

Contact:

## Kumar Metal Industries Pvt. Ltd.

### Corporate Head Quarters:

101, Kakad Bhavan, 30th Road,  
Opp. Gaiety Galaxy Cinema,  
Bandra (West), Mumbai-400050, India.

Tel: +91-22-2644 1667 / 73 / 74,  
+91-22-2642 7982  
Fax: +91-22-2642 8136

### Manufacturing Unit:

Plot No. 7, Mira Co-op. Industrial Estate,  
Mira Road, Dist. Thane-401164, India.

Tel: +91-22-2845 9100,  
+91-22-2845 8300  
Fax: +91-22-2845 6263

Website: [www.kumarmetal.com](http://www.kumarmetal.com)

E-mail: [kumarind@vsnl.com](mailto:kumarind@vsnl.com)



# Kumar Oil Mills

In joint venture with Crown Iron Works Company, USA



A SQUEEZE **above**  
the REST

## Superior Performance



### Lower Power Consumption:

Selection of motors is done keeping in mind the peak load that could arise due to inconsistent feeding resulting in lower power consumption

### External gear box:

The high efficiency external gear box ensures low maintenance, reduced noise levels and less power consumption.

### Lower operation and maintenance cost:

Due to sturdy construction and stringent quality norms our machines work with higher efficiency and incur lower maintenance costs.

### Premium expelled oil quality:

Well designed worm assembly and chamber construction ensures superior quality of expelled oil which is sold in the market at premium rates.

### Superior quality of Cake:

Since pressure exerted in the machine is even, the cake quality is excellent and cake produced from the machine is of natural color without charring or burning effect.

### Lower Retention of oil in cake:

Superior process parameters ensure lower retention of oil in the cake.

### International Certifications:

As per applicable international norms, equipments and machinery are manufactured in compliance with ASME & EU DIRECTIVES.

## A Complete Package

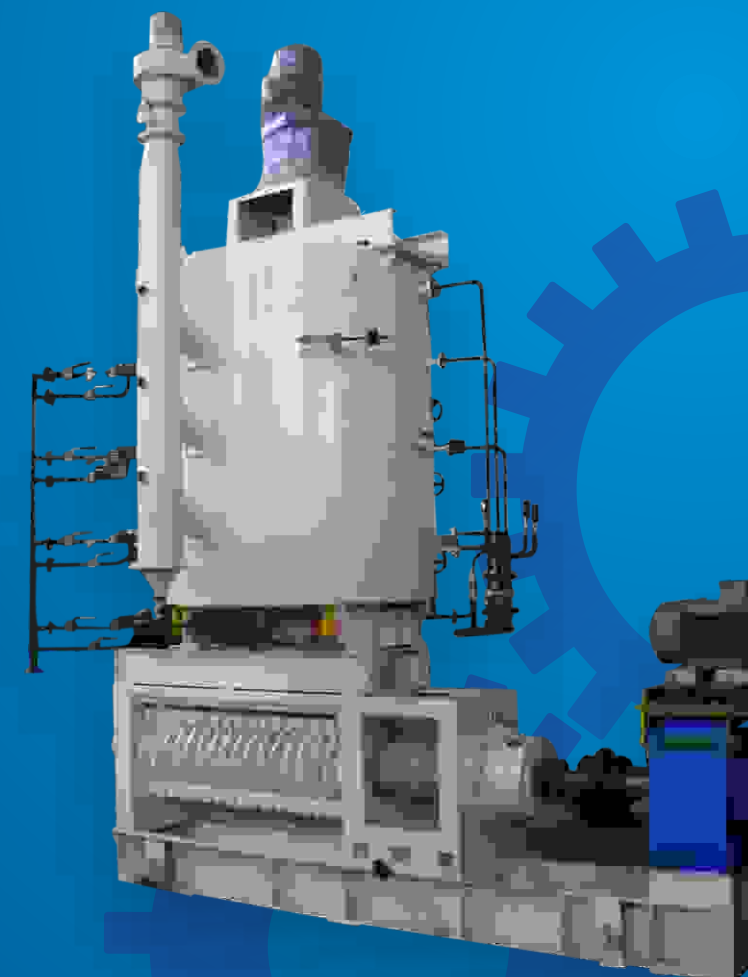


Kumar is a global company. Not only do we serve customers around the world, we also use the best technology and supply resources to ensure that only the best is delivered to our customers. We have installed and commissioned several oil mills, solvent extraction plants and refineries around the world. Our vast experience and expertise to design, engineer and install complete process plants on turnkey basis has given us the competitive edge. We have our presence in over 30 countries and serve more than 500 clients.

**Process Control:** The control, operation and supervision of the plant can be handled by minimal staff. All main process parameters for example flow rates, temperatures, liquid levels etc. are automatically maintained from a control panel or, as an option, with the help of PID/PC based controls.

