

# EXCEL VERTICAL STERILIZER



Palm Oil Mill Equipment Specialist

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## VERTICAL STERILIZER

MODEL	EXCEL VS2800	EXCEL VS3200
Diameter	2,800mm	3,200mm
Shell material	Boiler Plate SA. 516 Gr. 70, Mild Steel SS400 or Stainless Steel 304	
Shell thickness	12mm – 19mm	
Liner material	Boiler Plate SA. 516 Gr. 70, Mild Steel SS400 or Stainless Steel 304	
Liner thickness	6mm – 15mm	
Working pressure	310 – 350 kPa	
Working temperature	145 – 148 degree C	
Insulation rockwool	Rockwool 50mm – 75mm thick	
Insulation cladding	Aluminium or Stainless Steel	
Design approval	D.O.S.H. / Third Party	

For further information, please contact sales office, or:



**Excelmech Engineering Sdn. Bhd.** (Company No. 862039-X)

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# EXCEL FFB STERILIZER



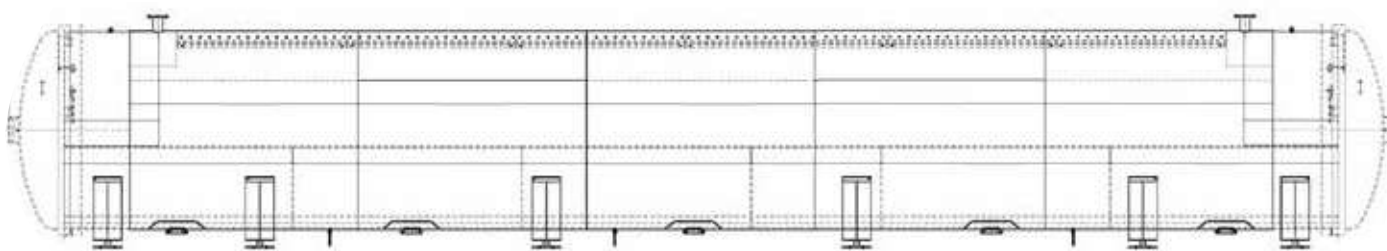
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## FFB STERILIZER



MODEL	EXCEL ST2100	EXCEL ST2700	EXCEL ST3200
Diameter	2,100mm	2,700mm	3,200mm
Shell Material	Boiler Plate SA.516 Gr. 70, Mild Steel SS400 or Stainless Steel 304		
Shell Thickness	12mm - 19mm		
Liner Material	Boiler Plate SA.516 Gr. 70, Mild Steel SS400 or Stainless Steel 304		
Liner Thickness	6mm - 15mm		
Working Pressure	310 - 350 kPa		
Working Temperature	145 - 148 degree C		
Insulation Rockwool	Rockwool 50mm - 75 mm thick		
Insulation Cladding	Aluminium or SS304 0.5mm - 1.0mm thick		
Design Approval	D.O.S.H. / Third Party		

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# EXCEL CLUTCH DOOR



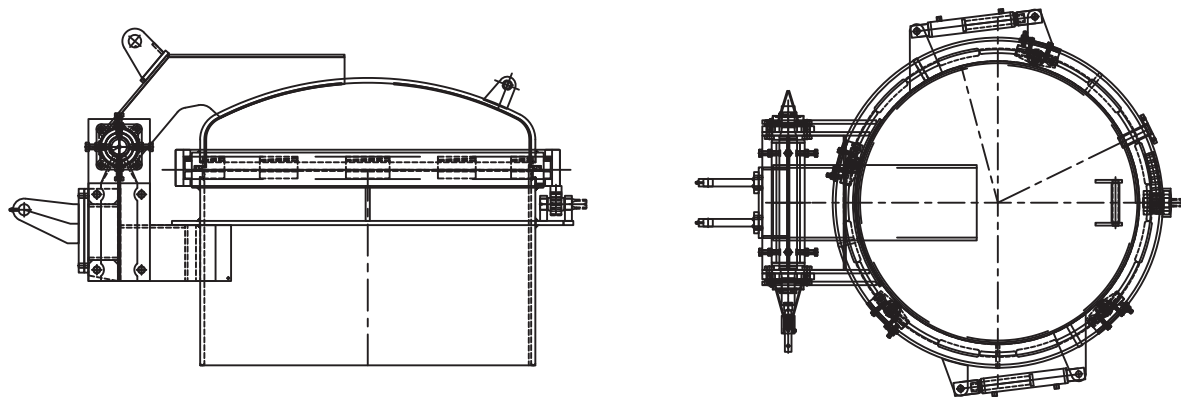
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## CLUTCH DOOR



### SPECIFICATION

<b>Model</b>	Excel 09, Excel 10, Excel 12, Excel 15, Excel 17 - Excel 32
<b>Diameter (mm)</b>	900, 1,000, 1,200, 1,500, 1,700, 2,100, 2,700, 3,200
<b>Type</b>	Rapid Opening or Closing Rotating Clutch Type
<b>Dished End Material</b>	Boiler Plate SA.516 Gr. 70 / Mild Steel / Stainless Steel
<b>Shell Plate / Neck</b>	Boiler Plate SA.516 Gr. 70 / Mild Steel / Stainless Steel
<b>Dished End Liner</b>	Stainless Steel 304 / Mild Steel
<b>Lock Ring</b>	Boiler Plate SA.516 Gr. 70
<b>Dished / Shell Flanges</b>	Boiler Plate SA.516 Gr. 70
<b>Design Pressure</b>	50 – 200 psig / 350 – 1,380 kPag
<b>Design Approval &amp; HT</b>	D.O.S.H Malaysia / Third Party Authority
<b>Radiography Test</b>	100% on Lock Ring, Dished End Flange and Shell Flange

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# EXCEL BACK PRESSURE STEAM RECEIVER



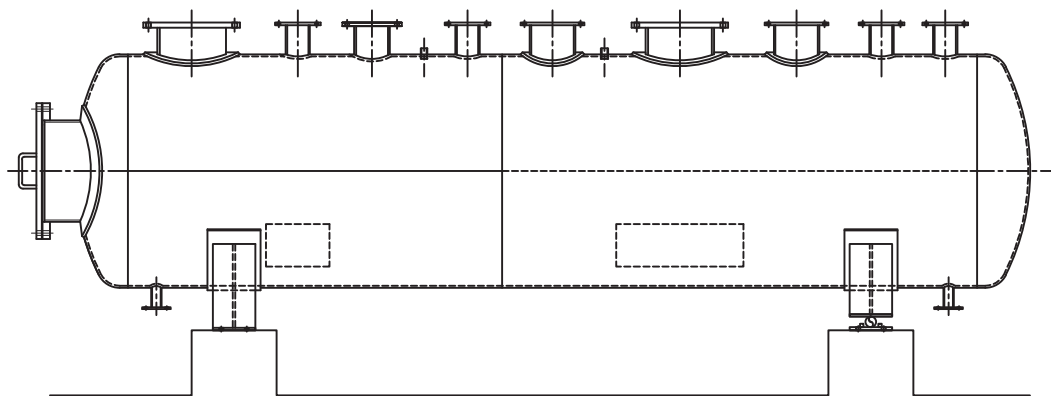
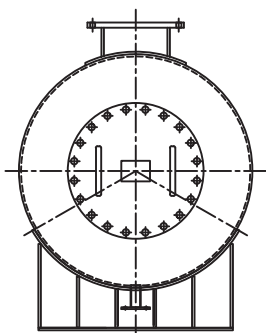
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## BACK PRESSURE STEAM RECEIVER



### SPECIFICATION

**Back Pressure Steam Receiver** is to receive exhaust steam from the Steam Turbine and distributing the steam for mill process and sterilisation.

- Designed and fabricated to ASME code for Unfired Pressure Vessel.
- Mild steel or Boiler Plate for shell and dished end.
- Working pressure: 350 kPa.
- All flanged nozzles to be provided with matching Flanges and bolt and nuts.
- All spare nozzles to be provided with Blind Flanges.
- Heat resistant aluminium painting for external surface.
- Insulated with Rockwool, Aluminium cladding or Stainless Steel cladding.
- Steam inlet flanges to be provided with buffer plates.
- Radiography test and third party certification and inspection when requested.
- Design drawing to be approved by D.O.S.H. Malaysia or third party authority.

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# EXCEL STEAM SEPARATOR



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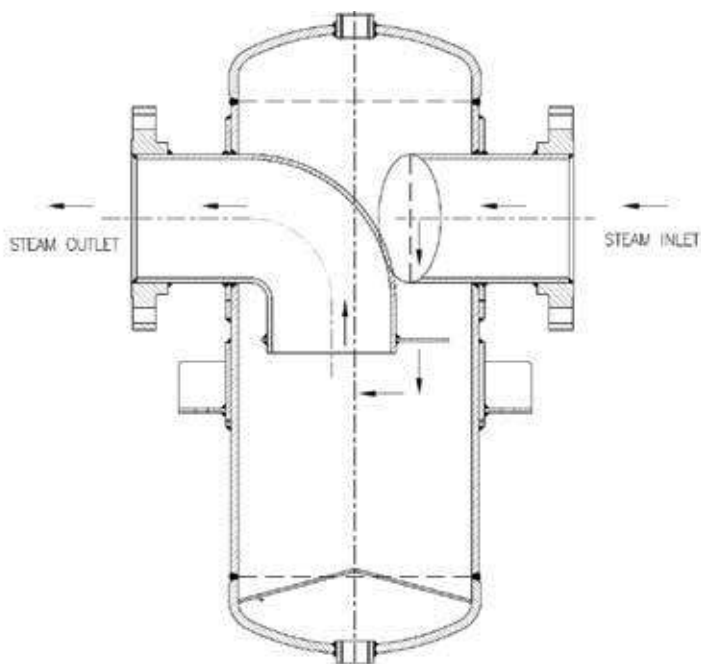


# STEAM SEPARATOR

## MAIN FEATURES

Steam Separator is used to separate water droplets for steam from Boiler to Turbine in Palm Oil Mill.

## SPECIFICATION



- Designed and fabricated to ASME Sect. VIII Div. 1
- DN150 to DN250 for inlet and outlet flanges.
- Boiler Plate SA.516 Gr.70 for shell and dished end.
- Working pressure: 20 to 42 Bar.
- All flanged nozzles to be provided with matching flanges, bolt and nuts.
- Design approval by D.O.S.H. / third party.

