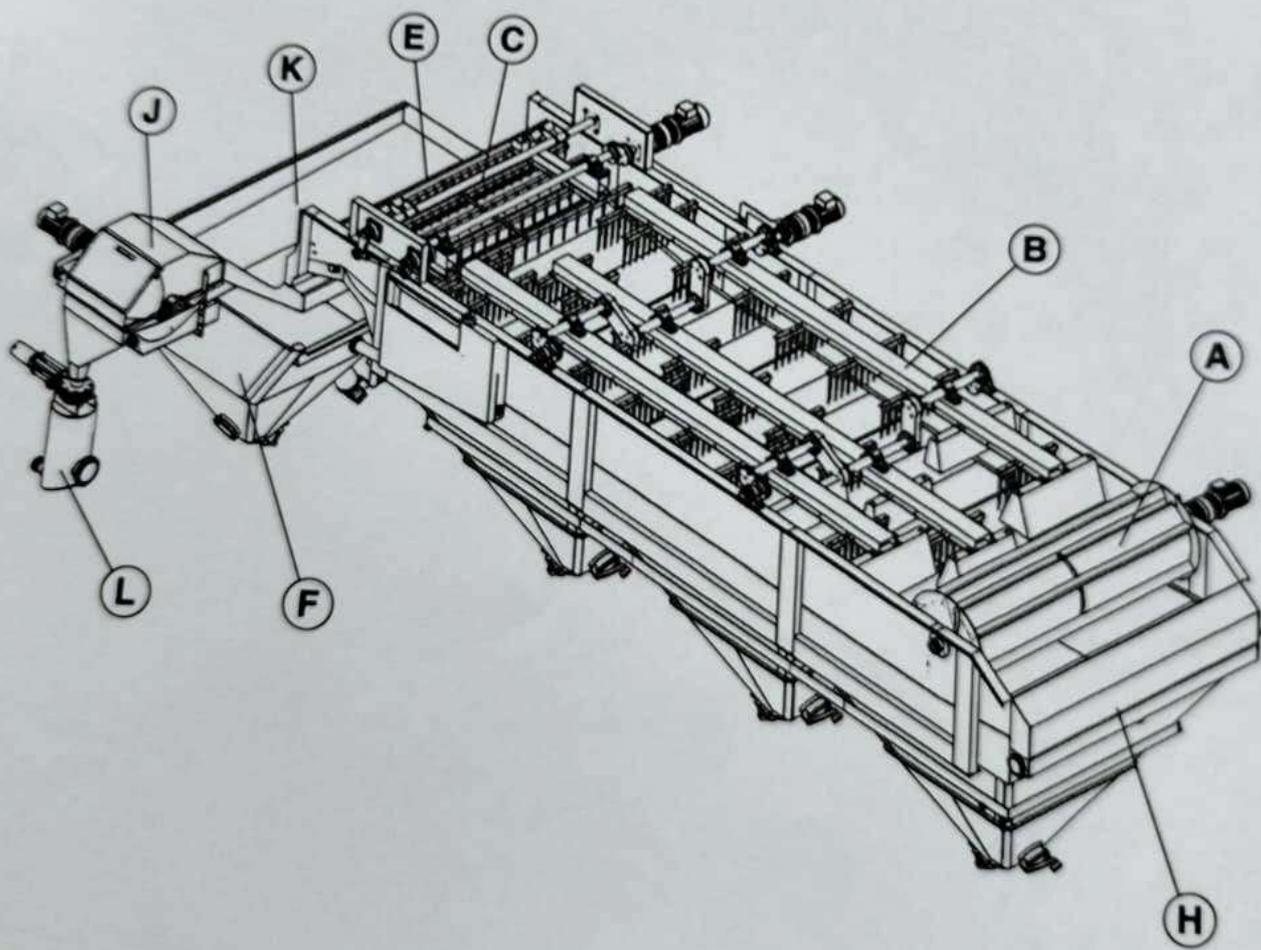
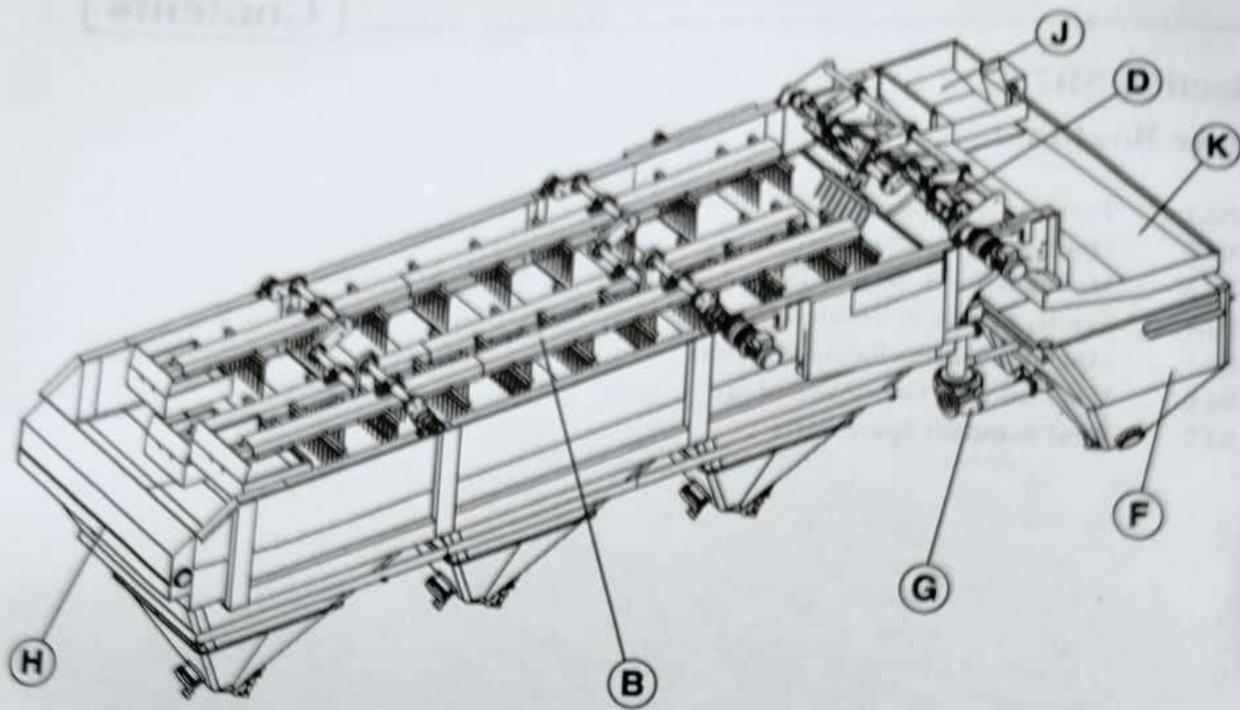
SB3-3