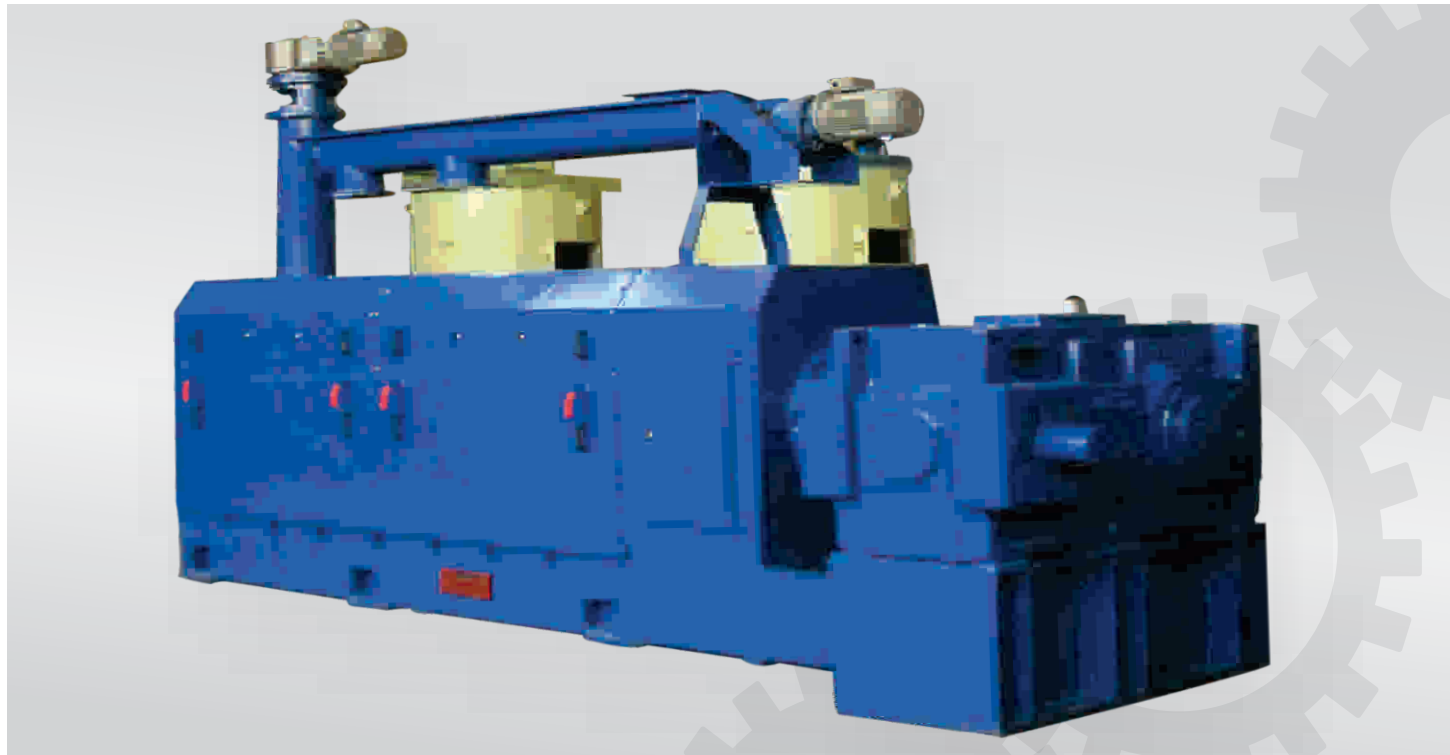
Our services also include:

- Installation design in compliance with international standards
- Complete process automation
- Skilled manpower for supervision of installation and commissioning
- Technical and manpower assistance to bring your new installation on line in minimum possible time
- We provide skilled operational staff and also train the local staff



# KUMAR'S NEW OIL EXPELLERS

## 'X'PRESS Series (Double Chamber) Oil Expeller



## SUPER PRESS New NSP-II B Series Oil Expeller

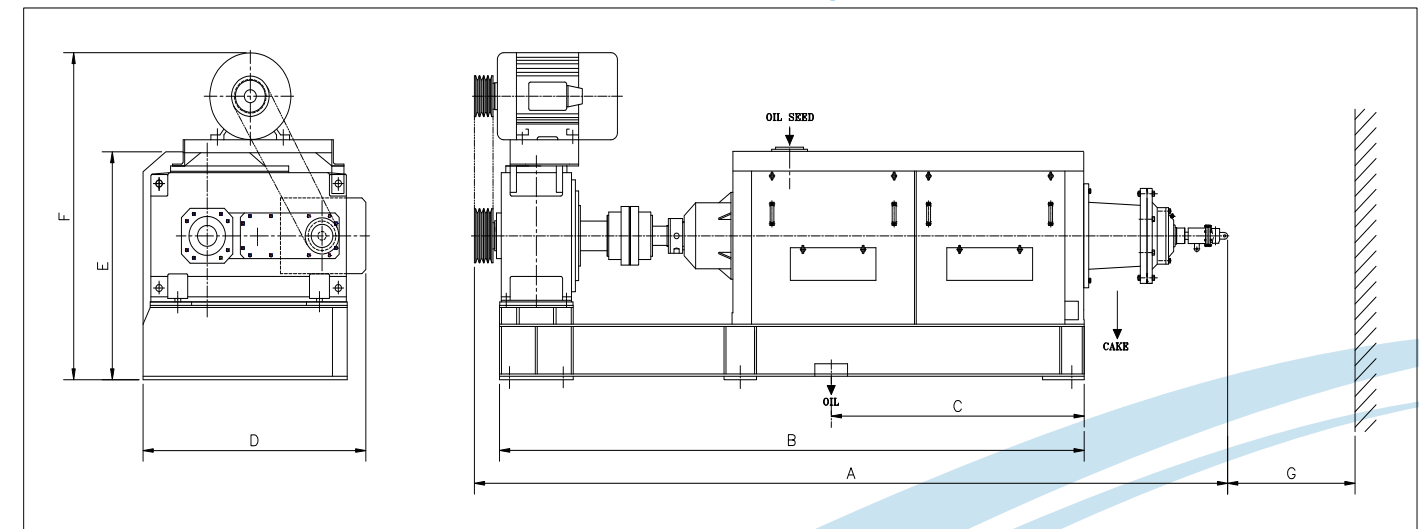


# The Process

## Oil Expellers

Oil seeds are properly cleaned & destoned before further processing. Properly cleaned & destoned oil seeds are subjected to size disintegration / flaking to achieve superior efficiency of the machine. This disintegrated seed is then cooked where the oil cells get properly tempered to expel the oil easily. This cooked seed is subjected to mechanical pressing in the expeller where the oil comes out with some amount of fines. This oil is then filtered via Vibro Separator and filter press to get clean & clear oil. The control, operation and supervision of the plant can be handled by minimal operating staff.

### KUMAR'S New SUPER PRESS Series Oil Expeller



\*Capacities, residual oil contents in cake and required power ratings vary with the type, composition, quality and preparation of seed to be processed.