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# EXCEL STEAM HEADER



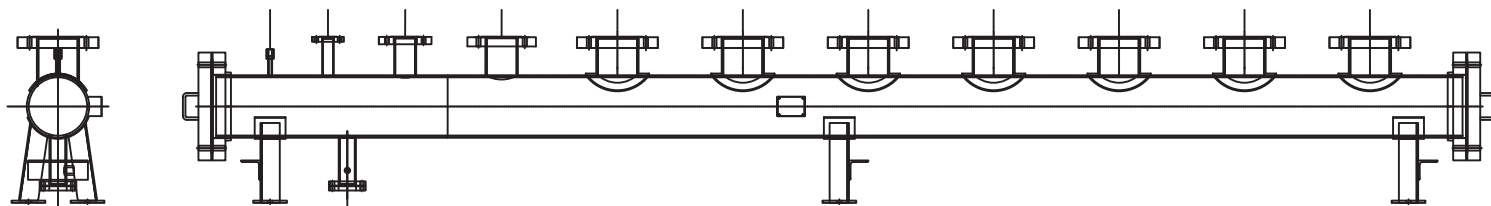
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## STEAM HEADER



### SPECIFICATION

**Steam Header** is used to receive incoming steam from source and distribute the steam efficiently to other area.

- Designed and fabricated to ASME Code for Unfired Pressure Vessel.
- ASTM A/SA 106 Gr.B Pipe Schedule 40 / 80 as shell.
- Flange ANSI 150/300/600 or BS EN 1092 PN 16/40 as Head.
- Working Pressure ranging from 0 bar to 40 bar.
- All flanged nozzles to be provided with matching flanges, bolts and nuts.
- All spare nozzles to be provided with Blind Flanges.
- Heat resistant aluminium painting for external surface.
- Radiography test and third part certification and inspection when requested.
- Design drawing to be approved by D.O.S.H Malaysia third party authority.

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# EXCEL SCREW PRESS



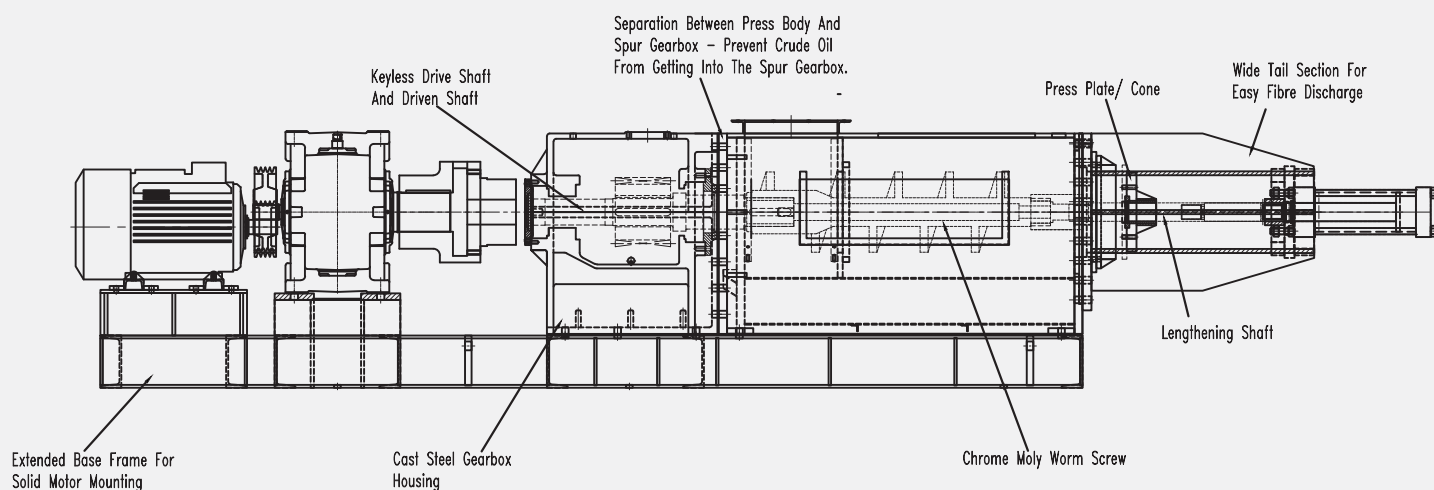
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## SCREW PRESS



MODEL	EXCEL P15	EXCEL P20	EXCEL P25
Type	Double Worm Screw		
Capacity	15-17 tons FFB/hr	20-22 tons FFB/hr	25-27 tons FFB/hr
Motor	30kW (40hp)	45kW (60hp)	45kW (60hp)
Gearbox	Helical Gearbox		
Running Amp	35-50	50-70	50-70
Average Oil Loss (Dry Basis)	6-8%		
Average Nut Breakage	8-11%		
Pressing Plate / Cone Pressure	40-60 bar	50-70 bar	50-70 bar

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# EXCEL FRUIT DIGESTER



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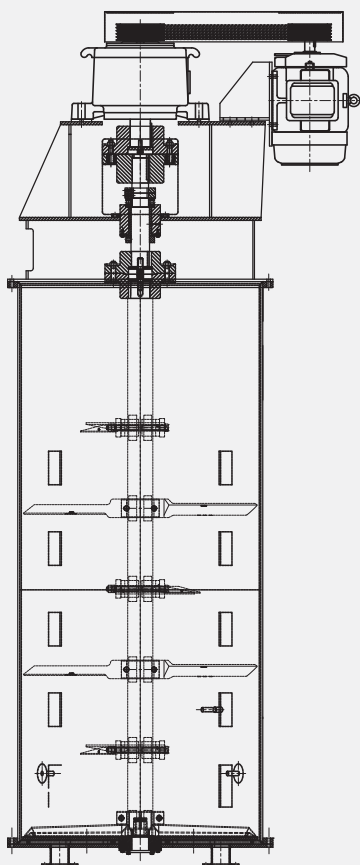




## FRUIT DIGESTER

**Fruit Digester** come with intermediate shaft for long operational life of parts, easy alignment and easy maintenance.

1. Capacity: 3,500 litres to 6,500 litres.
2. Perforated stainless steel bottom plate
3. Intermediate connecting shaft for easy installation and maintenance.
4. Thrust bearing provided on intermediate shaft and square shaft.



### SHELL & DRIVE



#### DRIVE

- Electric Motor 30hp to 60hp
- Fluid Coupling
- Speed Reducer: SEW, Flender, Hansen, Elecon.

#### CONNECTING SHAFT

- Flexible Top Coupling.
- Ball Thrust Bearing 51320.
- Intermediate connecting shaft .
- 110mm to 130mm ASSAB 705/709 material.
- Fixed bottom coupling.

#### DIGESTER SHELL

- 114 SQ. or 125 SQ. M.S./ASSAB 705 Shaft c/w SS304 lining.
- 4 pairs or 5 pairs beater arms
- 1 pair bottom expeller arms

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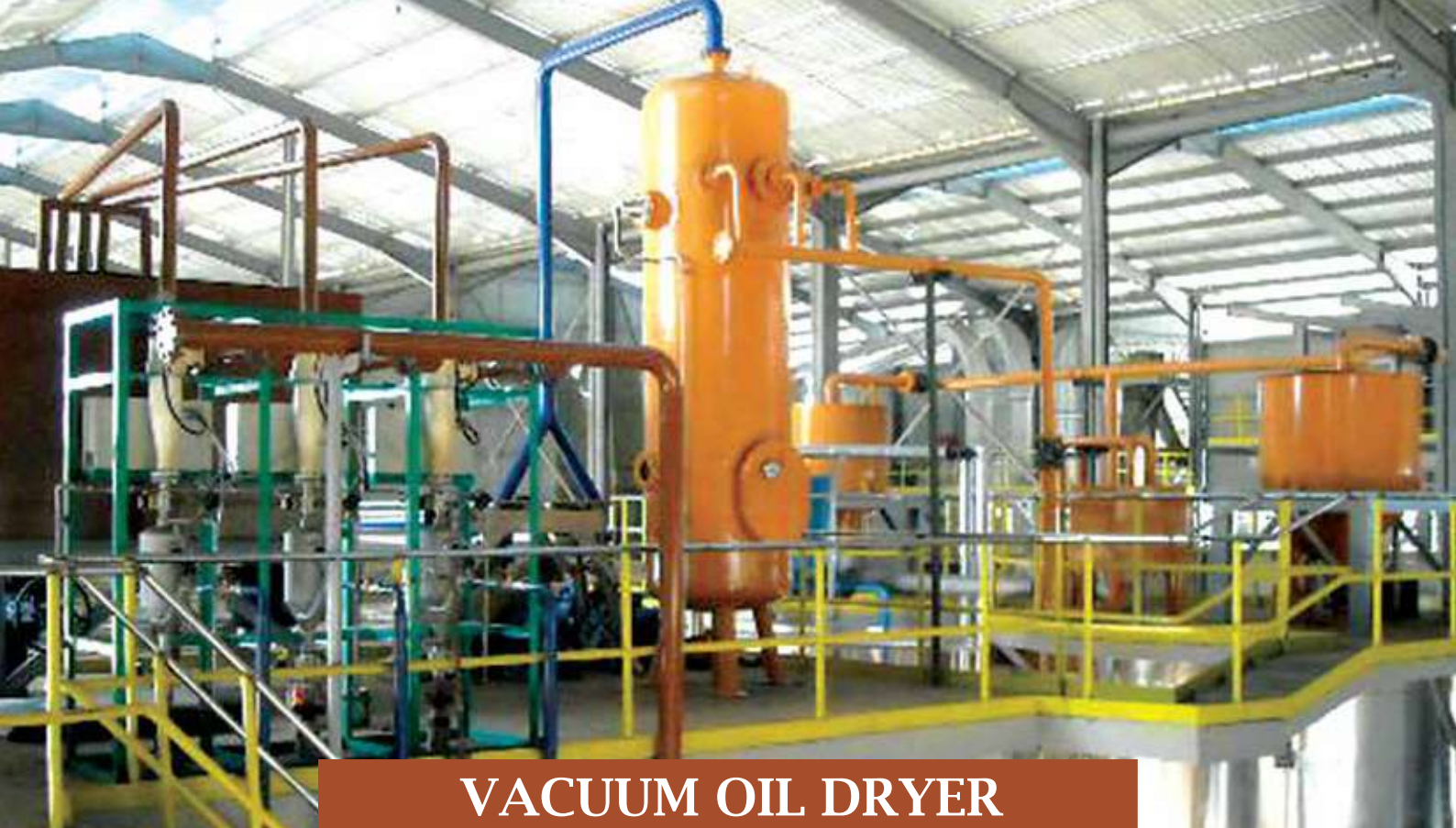
# EXCEL VACUUM OIL DRYER



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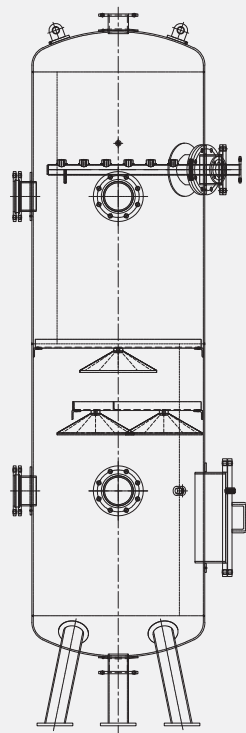
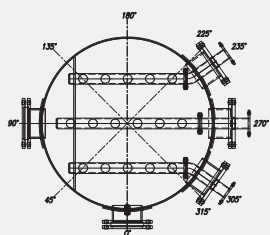


## VACUUM OIL DRYER

**Vacuum Dryers** are used for the drying of palm oil under vacuum before sending it to the CPO storage tank.

### MAIN FEATURES

- Capacity range from 5-25 tons/hr.
- Reduce moisture content in dried oil to 0.08%.
- Operation under vacuum at 760mm HG.
- Vessel designed to ASME code Sect. VIII Div.1.
- Material of mild steel and stainless steel or fully stainless steel.