Scour Bowl Information  
Sociedade Textil Manuel  
Rodrigues Tavares Lda  
Production No. 415230

SSP/2001/000  
M&C ORDERS R 2.0  
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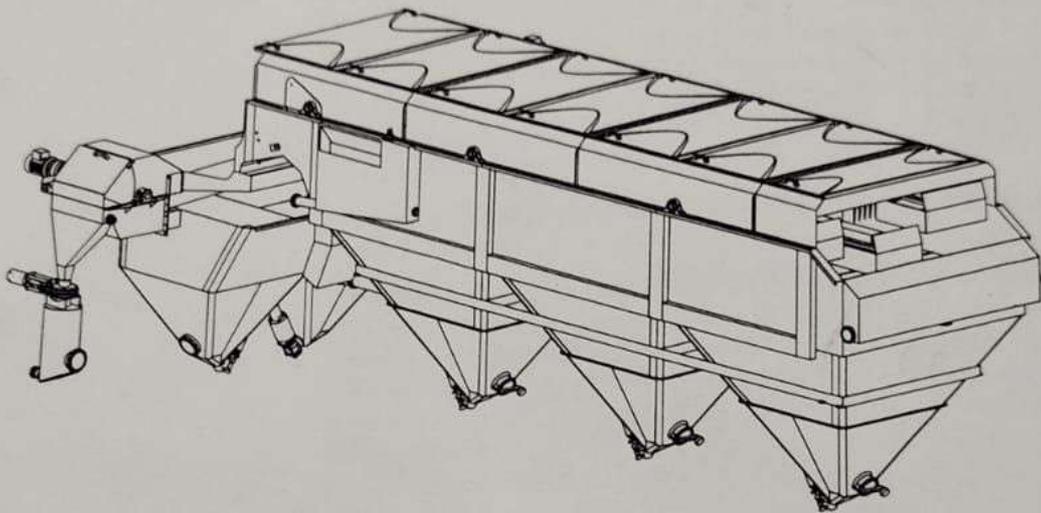


Rake Bowl Info  
Issue 0302

SB2-4



# Operation & Maintenance Manual



## Section SB2 Rake Bowl Information

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Rake Bowl Info  
Issue 0302

SB2-1

# WB2.1 Process Description

## Introduction

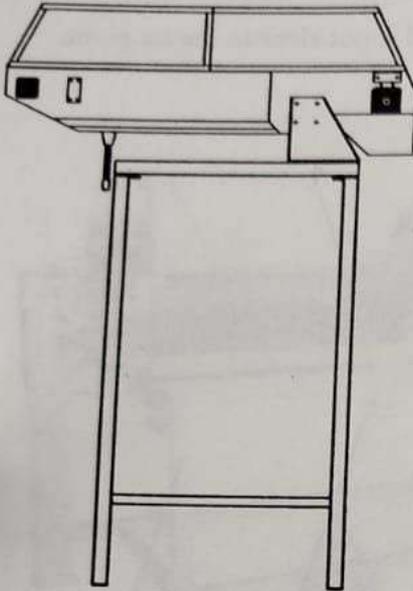
The weighbelt system has the potential to provide the operator and management with many advantages if properly understood, operated and maintained.