Technical data	Unit	Pre-press			Full-press		
Type		NSP-IIA	NSP-IIB	NSP-IIICL	NSP-IIA	NSP-IIB	NSP-IIICL
Capacity	MT/24h	15-18	28-30	50-55	12-14*	20-22*	35-40*
Residual oil in cake	%	16-19	16-19	16-19	6-8	6-8	6-8
Required power rating	kW / HP	37/50	55/75	110 / 150	37 / 50	55 / 75	110 / 150
Chamber size	Feed	Ø228.6 x 584.2 L.	Ø279.4 x 584.2 L.	Ø330 x 939.8 L.	Ø228.6 x 584.2 L.	Ø279.4 x 584.2 L.	Ø330 x 939.8 L.
	Mid.	X	X	Ø279.4x 584.2L.	X	X	Ø279.4x 584.2L.
	Disch	Ø190.5 x 863.6 L.	Ø209.5 x 863.6 L.	Ø228.6x 863.6 L.	Ø190.5 x 863.6 L.	Ø209.5 x 863.6 L.	Ø228.6x 863.6 L.
Approx.Wt.	MT	7.3	7.5	10.6	7.3	7.5	10.6

Dimensions (approx.)	Unit	NSP-IIA	NSP-IIB	NSP-IIICL
A	mm.	4263	4604	5475
B	mm.	3377	3519	4200
C (can vary as per layout)	mm.	1083	1556	2145
D	mm.	1034	1144	1250
E	mm.	1830	1940	2246
F	mm.	1311	1311	1315
G (for shaft removal)	mm.	3000	3000	3800

# KUMAR'S New Oil-N-Oil Series Oil Expeller

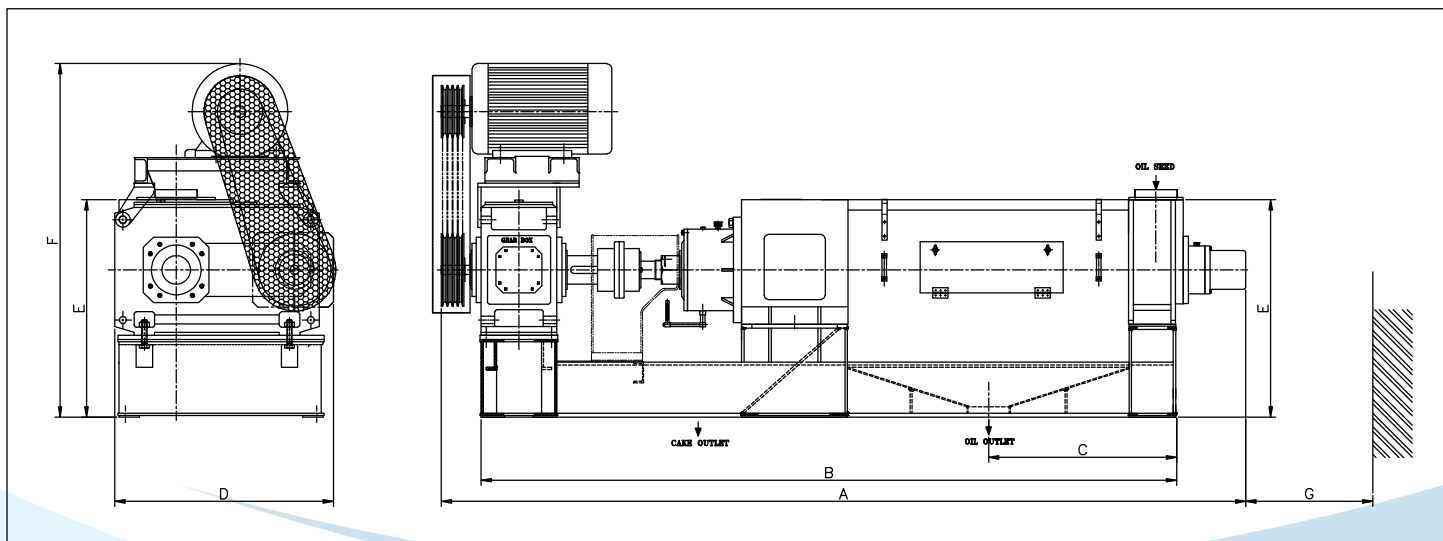
# Steam Generation

Technical data	Unit	Pre press	
Type		NMK- IVC	NMK- VII
Capacity	MT/24h	14-16*	55-60*
Residual oil in cake	%	16-19	16-19
Required power rating	kW / HP	22 / 30	45/60
Chamber size (Dia x Lg.)	mm.	178/222 x 1117.6	255/230x 1565
Approx.Wt.	MT.	3.5	6000



Technical data	Unit	Full press				
Type		NMK- I	NMK- II	NMK- III	NMK- IVC	NMK- VII
Capacity	MT/24h	3-4	6-7	8-9	10-12	25-30
Residual oil in cake	%	6-8	6-8	6-8	6-8	6-8
Required power rating	kW / HP	11 / 15	15 / 20	19 / 25	22 / 30	45/60

\*Capacities, residual oil contents in cake and required power ratings vary with the type, composition, quality and preparation of seed to be processed.