### APPLICATIONS (CLARIFICATION STATION)

- The oil to be dried is pumped at a temperature of at least 90°C, to a float tank. From there it is sucked into the Vacuum Dryer via nozzles.
- The oil will leave the nozzles in the form of a spray.
- Any moisture contained in the oil is vaporized and removed from the Vacuum Dryer by the vacuum generating equipment.
- The dried oil collected at the bottom of the Vacuum Dryer is removed by a pump.
- The dried oil pump is prevented from running dry by a float valve fitted inside the Vacuum Dryer or using Mobrey switch.
- The float valve controls the oil level in the re-circulated from the pressure side of the dried oil pump.
- Air is prevented from entering the Vacuum Dryer by a float controlled valve in the feed tank.

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# EXCEL PIG LAUNCHER

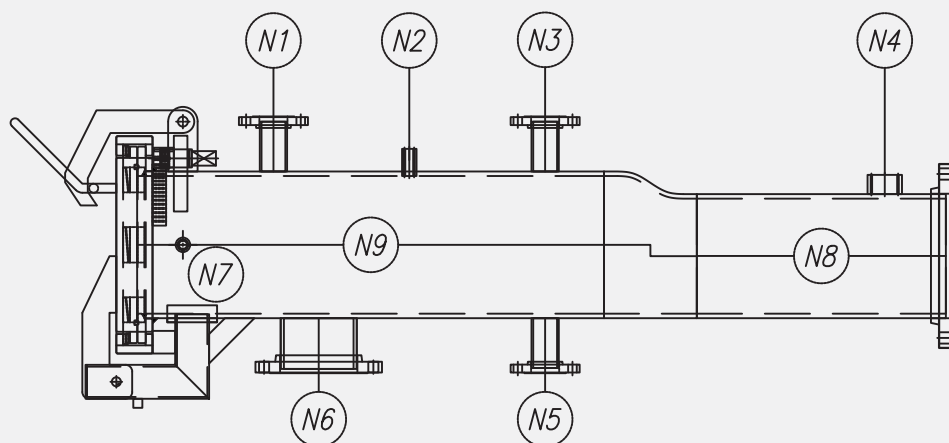


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## PIG LAUNCHER



### ACCESSORIES

1. Pig Signaller
2. Cleaning Pig
3. Separation Pig
4. Foam Pig

### SPECIFICATION

Design Code : ASME SECT. VIII DIV 1  
 Working Pressure : 1,000 - 2,000 kPa  
 Design Pressure : 1,000 - 2,000 kPa  
 HT Pressure : 1,300 - 2,600 kPa  
 Medium of Service : Oil

NO.	SIZE	FUNCTION
N1	50	Air Inlet
N2	15	Pressure Gauge
N3	50	Air Vent
N4	50	Pig Signaller
N5	50	Drain
N6	150	Bypass
N7	15	Relieve valve
N8	250/200	Pipe outlet
N9	300/250	Pipe inlet

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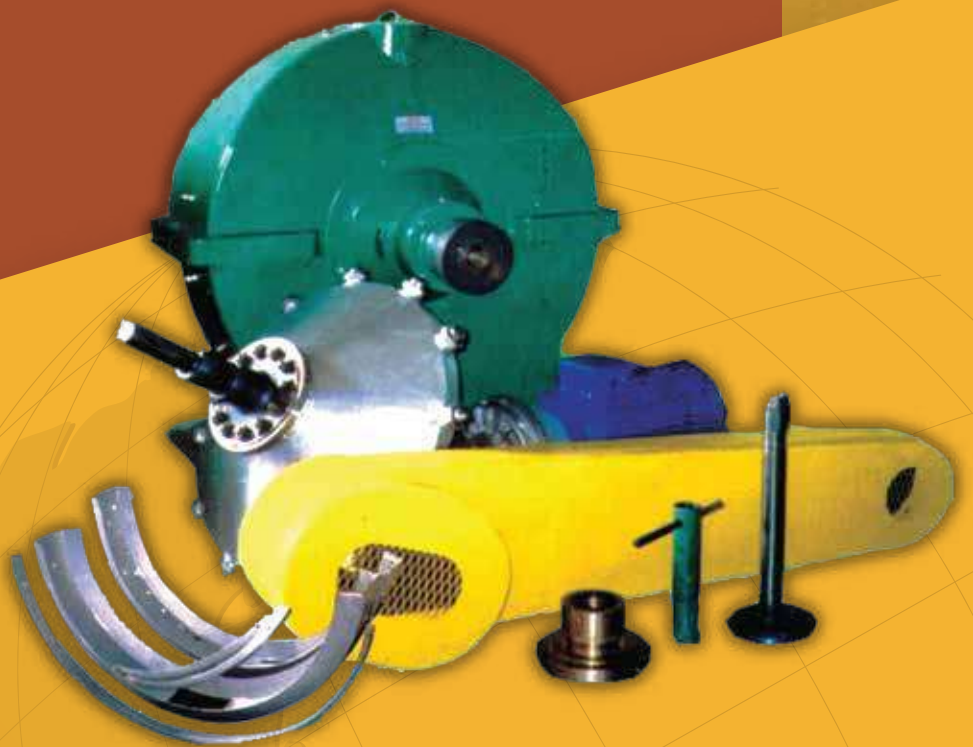
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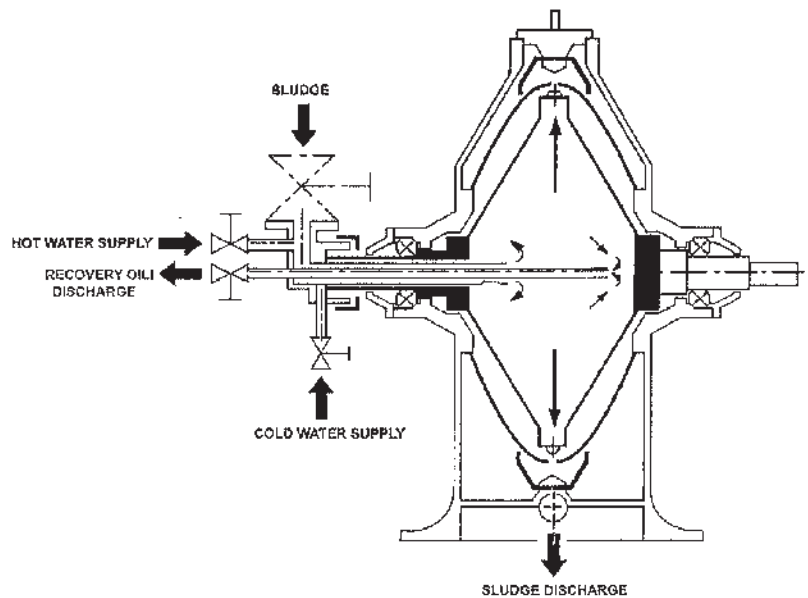


# SLUDGE SEPARATOR



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## SLUDGE SEPARATOR

### INTRODUCTION

Sludge Centrifuge come with robust design to maximize the process to recover the palm oil present in the sludge water from oil clarification station. This sludge centrifuge physical size is small but the operating capacity is higher. This sludge centrifuge are Dish Bowl type with 12 nozzles. The rotation speed is maintain at 1500 r.p.m with capability of achieving higher capacity of 8000 litres per hour of sludge while maintaining normal oil loss.

### ADVANTAGES

- Increase productivity and efficiency of oil recovery.
- Higher capacity in term of power to space and weight ratio.
- Easy to operate.
- Balancing of the dish bowl by specialist is not required.
- Less vibration and maintenance cost.
- Better shearing effect on sludge resulting in reduction of sludge viscosity.

### SPECIFICATION

Capacity	8000 Litre/Hour
No. of Nozzles	12
Motor	15kW (3 Phase) x 4 Pole F/t Mounted
Fluid Coupling	11 KSD
Rotor Speed	1500 rpm
Transmission	V Belt and Pulley
Bearing	SKF
Rotor Material	6mm Stainless Steel 304L
Nozzle	Tungsten Carbide
Casing/Housing	Cast Iron
Media Parts	Stainless Steel 304L

The **advantage** using dish bowl is that it doesn't required specialist or special equipment to balance it compare to star bowl. Mill personnel can easily calibrate or balanced it without any issue.

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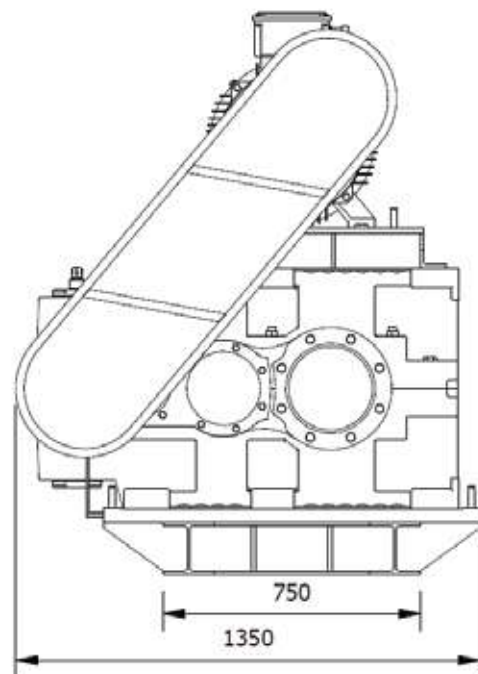
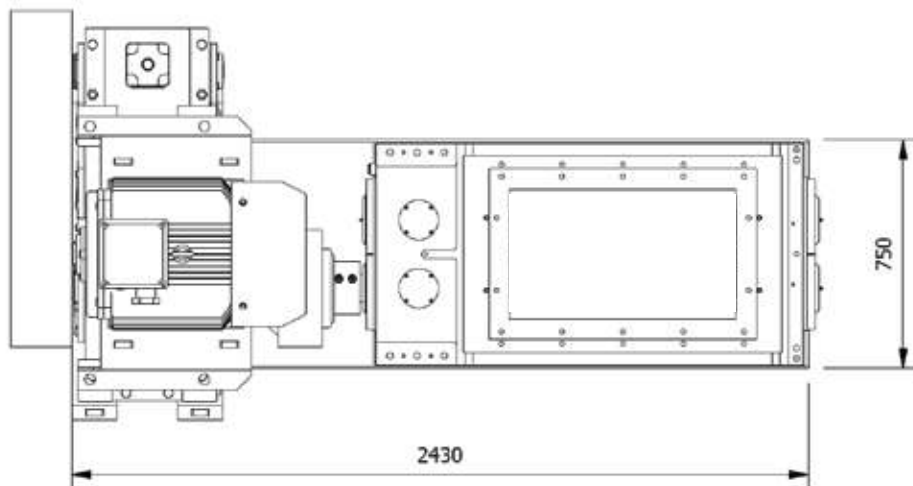