It is designed to feed wool to the scour (or any other process) evenly at the optimum rate while simultaneously weighing and recording the supply.

By feeding the wool at a constant, but adjustable rate, scouring efficiency can be optimised for different wool types.

This manual covers the procedures for maintenance and repair (by suitably qualified trades people) and includes operating instructions sufficient for safe, efficient and reliable operation.

"ANDAR" commitment to customer service is assured by rigorous quality control and ongoing Research and Development, plus constant communication with Industry groups and end users.



## Description of Machine

### General Operation

The weighbelt conveyor has been designed to control and record the flow rate of greasy wool entering the scour. The flow rate signal is obtained by weighing the wool passing over the conveyor and by multiplying the weight signal with a signal that is proportional to the belt speed. For the measurement of the platform load a strain gauge type loadcell supporting the weigh bar is used. The load cell mV output signal and the speed signal are transmitted to the processor which is programmed to suit the application. The measured flow rate signal is compared with the set point signal selected by the operator representing the desired rate of material flow. If the measured value is below the set value then the controller output current increases and if the measured value is above the set value the current output decreases. The PI action of the controller is tuned to minimise hunting or lengthy deviations.

The controller output regulates the speed of the No.2 feed hopper vertical brattice that feeds wool onto the weighing conveyor.

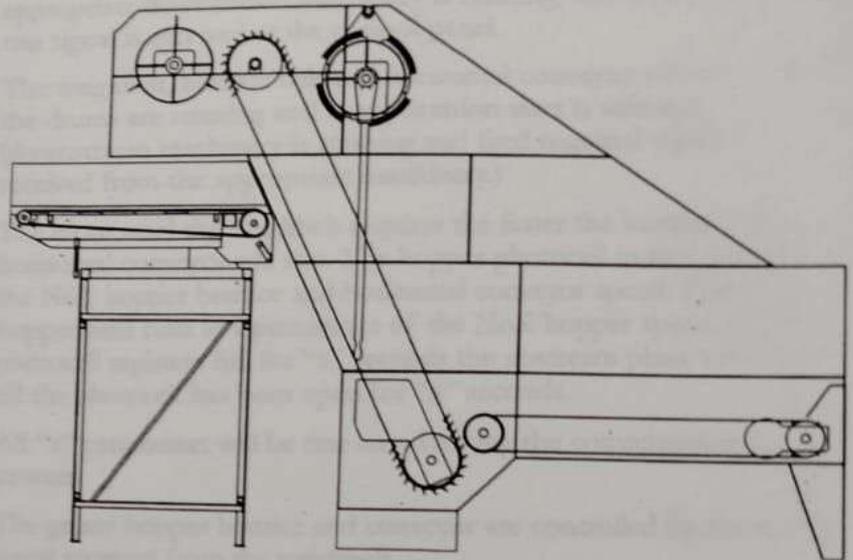
### Additional Features

- Option of automatic or manual control of the speed of the feeder.
- Easy zero tare setting.
- Easy span calibration.
- Automatic 'holding speed' for the feeder when there is no wool on the weighbelt.

# FH3.2 Contract Specific Process Requirements

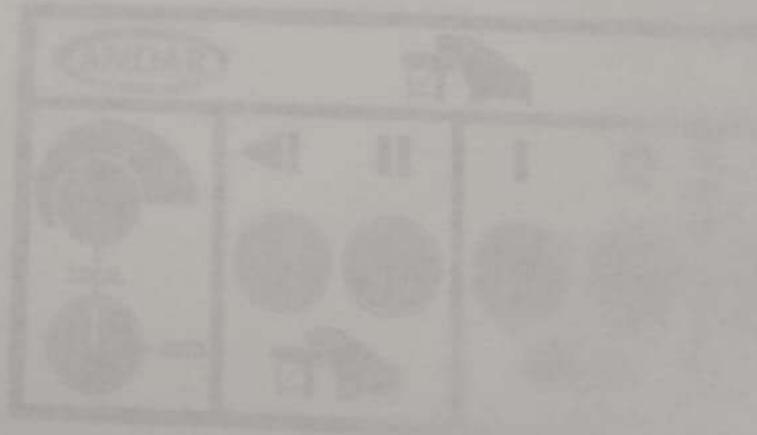
## Requirements

### Hopper/Weighbelt Combination

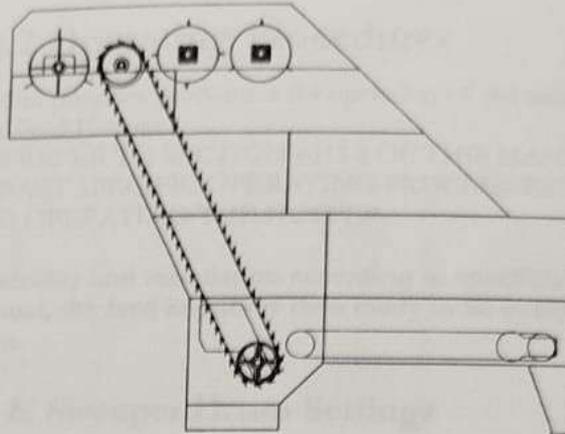


### Operator Station

The following description is of the customer specific operator station required. The operator is the same as the one shown in section 2.7 of this manual for the operating weight of the operator station.