Dimensions (approx.)	Unit	NMK- I	NMK- II	NMK- III	NMK- IVC	NMK- VII
A	mm.	2574	3120	3180	3490	4473
B	mm.	2185	2745	2745	3030	3790
C (Can vary as per layout)	mm.	518	680	680	821	980
D	mm.	755	825	875	875	1170
E	mm.	720	980	1080	1080	1190
F	mm.	1100	1440	1612	1678	1795
G (for shaft removal)	mm.	1900	2200	2200	2500	3000

## Steam Boiler Vertical

Model	Capacity/Hr	Fuel Required for Oil Fired Boiler
KMI - 1	100 Kgs	12 Ltr / Hr
KMI - 2	200 Kgs	25 Ltr / Hr
KMI - 3	300 Kgs	30 Ltr / Hr
KMI - 5	500 Kgs	40 Ltr / Hr
KMI - 7	750 Kgs	60 Ltr / Hr
KMI - 8	1000 Kgs	70 Ltr / Hr

## Steam Boiler Horizontal

Model	Capacity / Kg / W	Fuel Required
KMI - H - 5	500	71 Kg / Hr
KMI - H - 7	750	107 Kg / Hr
KMI - H - 10	1000	142 Kg / Hr
KMI - H - 20	2000	284 Kg / Hr
KMI - H - 30	3000	428 Kg / Hr
KMI - H - 40	4000	570 Kg / Hr
KMI - H - 50	5000	714 Kg / Hr
KMI - H - 60	6000	857 Kg / Hr
KMI - H - 70	7000	998 Kg / Hr
KMI - H - 80	8000	1142 Kg / Hr
KMI - H - 90	9000	1258 Kg / Hr
KMI - H - 100	10000	1428 Kg / Hr

### Salient Features:

- High efficiency optimum heat transfer & minimum radiation losses.
- Optimum delivery of steam to meet all load conditions. Ample water space to give extra steam when sudden & heavy demands occur.
- Shop assembled- easy access for proper cleaning & maintenance.
- Insulated with mineral wool covered with sheet metal.



Steam Boiler Horizontal

## Conveyors:

### Screw and Redler Conveyor

Screw Diameter	Capacity
6"	2-3 Tons / Hr
9"	3-5 Tons / Hr
10"	3-5 Tons / Hr
12"	5-7.5 Tons / Hr



Screw Conveyor



Redler Conveyor

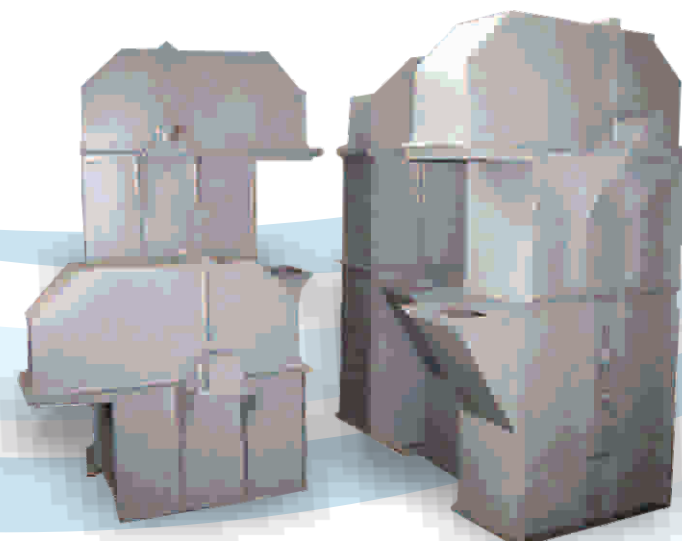
### Salient Features:

- Available in different sizes & construction
- Easy erection & correct tensioning of chain
- Double row self aligning ball bearings
- Fabricated elevator chains
- Extended top shaft for drive purpose
- Removable plates

## Elevator

### Bucket Elevator

Bucket Size	Capacity
6" x 4" x 3 1/4"	1 Tons / Hr
8" x 4" x 3 1/4"	3 Tons / Hr
10" x 6" x 5"	5 Tons / Hr
10" x 6" x 5"	8 Tons / Hr



Bucket Elevator

### Salient Features:

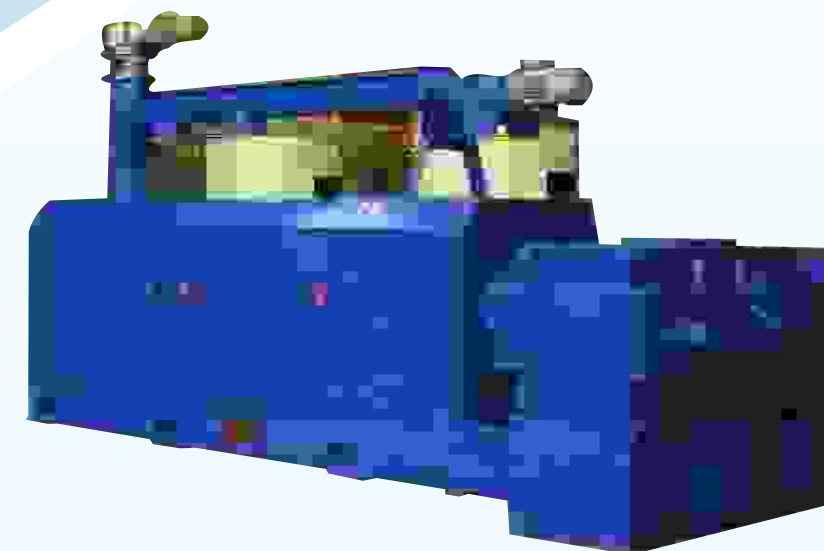
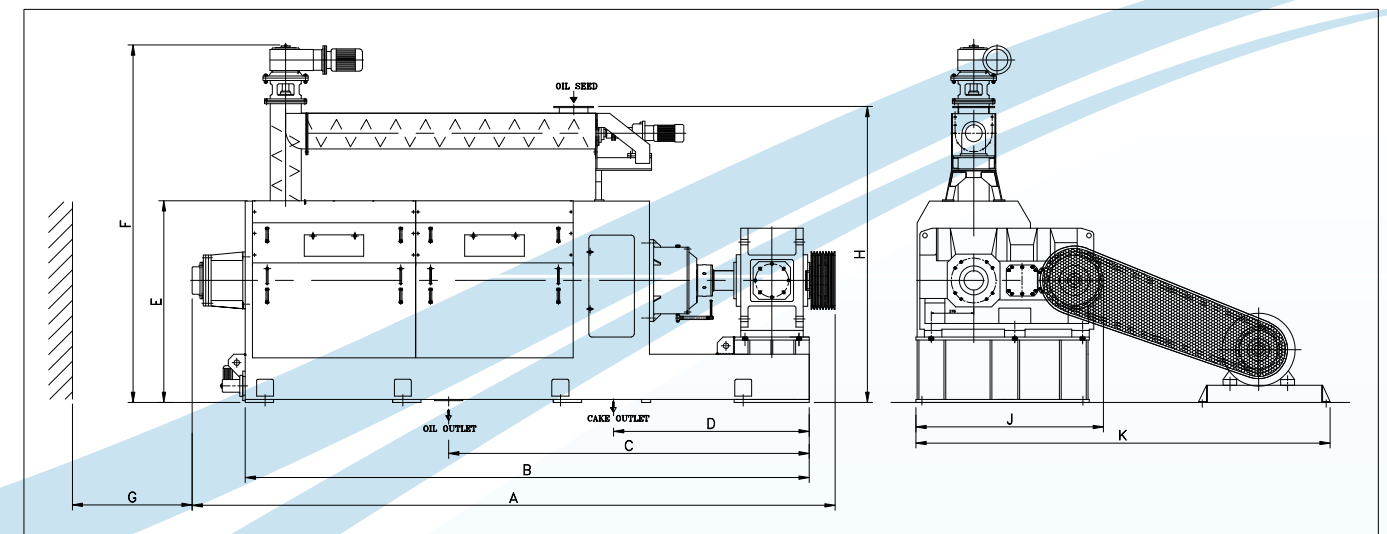
- Available in different sizes & construction
- Easy erection & correct tensioning of chain
- Double row self aligning ball bearings
- Fabricated elevator chains
- Extended top shaft for drive purpose
- Removable plates