# EXCEL EFB SHREDDER

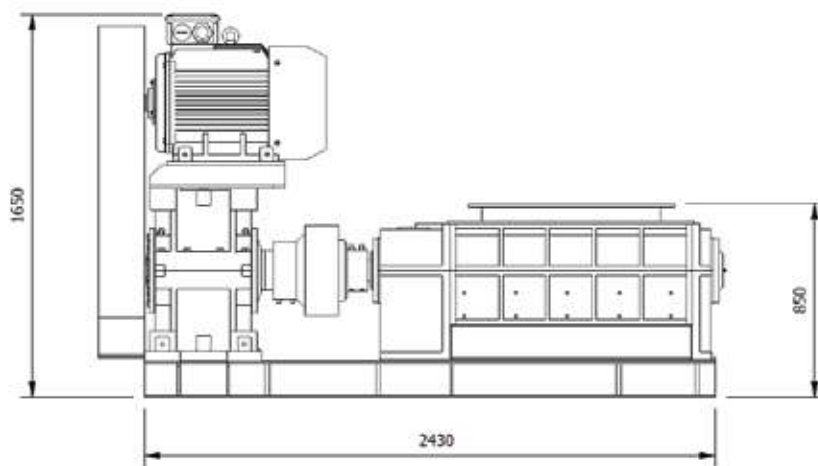


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## EFB SHREDDER



### EXCEL EFB SHREDDER

Model	EXCEL EFB SHREDDER 8
Type	Twin Knives
Capacity	7 – 8 Tons EFB/hr
Main Frame	Cast Steel
Base Frame	Mild Steel
EFB Cutter	Hardened Steel Cutter
Shaft	ASSAB 705
Bearing	SKF / FAG
Gearbox	SEW / Sumitomo Paramax
Motor	75 hp x 1,480 rpm
Final Speed	45 rpm
Empty Bunch Fibre Length	50 mm – 125 mm

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# EXCEL EFB PRESS



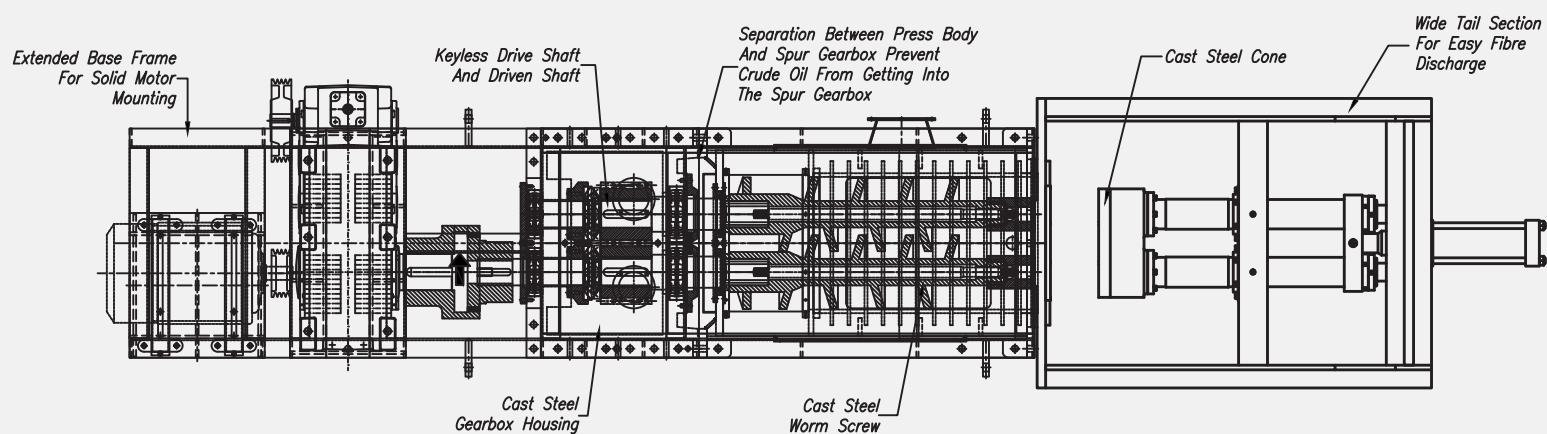
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## EFB PRESS



### EXCEL EFB PRESS

Model	EXCEL EFB PRESS 8
Type	Twin Screw
Capacity	7 – 8 Tons EFB/hr
Moisture in EFB	45 – 50 %
Main Frame	Mild Steel & Cast Iron
Base Frame	Mild Steel
EFB Press Screw	Manganese steel screw with hard facing
EFB Press Cage	Mild steel c/w reinforcement rings
Shaft	ASSAB 705
Bearing	SKF / FAG / NTN
Gearbox	SEW / Sumitomo Paramax / Benzler
Motor	60 HP x 1,450 rpm
Final Speed	24 rpm
Oil Extraction Rate	0.1 – 0.2 % FFB

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# EXCEL BUCKET STRAINER



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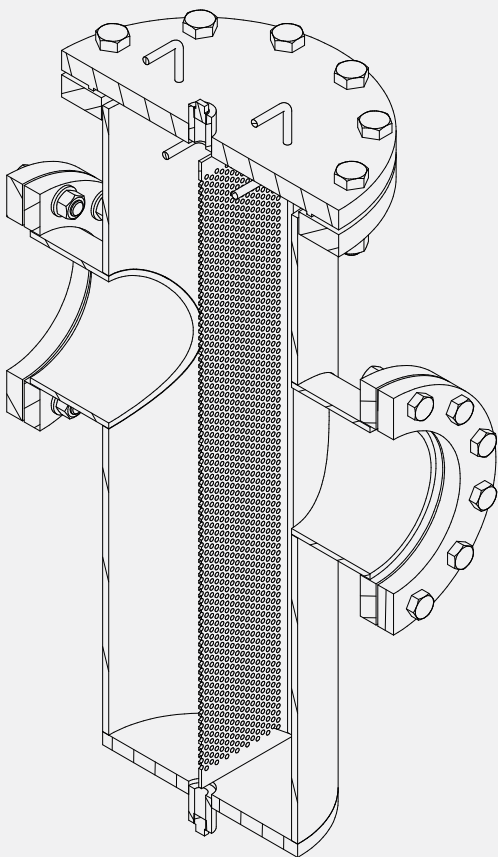
# BUCKET STRAINER

## MAIN FEATURES

Bucket Strainer is used as a closed vessel with cleanable or removable strainer or mesh screen for removing foreign particles in a horizontal pipeline.



## SPECIFICATION



Dimension (Body x Nozzle)	8" x 4" / 10" x 6" / 12" x 8"
Body & Nozzle Material	Carbon Steel / Stainless Steel
Flange Type	Any
Strainer	SS304 c/w Ø3mm Perforated Holes
Design Pressure	10 barg / 145 psig
Design Temperature	90 °C
Design Code	ASME SECT. VIII DIV. 1 2019
Medium	Oil / Water

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# EXCEL FFB CRUSHER



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## FFB CRUSHER

### INTRODUCTION

FFB Crusher is used to crush the FFB hard bunches to ease steam penetration during the sterilization process.

It is proven to decrease the percentage of uncooked bunches and helps to increase the efficiency of sterilization process.

### SPECIFICATIONS

MODEL	EXCEL FFB CRUSHER
TYPE	SINGLE DRIVE
CAPACITY	45 / 60 TONS FFB/HR
MOTOR	37 / 45 KW
GEARBOX	SEW MC3PLSF04
FINAL SPEED	23 RPM & 15 RPM
BEARING	UCF BEARING, UCFCX20D1
TRANSMISSION	PULLEY AND BELT
MAIN FRAME	MILD STEEL
BASE FRAME	MILD STEEL



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# EXCEL EFB CRUSHER



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## EFB CRUSHER

### INTRODUCTION

EFB Crusher is used to crush the unstripped hard bunches to loosen the bunches thus ease the separation of the fruits from the bunches during the threshing process.

### SPECIFICATIONS

MODEL	EXCEL EFB CRUSHER 45T
TYPE	SINGLE DRIVE
CAPACITY	9 TONS EFB/HR
MOTOR	15 kW
GEARBOX	PREMIUM WORM GEARBOX U800
FINAL SPEED	35 RPM & 25 RPM
TRANSMISSION	PULLEY AND V-BELT
MAIN FRAME	MILD STEEL
BASE FRAME	MILD STEEL

MODEL	EXCEL EFB CRUSHER 60T
TYPE	SINGLE DRIVE
CAPACITY	12 TONS EFB/HR
MOTOR	22 kW
GEARBOX	SEW HELICAL GEAR UNIT, R147 AD6
FINAL SPEED	37 RPM & 25 RPM
TRANSMISSION	PULLEY AND V-BELT
MAIN FRAME	MILD STEEL
BASE FRAME	MILD STEEL



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# EXCEL THRESHER



*Palm Oil Mill Equipment Specialist*

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## THRESHER



### INTRODUCTION

To detach the fruitlets from the sterilized fruit bunch.

### CONSTRUCTION

- 4 columns are provided with MS channel ties.
- Side panel plate using MS plate with openable service door and chute.
- Top operating platform using MS chequer plate, support beam and handrails.
- Shafted Rotating drum are support with 2 units of heavy duty bearings at both ends of the shaft.
- Shaftless rotating drums are support with 4 sets of cast steel roller c/w stopper.
- Drums are using MS plate cut into rings/spider arm (shafted) c/w longitudinal MS flat bar. Lifter provided inside drum to lift up bunches.