## HH2.1 Process Description



### Machine Construction

The main panels of the hopper feeder consist of a heavy 4mm plate construction. There are 3.6m & 4.0m height options available.

The vertical spiked brattice consists of a heavy duty PVC belt with aluminium strips & pins which is driven by a large diameter drive drum. The horizontal conveyor consists of a PVC belt and rollers. Both the conveyors are driven by shaft mounted gearboxes.

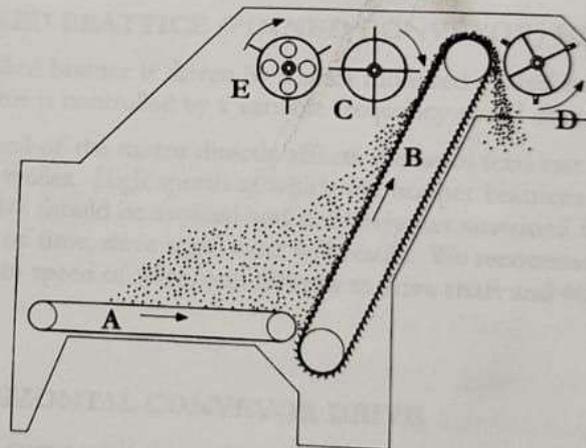
Two shaft mounted gearboxes drive the raker and beater drums.

The sweeper drum is driven by belts & pulleys off the raker drum.

These give an even feed and take off from the spiked brattice.

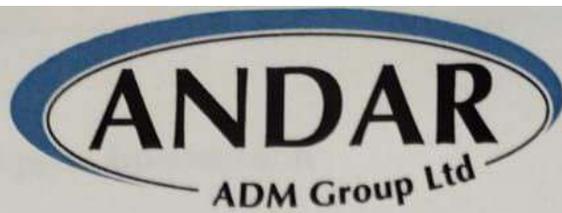
### Key

- A Horizontal conveyor
- B Spiked brattice
- C Raker Drum
- D Beater Drum
- E Sweeper Drum

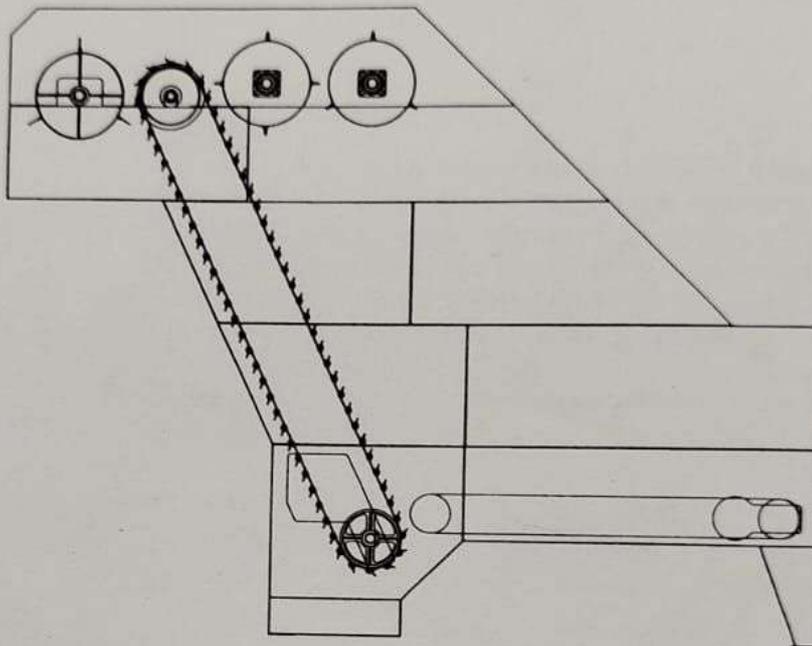


### Process Description

Material on the horizontal conveyor (A) is moved towards the spiked brattice (B). The vertical brattice picks up the material and carries it up past the raker beater drum (C), and over the top of the feeder. The raker drum rotates in the opposite direction to the vertical brattice and provides a smooth even flow of material. The sweeper drum (E) rotates in the same direction (as above) to the raker drum to remove any product building up around the raker drum pins during operation. The material is then removed from the vertical brattice by the beater drum (D), and feeds typically onto a drum opener infeed conveyor.