Technical data		Unit	Pre-press		Full -press	
Type			XP-200	XP-250	XP-200	XP-250
Capacity	MT/24h		170-200	200-250	100-130*	130 / 140*
Residual oil in cake	%		16-19	16-19	6-8	6-8
Required power rating	kW / HP		201 / 270	250 / 335	160 / 215	250 / 270
Chamber size	Feed	mm.	Ø300 x 1300 L.	Ø315 x 1300 L.	Ø300 x 1300 L.	Ø315 x 1300 L.
	Disch		Ø275 x 1350 L.	Ø290 x 1350 L.	Ø275 x 1350 L.	Ø290 x 1350 L.
Approx.Wt.	MT		17.5	18.0	17.5	18.0

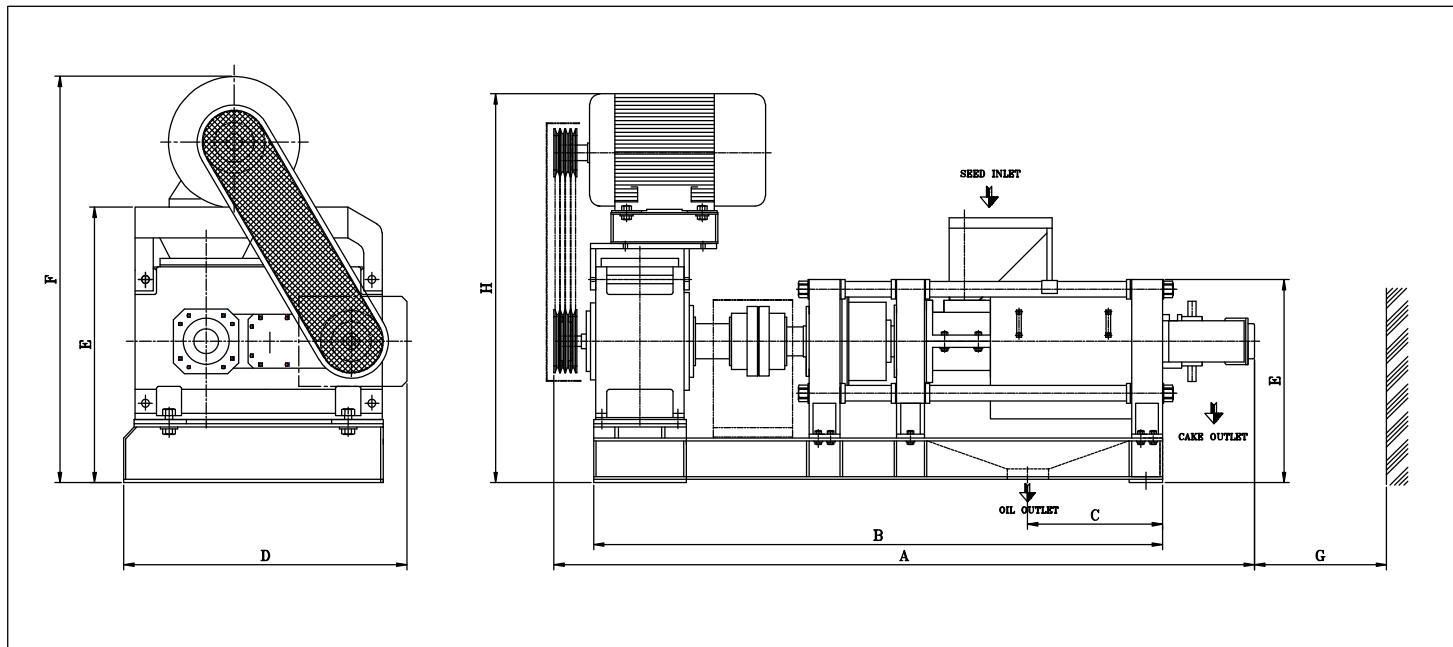
### Dimensions (Approx.)