### DESCRIPTION

- |        |   |
|--------|---|
| Size   | : 10 tons, 20 tons, 30 tons, 45 tons, 60 tons   |
| Drive  | : Gear head powered by motor with belt and pulley.<br>Final operating drum speed of 22-25 rpm |
| Others | : Double drum threshing machine can be provided   |

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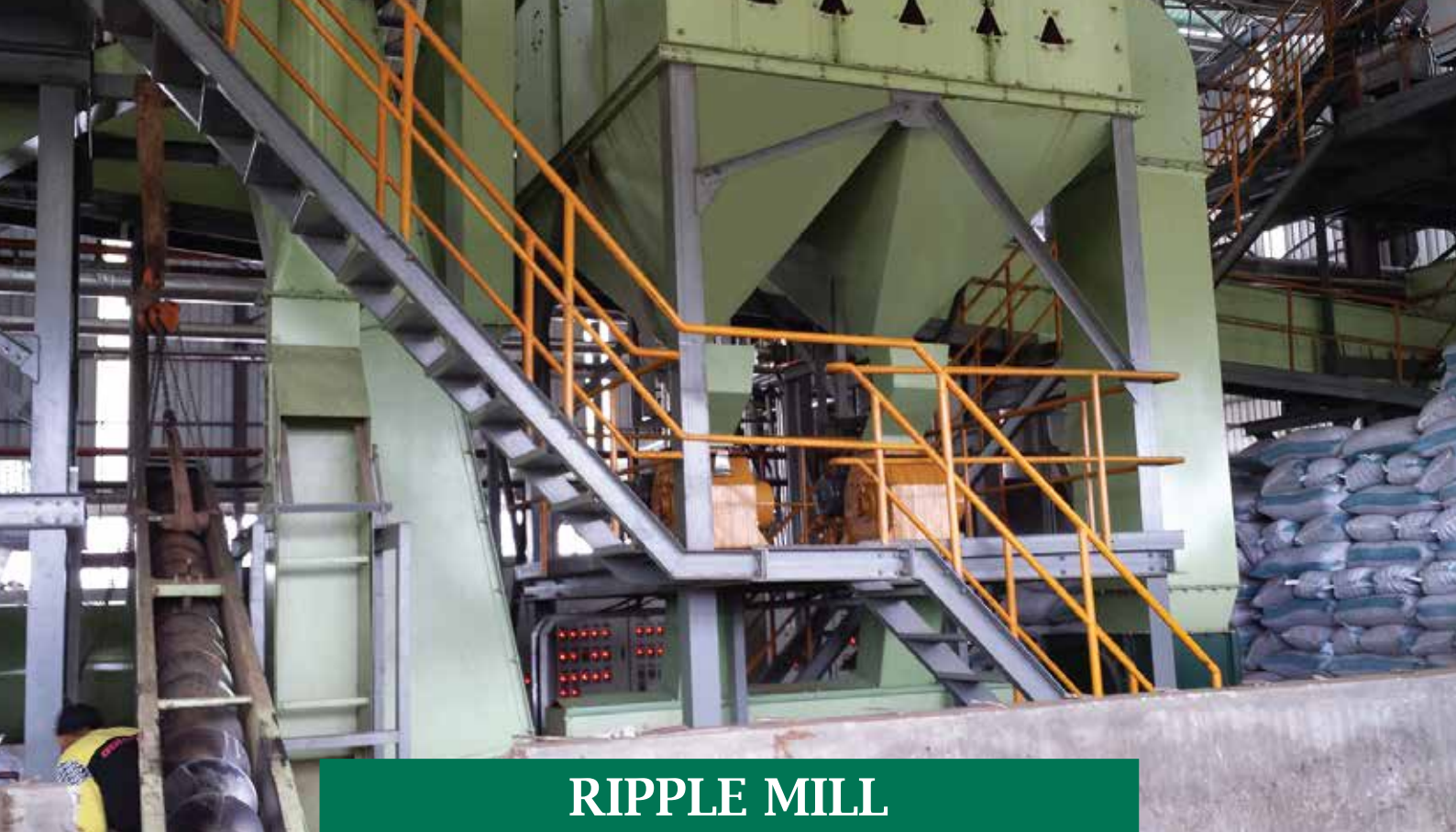
# EXCEL RIPPLE MILL



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## RIPPLE MILL

### INTRODUCTION

Ripple Mill has been used for nut cracking in kernel recovery station in palm oil mills for many years. Many palm oil mills using ripple mills has achieved high cracking efficiencies with acceptable broken kernel, minimum maintenance and low maintenance cost. The capacity is 8 Metric Ton.

### ADVANTAGES

- High cracking efficiency
- Easy operation and minimum maintenance is required
- Space saving compact design
- Easy installation

### ITEM

Rotor Shaft  
Ripple Rod  
Rotor Ring Plate  
Bearing  
Footing Frame  
Motor

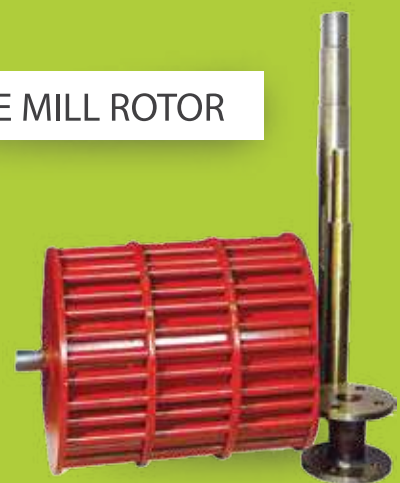
### MATERIAL

: S45C c/w Bearing SNH513  
: Polished Shaft c/w Sch 40 pipe  
: Mild Steel  
: Plummer Block Bearing  
: Mild Steel Channel Housing Shell  
: 20 HP x (380 – 440) V x (1,450 / 1,740) rpm,  
(50 / 60) Hz  
: Pulley with SPB V-belt 3 pcs c/w belt guard  
: Cracking Efficiency > 98%,  
Broken Kernel < 10%

### RIPPLE MILL



### RIPPLE MILL ROTOR



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# EXCEL HYDROCYCLONE



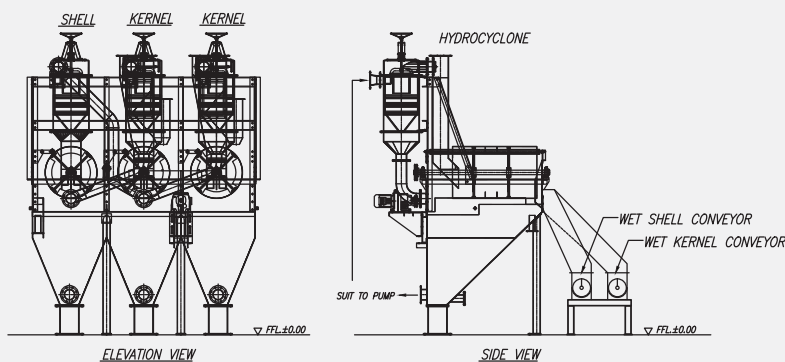
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# HYDROCYCLONE



## FUNCTION

To separate the shell and kernels from LTDS crack mixture by pumping water with velocity in cylinders, resulting to separation of kernel surface on top and shell goes under the cone. Vibrating Screens/Drums are used to dewater kernel/shells.

## CONSTRUCTION

Water Hopper made of MS or SS304 Cylinder made of MS material, lined with cast iron/chrome steel liner. Bottom cone are Ni-hard to be wear resistance. Dewatering drums/vibrating screen are made of SS304 with perforated holes screen. Pumps are provided with material SS shaft, impeller and casing.

## DESCRIPTION

Size	: Size of capacity can be ranged from 5 tons to 30 tons, depending on needs.
Drive	: Rotating drum/vibrating screen with 2.2kw motor @ 16rpm
Pumps	: 80m <sup>3</sup> -120m <sup>3</sup> /hr @ 10m head
Others	: Can be custom made to 2 stages or 3 stages

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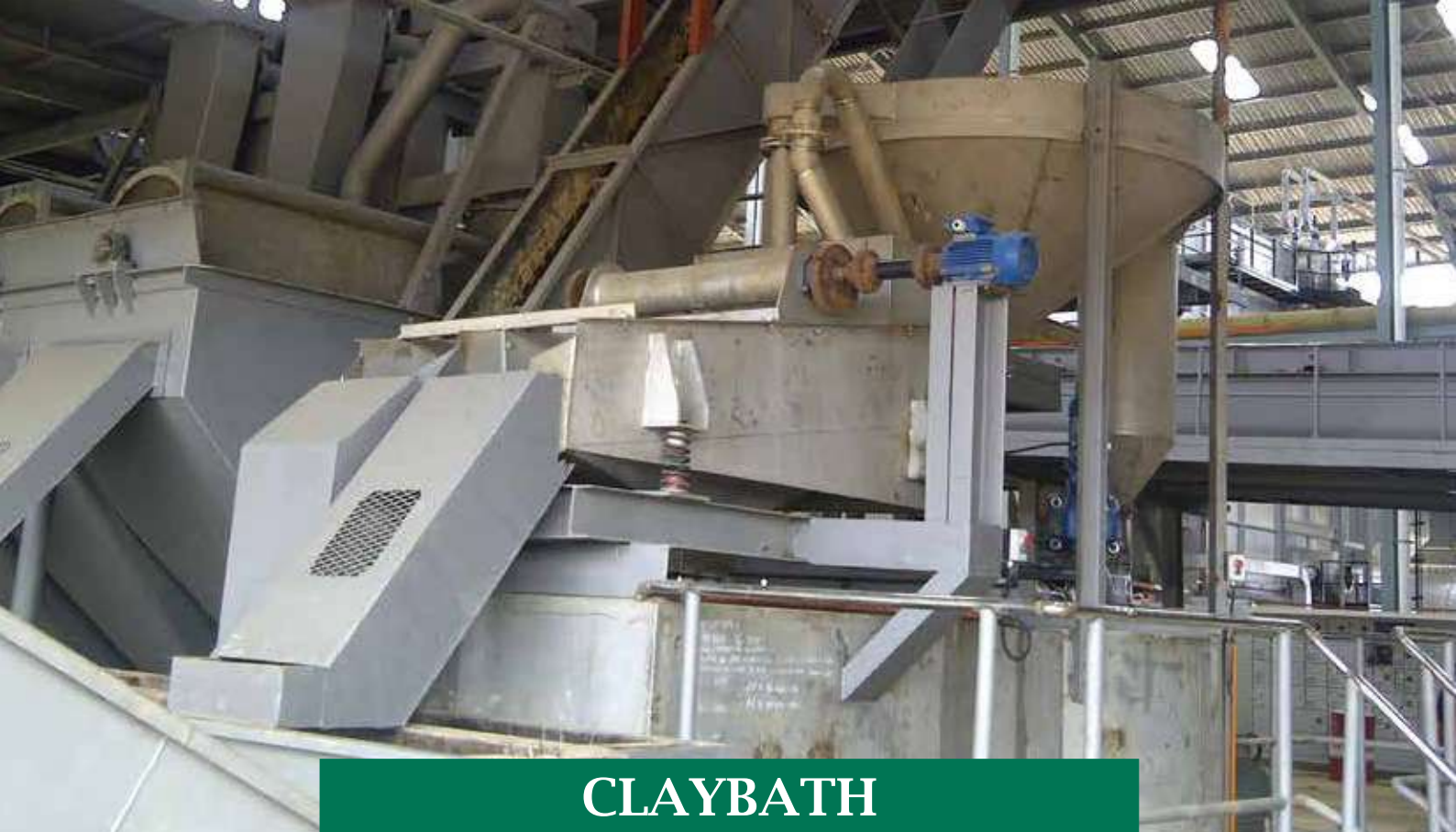
# EXCEL CLAYBATH



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## CLAYBATH

### FUNCTION

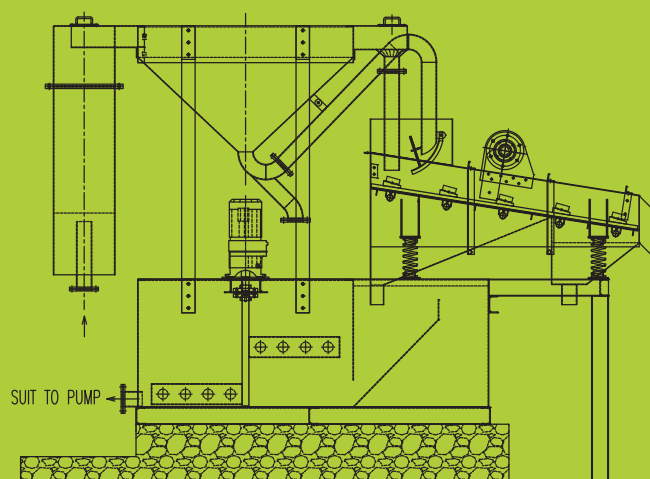
To recover fine and broken kernels from LTDS crack mixture or from the Hydro-cyclone Clay Solution is used to maintain a relative density of Kernel/shell to 1.12. By pumping the clayed crack mixture into the expansion chamber and conical chambers, the circulating force will result to heavier shell being separated from Kernel hydraulically. Separated shell and kernel are dewatered with vibrating screens.