# Operation & Maintenance Manual



## Section HH2 Heavy Duty Feed Hopper Information

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H/D Hopper Information  
Issue 0102

HH2-1

## DO2.1 Process Description

### DO2.1 Machine and Process Description

#### DO2.1.1 Overview

The ANDAR Multi Drum Opener is designed to provide efficient and consistent opening of greasy wool before the wool is fed into a wool scour. Opening is the process of expanding and loosening the greasy wool feed to enable better wash water entry and dirt removal from the wool mat in the scour bowls.

ANDAR Multi Drum Openers are supplied as either a double-drum or triple-drum unit, based on determining which configuration is most appropriate for the clients application.

Section DO2.1.2 describes the standard design features for the ANDAR Multi Drum Opener.

The process of wool opening using the ANDAR Multi Drum Opener is described in section DO2.1.3.

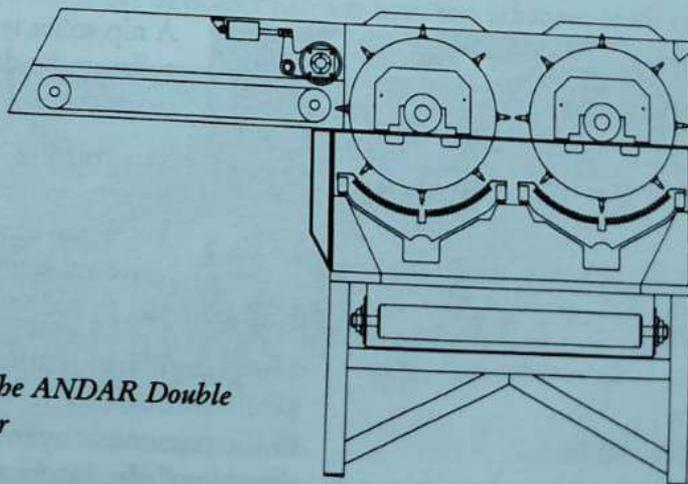
A number of optional additional features are also available and are described in section DO2.1.4. ANDAR sales staff will recommend the additional features applicable to a specific client's operation during initial sales discussions. Refer to section 3.1 of this manual to determine which features have been included on the Multi Drum Opener as part of this supply contract.

#### DO2.1.2 Machine Description

##### General

The standard ANDAR multi-drum opener comprises of 2 rotating drums mounted in parallel across the direction of the greasy wool feed to the machine. A concave grate is positioned under each drum to hold the wool against the teeth on the drum surfaces and allow dirt dislodged from the wool to drop through for collection under the machine.

The rotating drums are fully enclosed within a rigid steel frame and panels.



*Fig DO2.1 The ANDAR Double Drum Opener*

## HH3.2 Contract Specific Process Requirements

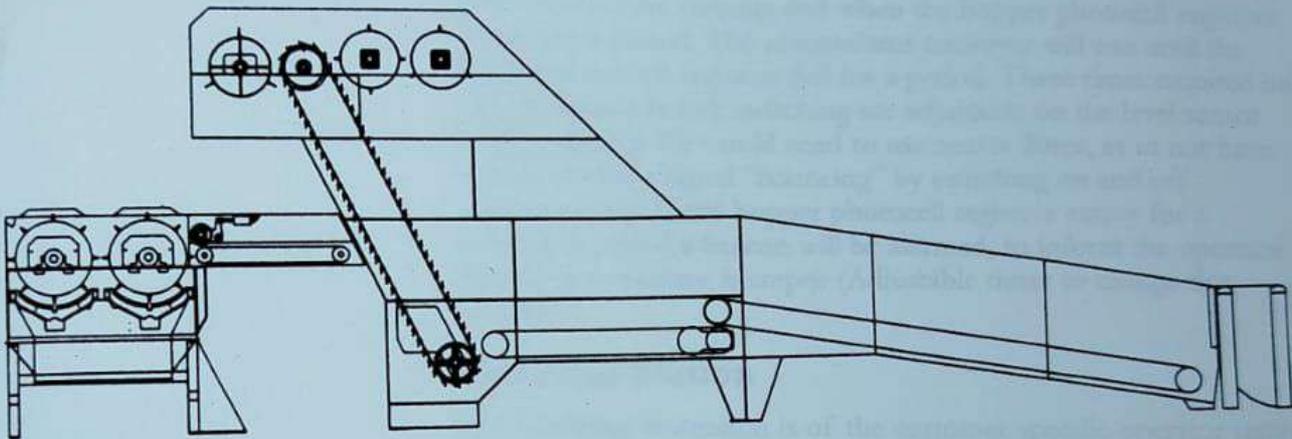
### Requirements

A standard ANDAR 5m accumulator conveyor design.

The accumulator consists of pressed mild steel panels and a horizontal conveyor assembly complete with conveyor supports, guide rollers and drive.