Unit	A	B	C	D	E	F	G	H	J	K
mm.	5670	4975	3180 <small>(Can vary as per layout)</small>	1725	1775	3150	5500 <small>(For shaft removal)</small>	2610	1655	3655

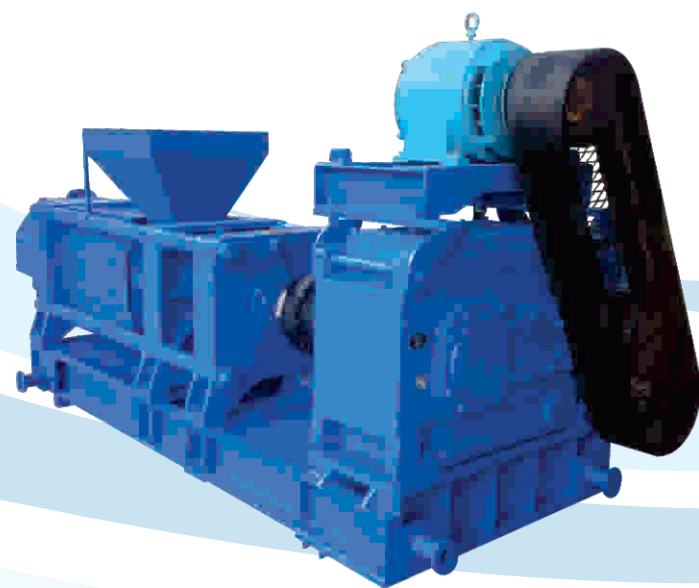
\*Capacities, residual oil contents in cake and required power ratings vary with the type, composition, quality and preparation of seed to be processed.



# KUMAR'S Palm Kernel Oil Expeller



Technical data	Unit	Pre-press		Full -press	
Type		PK-15	PK-25	PK-15	PK-25
Chamber size	mm.	Ø178x640 L.	Ø209x640 L.	Ø178x640 L.	Ø209x640 L.
Capacity	MT/24h	15 T.P.D.	25 T.P.D.	9-10	16-18
Residual oil in cake	%	18-20	18-20	8-10	8-10
Required power rating	KW/HP	37/50	55/75	37/50	55/75
Approx.Wt.	MT	4.5	4.8	4.5	4.8

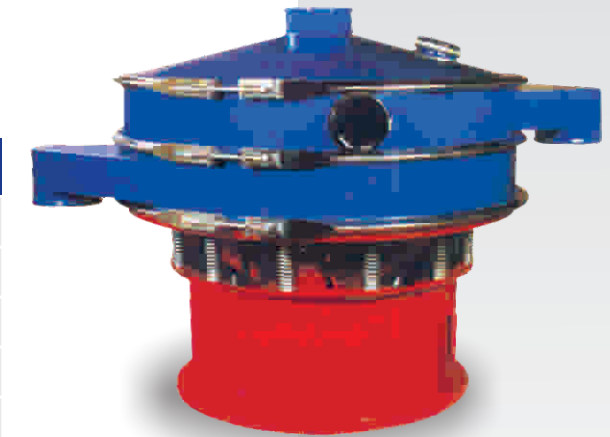


Dimensions (approx.)	Unit	PK-15	PK-25
A	mm	3400	3400
B	mm	2762	2762
C (Can vary as per layout)	mm.	655	655
D	mm.	1375	1375
E	mm.	1000	1000
F	mm.	1300	1300
G (for shaft removal)	mm.	2000	2000

## Vibro Separator

The Vibro Separator is a separating machine which includes a vertical type special motor to facilitate three dimensional composed circular and elliptic motions in horizontal, vertical & inclinational faces. The vibro separator achieves superior performance as the feed (Crude Oil) is dispersed from the centre equally; hence all parts of screen cloth are fully utilized.

Model	Screen Diameter	Power
KMI - 24	24"	0.5 HP
KMI - 30	30"	0.5 HP
KMI - 36	36"	0.5 HP
KMI - 48	48"	1.5 HP
KMI - 60	60"	1.5 HP



## Pressure Leaf Filter / Polish Filter

Pressure Leaf Filters are available in horizontal & vertical cylindrical vessels with leafs made of Stainless Steel. It is provided with a Vibrator & a butterfly valve. These filters are also used in Oil Mills.

Model	Capacity M2
KM 10	10
KM 20	20
KM 30	30
KM 50	50
KM 70	70



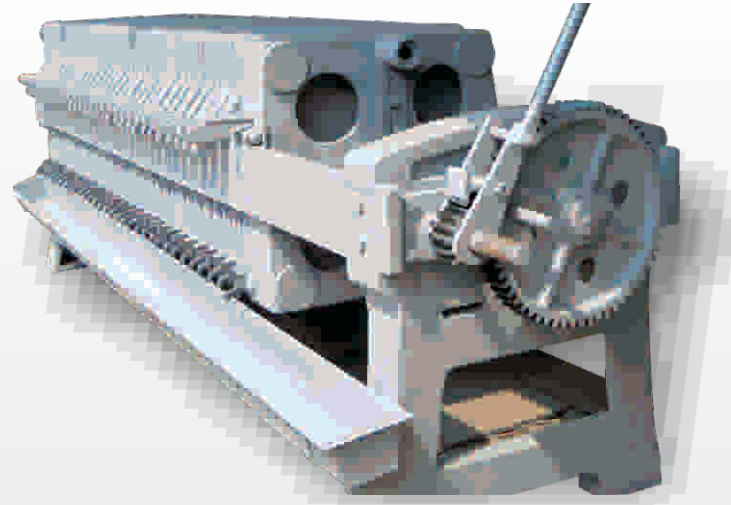
Pressure Leaf Filters

# Filtration Section

## Kumar Filter Press

### Salient Features:

- Raised rim around the edges to form a chamber between 2 plates
- High rate of filtration
- Powerful pump & accurate assembly
- Leak proof joints to withstand operating pressure
- High grade CI casting & shot blasted for smooth finish



Oil from the expeller comes to the Vibro Separator, where the core particles are separated by vibration. The oil is then sent to the tank where it is pumped for final Filtration via plate type filters.