### CONSTRUCTION

Mixing Tank, Expansion Chamber and Conical Chamber can be made of Mild steel or Stainless Steel. Dewatering Vibrating Screen is made of SS304 with perforated holes screen. Pumps are provided with material SS shaft, impeller and casing.

### DESCRIPTION

Size	: 20 tons, 30 tons, 45 tons FFB TPH
Drive	: Double Vibratory Motor with 0.5kw to 1.5kw for Vibrating Screen Vertical stirrer with 20rpm driven by 1.5kw gearmotor
Pumps	: 30m <sup>3</sup> /hr @ 5m head
Others	: Gauged and fittings, maintenance Platform, staircase and support



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# EXCEL FFB CAGE TRANSFER CARRIAGE



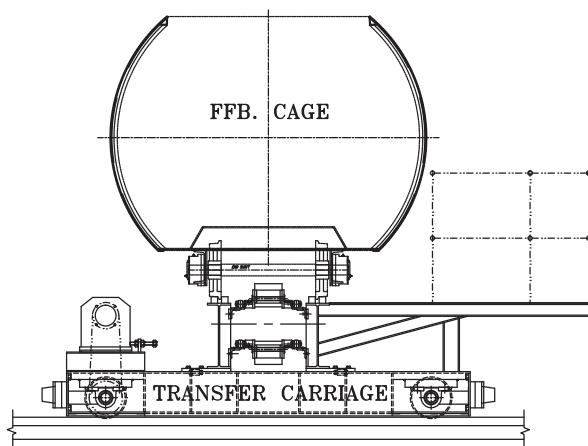
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## FFB CAGE TRANSFER CARRIAGE



### FUNCTION

FFB cage transporter to transfer cage from one rail tracks to another.

### CONSTRUCTION

- The transporter sits in a pit c/w rail lines.
- Main frame of MS plate, U beam, channel and angle c/w operating platform.
- The car is driven by hydraulic motor.
- FFB cage charge and discharge can be operated with conveyor chain system or indexing system.
- Position locking system is provided during FFB cage charge and discharge.

### DESCRIPTION

- |        |   |
|--------|---|
| Size   | : Size of capacity can be ranged from 5 tons to 30 tons, depending on needs.          |
| Drive  | : Operated with hydraulic motor to control the car movement as well as cage movement. |
| Others | : Easy installation and low maintenance and high safety. Can be automated easily.     |

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# EXCEL MOVING FLOOR



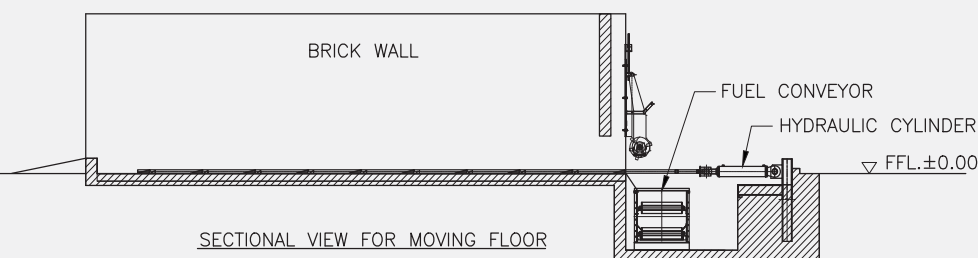
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## MOVING FLOOR



### FUNCTION

Provides sufficient storage of biomass fuel like EFB fibre, Palm fibre, Palm shell, wood chips etc. Regulate constant feed of fuel to boiler to maintain boiler pressure without interruption from the inconsistent of fuel from the process.

### CONSTRUCTION

- Moving Frame MS Solid Square bar c/w long wedge.
- Cast in situ base frame MS channel c/w stator wedge.
- Moving frame is operated by hydraulic cylinders c/w power pack. Fuel leveler to control the fuel drop into the conveyor system.

### DESCRIPTION

- |        |   |
|--------|---|
| Size   | : Size of capacity can be ranged from 10 tons to 30 tons, depending on needs.   |
| Drive  | : Operated with hydraulic system c/w independent cylinder, hydraulic pump and accessories. Direct gearmotor to run the fuel leveler.                                    |
| Others | : Easy installation and low maintenance and high safety. Complete fuel management system allows recycling of excess feed to boiler back into the moving storage hopper. |

For further information, please contact sales office, or:



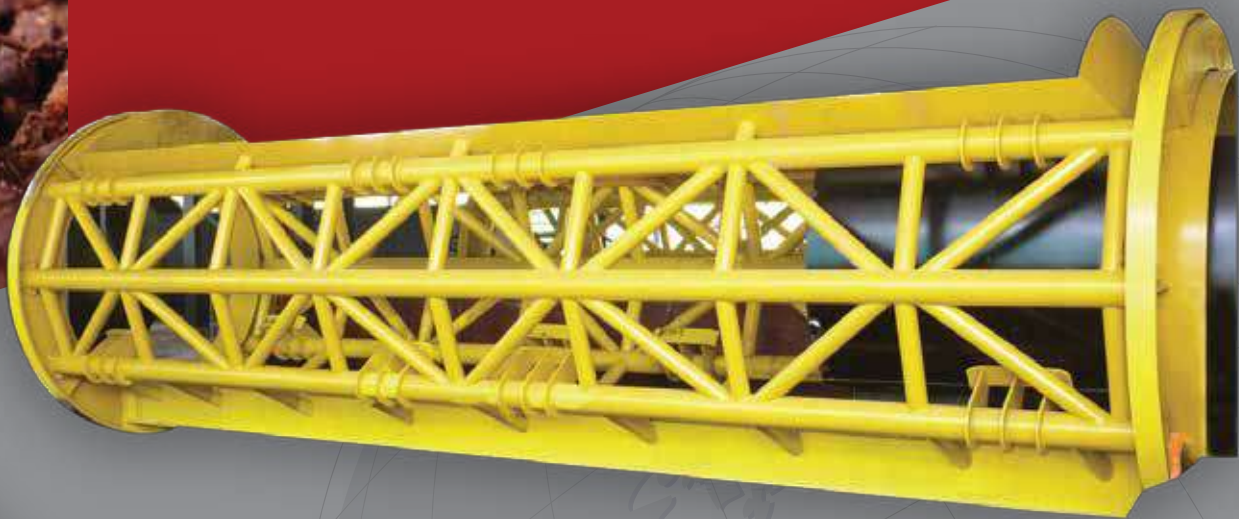
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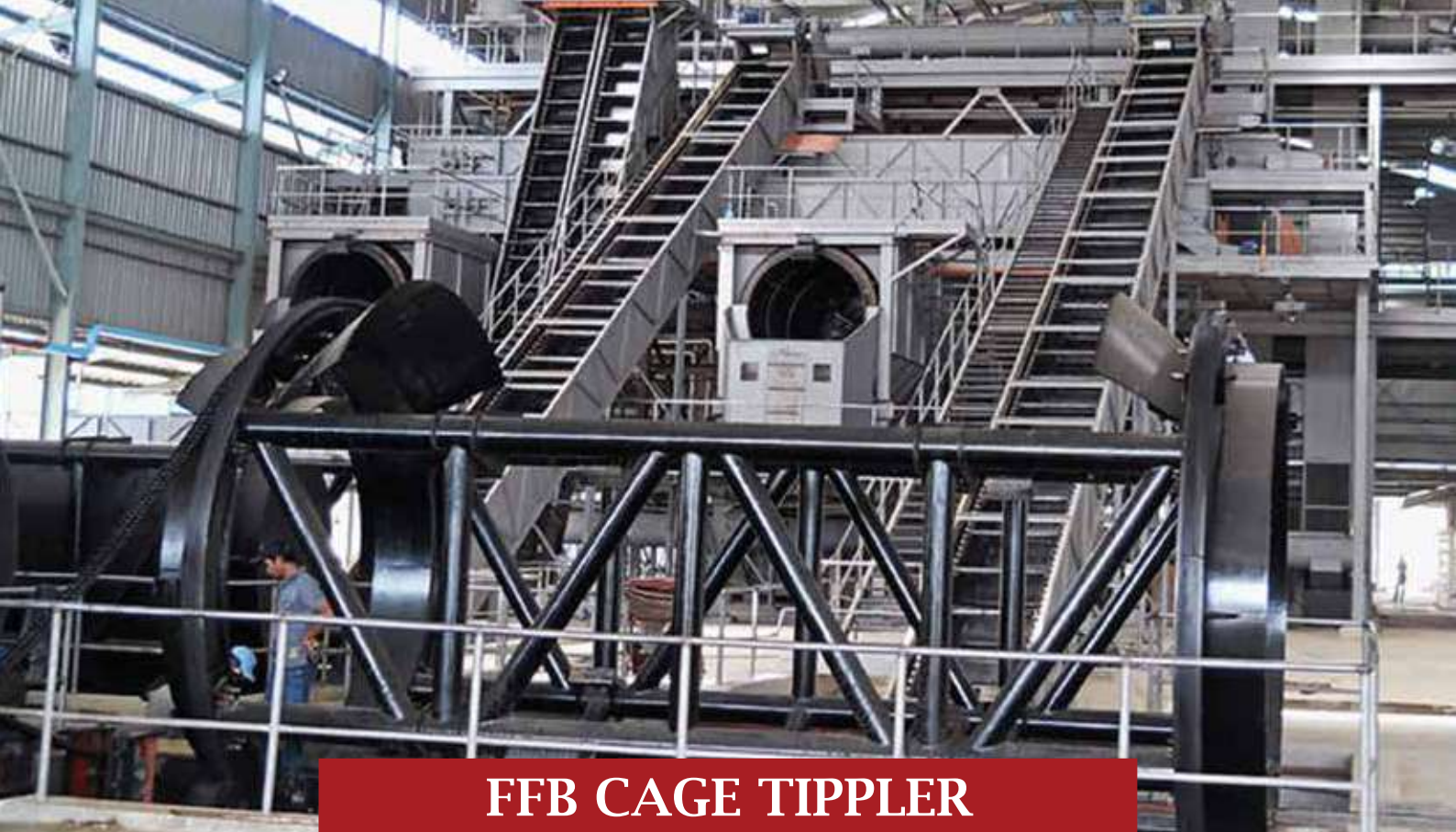
# EXCEL FFB CAGE TIPPLER



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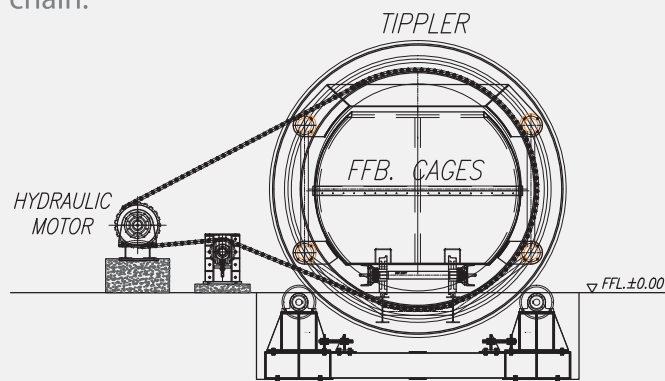
## FFB CAGE TIPLER

### FUNCTION

Holding Frame to rotate FFB cage to allow SFB to be discharged into bottom hopper. Act as a buffer to control the volume of SFB discharged into bottom hopper.