The accumulator is run in conjunction with the greasy hopper control system.

### Hopper/Multi-drum Opener Combination

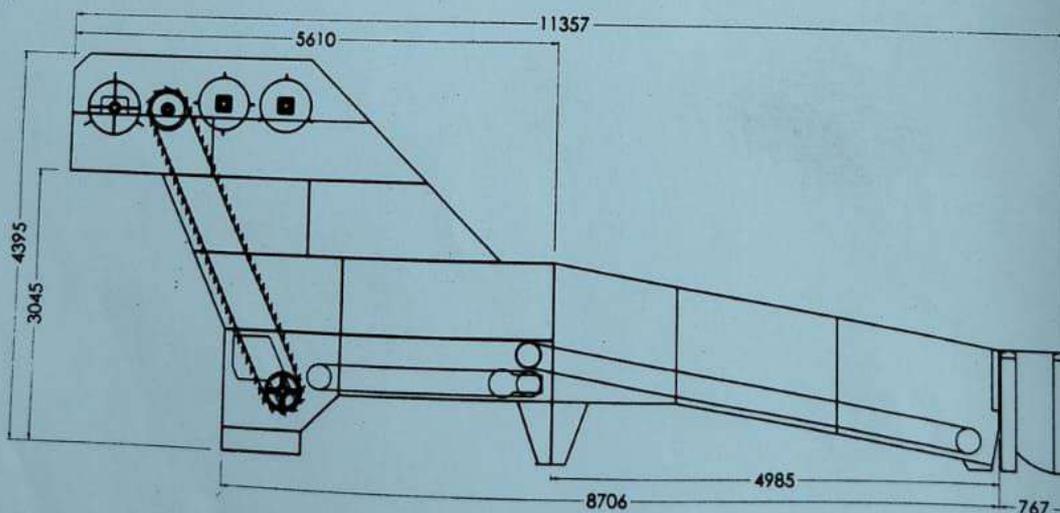


# HH3.1 Contract Specific ANDAR Equipment

## HH3.1.2 ANDAR Machine Options Selected Heavy Duty Feed Hopper

Serial Number	<input type="text" value="FH1 4152"/>		
Customer	<input type="text" value="Lda"/>		
Working Width	<input checked="" type="checkbox"/> 2000mm	<input type="checkbox"/> 3000mm	<input type="text" value="Specific"/>
Model	<input type="checkbox"/> 3.6m High	<input checked="" type="checkbox"/> 4.0m High	<input type="text" value="Specific"/>
Level Control	<input checked="" type="checkbox"/> Photocell	<input type="checkbox"/> Ultrasonic	<input type="text" value="Specific"/>
Drive Side	<input type="checkbox"/> L.H.	<input checked="" type="checkbox"/> R.H.	
Beater Drum	<input checked="" type="checkbox"/> Wipes	<input type="checkbox"/> Brushes	
Primary Colour	<input checked="" type="checkbox"/> Abbey White	<input type="text" value="Specific"/>	
Secondary Colour (motors & gearboxes)	<input type="checkbox"/> Abbey White	<input type="text" value="ADM Motor Blue"/>	<input type="text" value="Specific"/>
Accumulator Conveyor	<input checked="" type="checkbox"/> 5m	<input type="checkbox"/> 10m	<input type="text" value="Specific"/>
Electricity Main Supply	<input checked="" type="checkbox"/> 380-415V AC 50Hz 3 Phase	<input type="text" value="Specific"/>	
Control Voltage	<input checked="" type="checkbox"/> 220-250V AC 50Hz Single Phase	<input type="text" value="Specific"/>	
Instrument Voltage	<input checked="" type="checkbox"/> 24V DC	<input type="text" value="Specific"/>	