### Plate Type

Size Inches	Cake Holding Capacity Cu. Ft.	Filtering Area	Pump HP Required
30" X 30" X 40 Plates	10	360	7.5
30" X 30" X 30 Plates	7.5	240	5
30" X 30" X 25 Plates	6.5	200	5
25" X 25" X 36 Plates	5	140	3
25" X 25" X 30 Plates	4	120	3
25" X 25" X 25 Plates	3	100	3
18" X 18" X 18 Plates	1.5	40	2
15" X 15" X 15 Plates	0.75	25	2
12" X 12" X 12 Plates	0.04	12	1

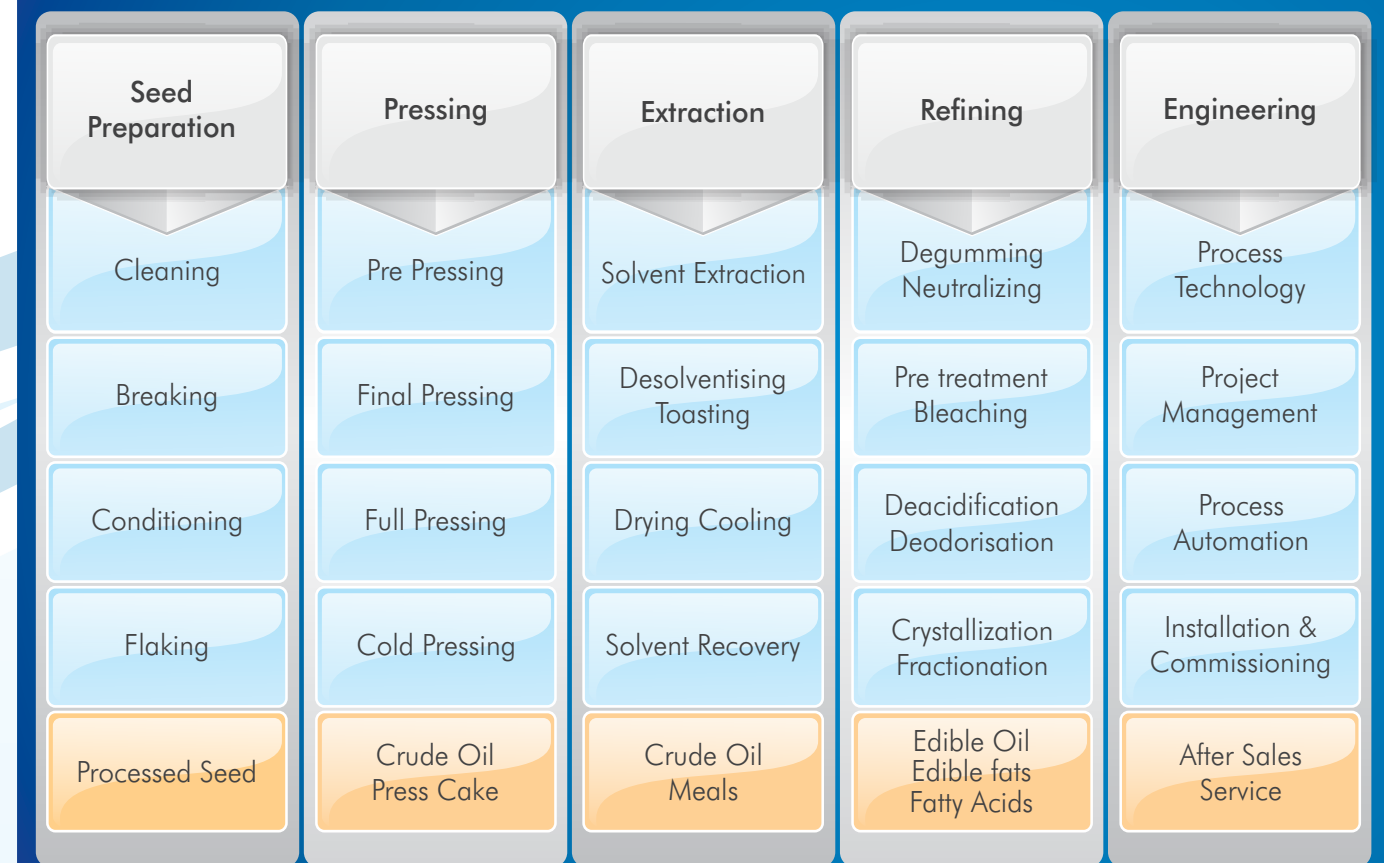
### Frame Type

Size Inches	Cake Holding Capacity Cu. Ft.	Filtering Area	Pump HP Required
25" X 25" X 25F/24P	11	180	3
30" X 30" X 20F/19P	12	200	5
30" X 30" X 25F/24P	15	240	5
30" X 30" X 30F/25P	18	280	5
8" X 8" X 13F/12P	0.04	12	1

## Salient Features - : Super Press, Oil & Oil, X'press

- All expellers are supplied with a high efficiency **External Gear Box**.
- Pressure worms are hard faced with special welding electrodes to achieve desired hardness.
- Sturdy Construction, low Investment and easy installation.
- Maximum Oil yield at low operating costs.
- Can crush all type of edible and non-edible oilseeds.
- Easy and time saving main worm shaft removal without disturbing the gear box assembly.
- Vertical split hinged main cages provided with cage lifting for safe, quick and effortless maintenance.
- Special designed locking type clamping bars & bolts to enable easy tightening & removal of the cage.
- Fully enclosed cage with a built in screw conveyor at the base for conveying oil and foots which keeps the shop floor neat and clean.
- Steel cast hobbing cut helical gears. Induction hardened, completely assembled on a single piece hollow driving sleeve with heavy duty roller and taper roller bearing to acquire perfect alignment and friction free for energy saving.
- Multistage vertical stack cooker for proper conditioning of the seeds.
- All the bearings are lubricated with the help of a special motorized pump to increase bearing life.

## Your Partner In The Oil Industry



# Preparatory Section

## Seed Cleaner

Seeds are cleaned to remove unwanted material like dust, leaves, etc. They are then sent to the de-stoner to remove stones and sand. This removal of unwanted material increases the life of machines & reduces the down time.