### CONSTRUCTION

2 pieces of rotating Ring made of MS plate c/w machined Square bar ring. The rotating rings are connected with truss MS pipes and I beam. Bottom rail MS I beam, rail bar and chequer plate. Rotation is facilitated with counter weight 4 sets of Cast steel roller c/w stopper roller and base frame for tippler to sit on. The whole drum is connected to hydraulic motor with roller chain.



### DESCRIPTION

- Size : Size of capacity can be ranged from 5 tons to 30 tons, depending on needs.
- Drive : Operated with hydraulic motor to control the rotation of tippler. Bottom hopper discharge controlled with hydraulic cylinder to regulate the feed into sterilizer fruit bunch conveyor.
- Others : Easy installation and low maintenance and high safety. Ensure steady feed of SFB into conveyor.



For further information, please contact sales office, or:



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# EXCEL PRESSURE SAND FILTER



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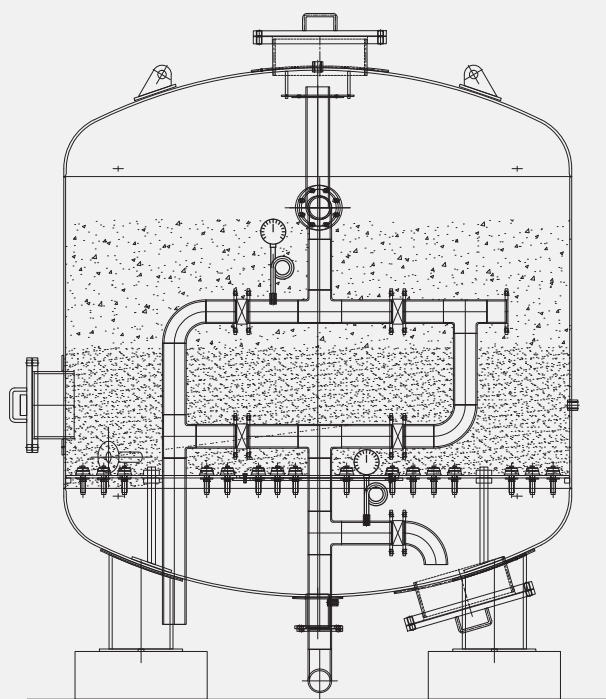


## PRESSURE SAND FILTER

### MAIN FEATURES

**Pressure Sand filters** are used for water purification at water treatment plant in Palm Oil Mill and also for others industry.

### SPECIFICATION



- Designed and fabricated to ASME code for Unfired Pressure Vessel.
- Mild Steel or Stainless Steel for shell and dished end.
- Complete with frontal piping and butterfly valves, filter nozzles, multi media sand and gravel.
- Internal surface to be sand blasted to SA2 ½ and painted with 2 coats Epoxy food grade paint.
- Working pressure: 350 kPa to 500 kPa.
- All flanged nozzles to be provided with matching flanges and bolt and nuts.
- Design drawing to be approved by D.O.S.H. Malaysia.
- Well design bottom distribution system c/w quality PP nozzles ensures uniform distribution flow of water through.

For further information, please contact sales office, or:



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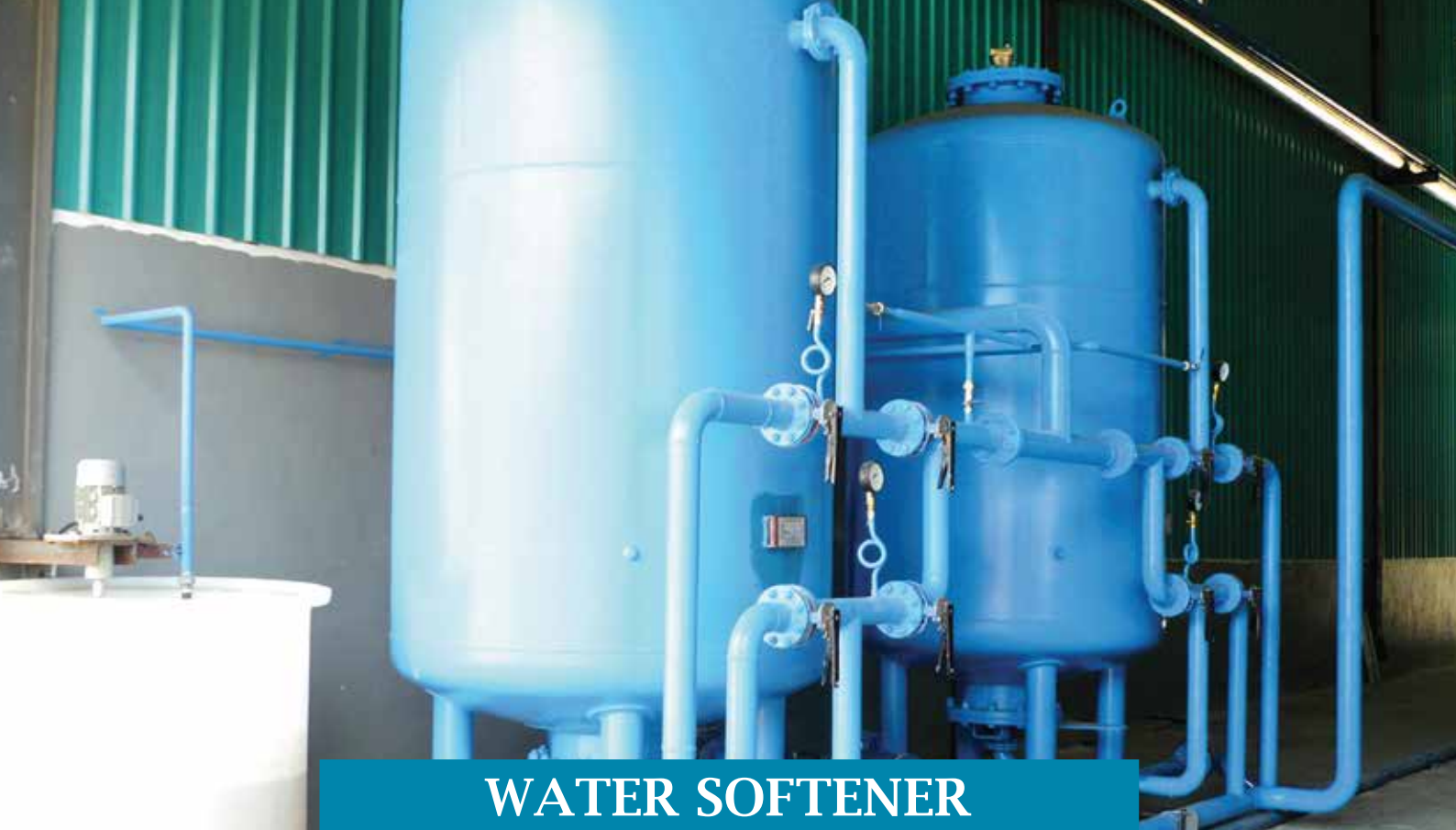
# EXCEL WATER SOFTENER



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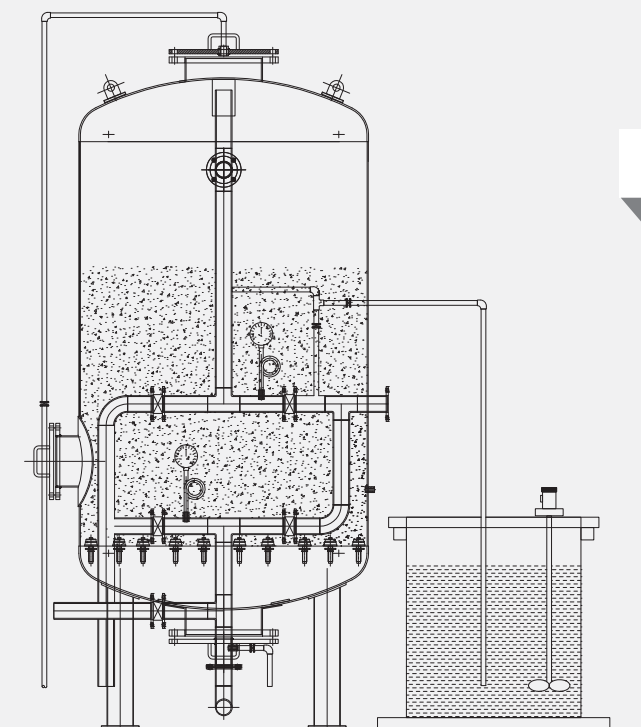




## WATER SOFTENER

**Water Softener** is used to remove minerals such as calcium, magnesium, and certain other metal cations in hard water. Reducing the tendency of scale being formed in equipment such as Boiler, pipelines, and engine jackets.

### DESCRIPTION



- Designed and fabricated to ASME code for Unfired Pressure Vessel.
- Mild steel and stainless steel for shell and dished end.
- Complete with frontal piping and butterfly valves, filter nozzles, resin.
- Internal surface to be sand blasted to SA2 ½ and painted with 2 coats Epoxy food grade paint.
- Working pressure: 350 kPa to 500 kPa.
- All flanged nozzles to be provided with matching Flanges and bolt and nuts.
- Design drawing to be approved by D.O.S.H. Malaysia.
- Well design bottom distribution system c/w quality PP nozzles ensures uniform distribution flow of water through the resin bed.