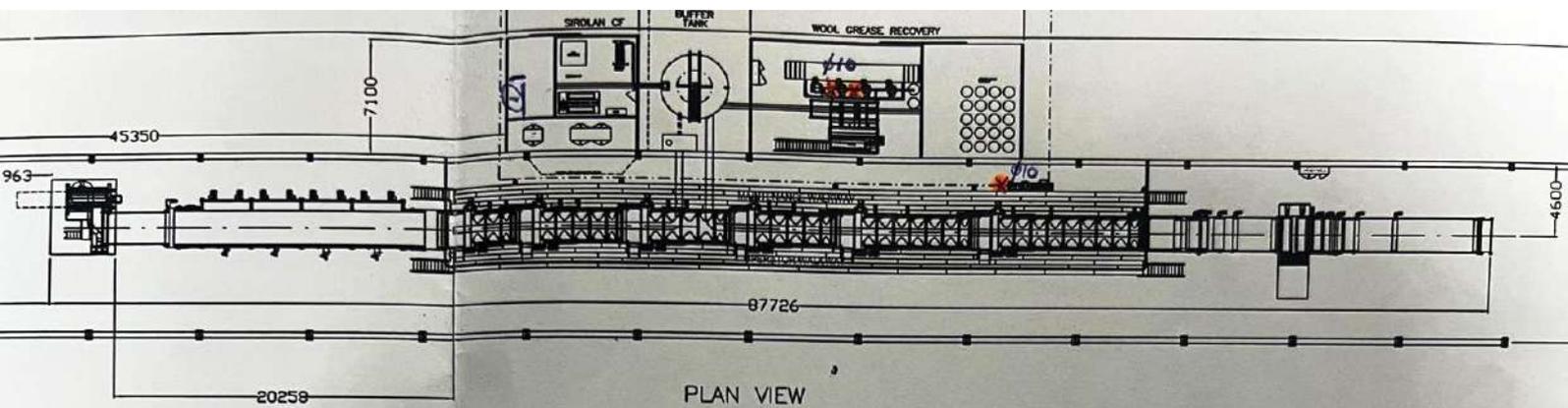
### Dimensions



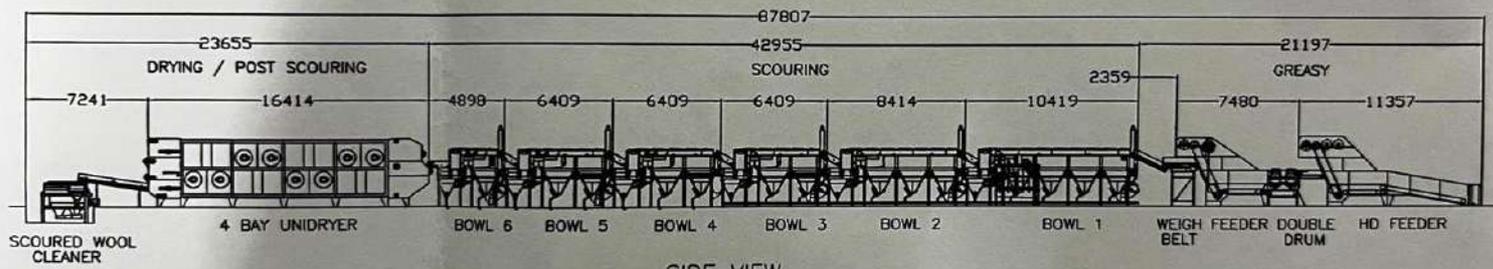
H/D Hopper Information  
Tavares

Prod No 415211, 415215

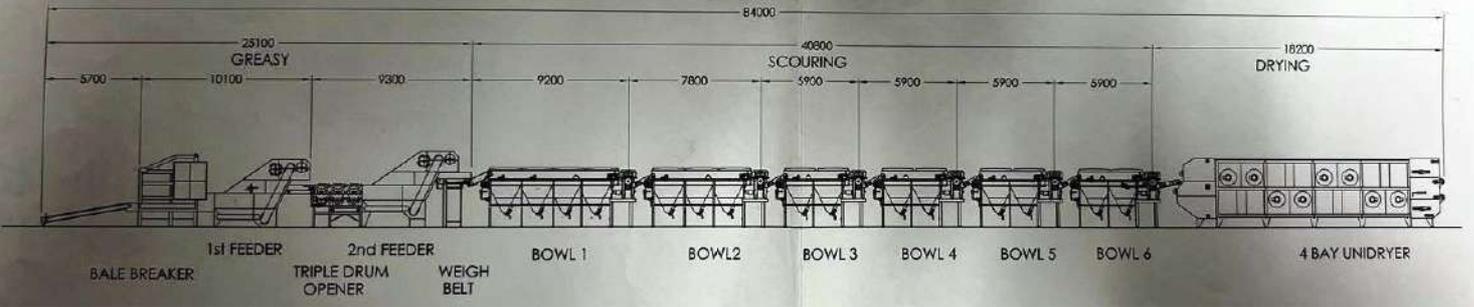
HH3-6

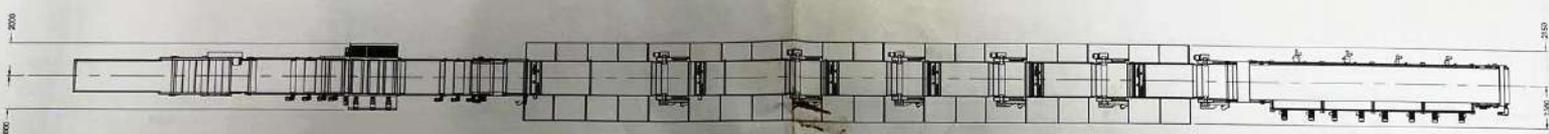


PLAN VIEW

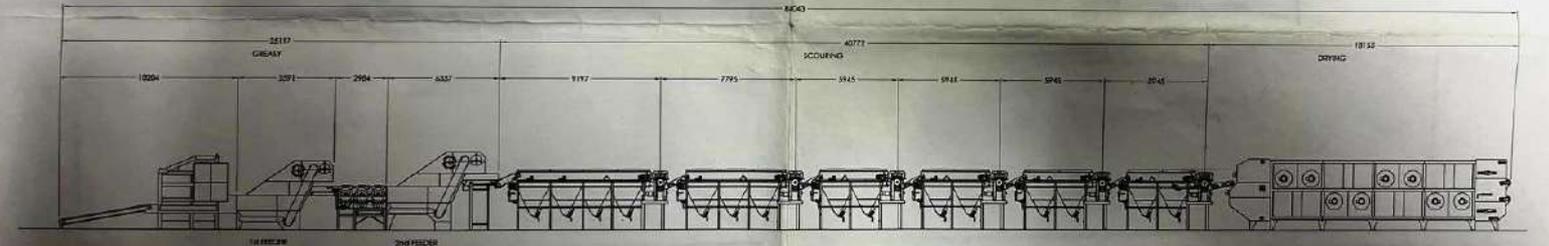


SIDE VIEW





TOP VIEW



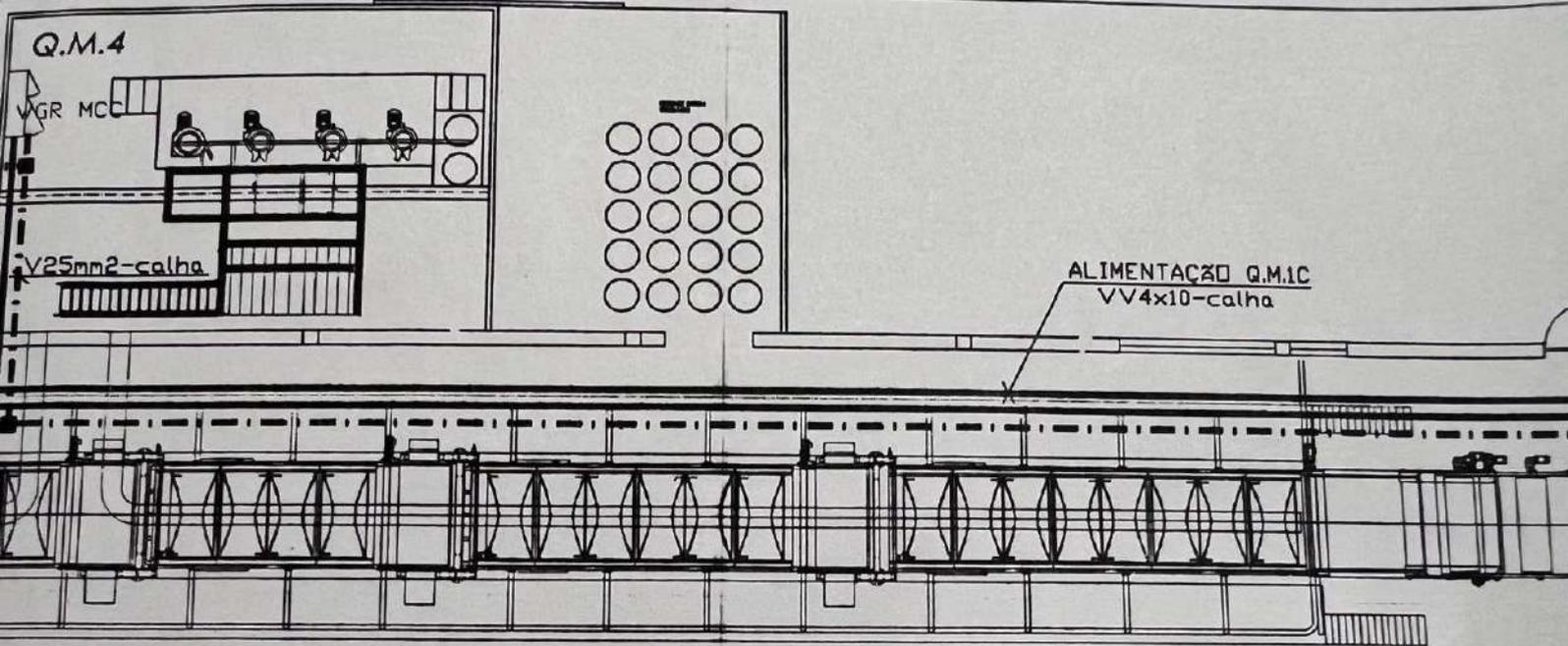
SIDE VIEW

SALE MEASURER    1st FEEDER    TRIPLE DRUM CRUSHER    2ND FEEDER    HIGH ROLL    BOWL 1    BOWL 2    BOWL 3    BOWL 4    BOWL 5    BOWL 6    4 ROLL UNDOPTER

22117 GREASY    40771 SCOURING    18132 DRYING

1504    3291    2904    4337    1187    7795    3845    3844    3845    3045    18132

WOOL GREASE RECOVERY



GEM

PLAN VIEW

MOL