## Huller Shaker

Huller Shaker is a machine where the kernel is separated from the seed & the hulls are separated from the kernel. One can increase the capacity of the machine by doing de-hulling. This process is mainly used in case of Cotton Seed / Sunflower.

## Hull & Seed Separator

In this process the hulls are separated from the seeds & unbroken seeds are again subjected to Huller Shaker.

## Decorticator

Decorticator is mainly used in separation of hulls from kernel in case of Groundnut. Use of Decorticator increases the capacity of Expeller as well reduces the down time of the machine.

## Double Drum Hull Beater

Double Drum Hull Beater is used to separate the remaining kernel portion from hulls. This reduces the wastage of kernel going with hulls.

## Flaker

Flaker is normally used in case of Rape Seed to increase the capacity of expeller as well it reduces the wear & tear of the Expeller Machines.

## Hammer Mill

Hammer Mills are mainly used to disintegrate the product to a desired size ensuring proper expelling. Hammer Mill is mainly used in case of Copra, Palm Kernel & Soya bean processing.

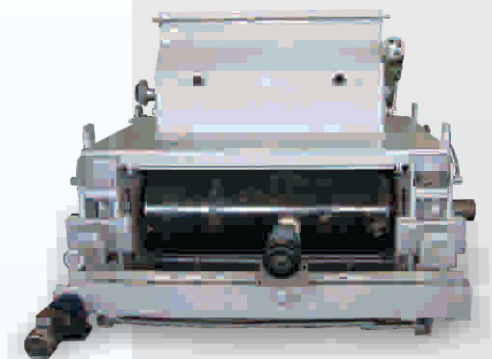
Model	Capacity/24 hrs	H/P Power
HM - A1	500 Kgs	5/7.5 HP
HM - 1	1000 Kgs	20 HP
HM - 2	2000 Kgs	30/40 HP
HM - 3	3000 Kgs	40/50 HP
HM - 5	5000 Kgs	50/75 HP
HM - 8	8000 Kgs	75/100 HP



Hull & Seed Separator



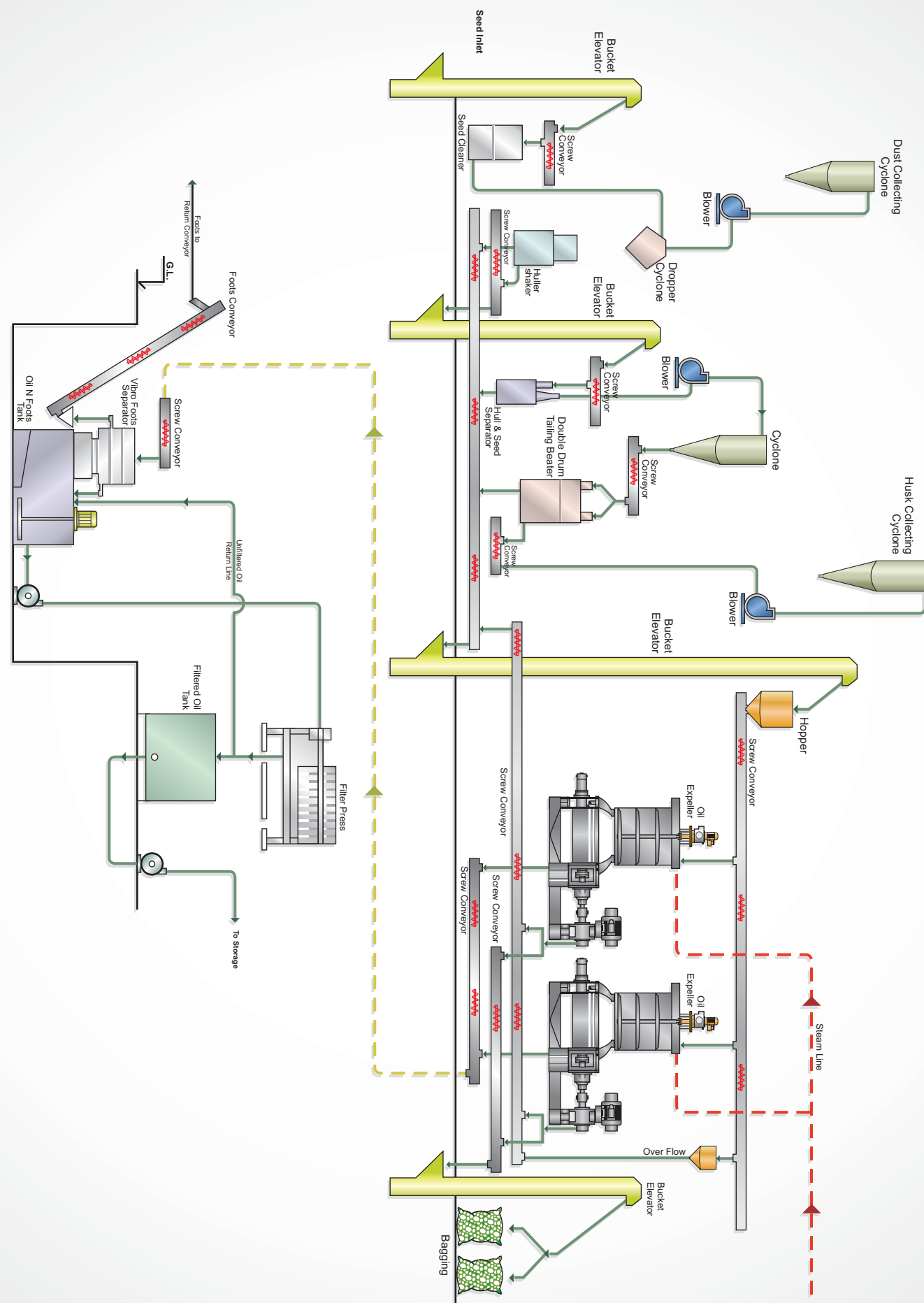
Decorticator



Flaker



Hammer Mill



Oil mill Plant