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# EXCEL THERMAL DEAERATOR



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# THERMAL DEAERATOR

## SPECIFICATION

Design Code	: ASME Section VIII Div. 1
Design Pressure	: 350 kPaG
Design Temperature	: 150 °C
Medium of Service	: Hot Water and Steam
Construction Material	: Stainless Steel & Mild Steel
Capacity	: Range from 10 tons/hr to 60 tons/hr

## PACKAGE INCLUDES

- Modulating Water Control Valve Station
- Thermal Deaerator Feed Pump Station
- Pressure Reducing Valve (PRV) Station
- Thermal Deaerator Control Systems c/w TAIE PID Controller, Electric Motor Starter, MCB, Relays, Terminal Blocks Push Buttons, Selector Switches, Indicator Light, AVR, Beacon Light and Siren.
- Water Level Chamber c/w level indicator and probe type Level Transmitter
- Temperature Gauge, Pressure Gauge, Vacuum Breaker and Safety Relief Valve
- Thermal Deaerator support structure and platform.

For further information, please contact sales office, or:



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# EXCEL VACUUM DEAERATOR



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# VACUUM DEAERATOR

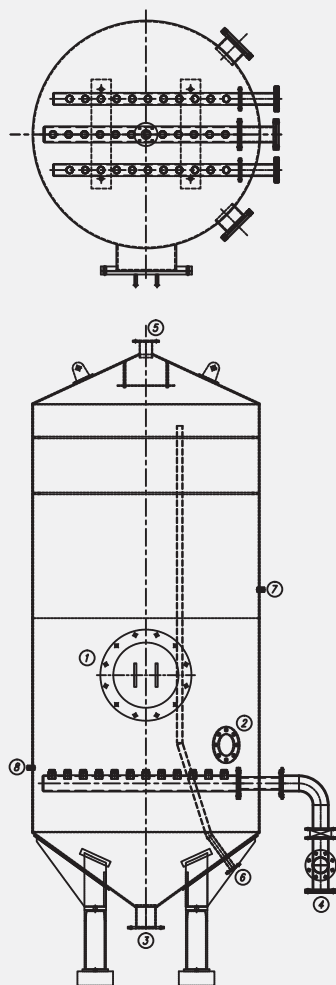
## SPECIFICATION

Design Code	: ASME SECT. VIII DIV 1
Working Pressure	: Vacuum
Design Pressure	: Vacuum
HT Pressure	: 130 kPa
Medium of Service	: Hot Water
Joint Efficiency	: Shell 0.7 (Table UW-12) Conical Head 0.7 (Table UW-12)
Capacity	: Range from 5 tons to 40 tons

## DESCRIPTION

### Nozzles:

1. Manhole	5. Ejector connection
2. Sight glass	6. Vapour Outlet
3. Water outlet	7. Vacuum Gauge
4. Water inlet	8. Level Gauge



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# EXCEL REVERSE OSMOSIS SYSTEM



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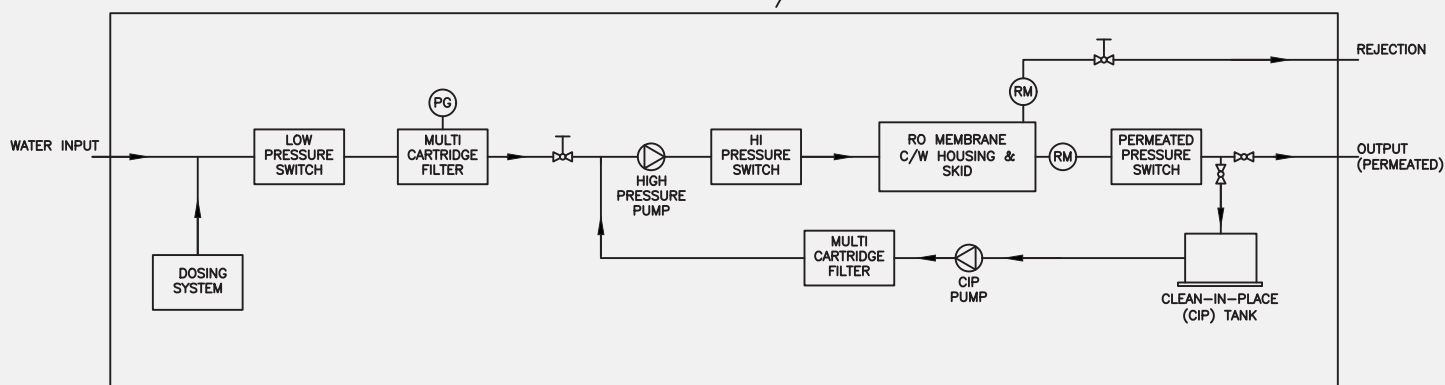
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# REVERSE OSMOSIS SYSTEM

## RO SYSTEM C/W CIP SYSTEM



### RO APPLICATION AREA

Food, beverage, drinking water, textile, marine, mining, oil  
 Chemical & pharmaceutical industry  
 Electronic industry, semiconductor industry requiring ultrapure water treatment  
 Waste water treatment  
 Brackish water desalination, sea water desalination, metallurgy, and light industry pure water treatment.  
 Cosmetic products, car battery, liquid fertilizer production pure water treatment  
 Boiler water treatment  
 School, hotel, hospital, laboratory, surface treatment, hydraulic test, industrial boiler, power station boiler, high pressure boiler water treatment

### STANDARD FEATURE

Range: 5,000 LPH to 100,000 LPH  
 3 RO Pre-Treatment Dosing System  
 Multi Cartridge Filter  
 High Pressure Feed Pump  
 Thin Film Nanocomposite (TFN) RO Membrane  
 FRP RO Membrane Housing  
 High & Low Pressure Switches  
 Rotameter & Pressure Gauges  
 RO Program Controller c/w Conductivity / TDS Meter  
 Clean In Place (CIP) System, which consist of Multistage Pump, Multi Cartridge Filter & CIP Tank  
 May also include chemical & test kit

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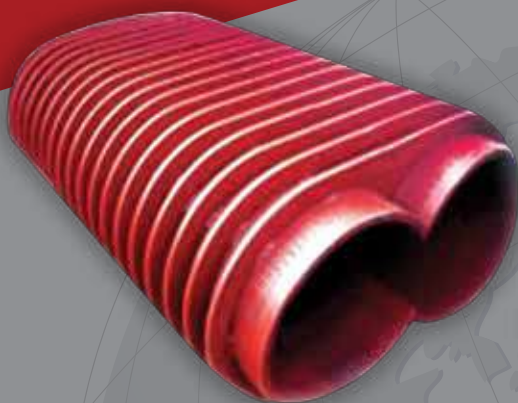
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# EXCEL PALM OIL MILL SPARE PARTS



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Sprocket & Coupling



Pump



Worm Screw



Conveyor & Transmission Chain



Bearing



Conveyor Sprocket



Hanger Bearing



Chain Coupling



Fan Impeller



Flexible Coupling



Vibrating Screen Wire Mesh



Hydrocyclone Vortex



Press Cage



Ribbon Screw



Digester Shaft, Blade & V-Arm



Wheels



Sludge Centrifuge



Ripple Mill Rotor



Thresher



Roller Support



Dish End & Door Seals

## SPARE PART

Excelmech Engineering Sdn Bhd. supplies spare parts and components for equipment in palm oil mills. Our range of supply includes:

## CASTING PART

- Screw Press Worm Screw, Spur Gearbox Housing, Press Cone.
- Digester V block, Beater Arm and Expeller Arm.
- FFB Cage Bearing Housing Block, Bush, and Wheel.
- Boiler Fire Grate Bars, Fire Doors, Dust Collector Cyclone.
- Elevator / Conveyor Sprocket and Coupling.
- Screw Conveyor Hanger Bearing and Bush.
- Hydrocyclone Vortex, Cone and Dome Chambers Casting.
- Pump Casing, Impeller, Seal and Shaft.
- Support Rollers and Path Rings for Cage Tipplers.
- Rope Drums for Winches and Capstans.
- Support rollers and path rings for the cage tippers.
- Rope drums for winches and capstans.

## FABRICATED MACHINED PARTS

- Screw Press Press Cage, Drive and Driven Shafts.
- Sludge Centrifuge Bowls, Nozzles, Bearings, Shafts.
- Sterilizer Door Dished End Liner.
- Ripple Mill high wear Rods, Shafts, Bearings.
- Vibratory Screens, Mesh, and components.
- Fans Impellers, Cone and Shaft.
- Ripper Mill Rotor.
- Hydraulic System components.
- Bearing and Belts.

For further information, please contact sales office, or:



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# EXCEL M-LINER



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## WEAR LINERS FOR SCRAPER CONVEYOR CHAIN

### INTRODUCTION

M-Liners is made of Ultra High Molecular Weight Polyethylene(UHMW-PE) material, a type of thermo-plastic, which combines the featured characteristics of all types of plastics, excellent in withstanding wear and tear, impact resistance and chemical corrosion, self-lubricating, working against low temperature, low in abrasion loss, absorbing energy, anti-ageing and preventing build-up of static electricity.

It is widely used as conveyor wear lining for palm oil mills; interior lining of the coal house of thermo power plant, coal mines and coking plants etc; wear lining for storage tanks in cement factories, steel mills and aluminium factories, the granary of food industry, feedstuff industry and pharmaceutical factories, hoppers at wharfs as well as lining for cabin of bulk ships. It prevents powder material sticking on cabin and reduces the damage to cabin wall by loading machinery, due to non-material sticking properties, it can speed up loading process, reduce clogging significantly.

### A

Extremely high anti-abrasion: Owing to its particular molecular structure, anti-abrasion performance of UHMW-PE is higher than ordinary metal and plastic: 6.6 times of carbon steel, 5.5 times of stainless steel, 27.3 times of brass, 6 times of nylon and 5 times of PTFE.

Material	UHMW-PE	PTFE	Nylon 6	A3 Steel	PERed	Copper
Wearing rate	0.32	1.72	3.30	7.36	8.63	13.12

### B

Excellent self-lubricating performance, low friction coefficient and flow resistance, resulting in low energy consumption.

Material	UHMW-coal	Cast stone	Stain steel plate-coal	Stain steel plate-coal	Concrete-coal
Wearing coefficient	0.15-0.25	0.30-0.45	0.45-0.58	0.30-0.40	0.60-0.70

### C

Good in resisting impact, flexibility. Even under low temperature and thunder impact, it does not break. It doesn't become fragile even under -180°C surrounding temperature.

Material	UHMW-coal	Cast stone plate	PAE 6	POM	F4	A3	45"
Impact Intensity (kg/m3)	100-160	1.6-15	6-11	8-13	16	300-400	700

### D

Excellent in resisting chemical corrosion: it works against all acid, alkali, salt medium except concentrated sulphuric acid, dense nitric acid and some organic solvent.

### E

Free from toxin, smell or exudates.

### F

Good electric resistance, relatively low in water absorption.

### G

Good performance in resisting environment stress crack, 200 times of ordinary PE.



For further information, please contact sales office, or:



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