



**65** *Yrs*

EXPERIENCE IN EDIBLE OIL  
EXTRACTION & PROCESSING  
ACROSS EUROPE, ASIA,  
AUSTRALIA AND AFRICA

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Since its foundation in 1951, United Engineering has pursued constant innovation and improvement, ensuring its prominence among equipment suppliers for oilseed processing. Our strength is in aligning businesses, products and services around the needs of our customers.

This strategy is supported by our global experience of design/engineering, manufacturing and installation for oilseed processing.

As a global leader in the design, manufacture and supply of individual machines to complete plants for edible oilseed preparation and pressing, we offer a wide range of customized and standard engineered solutions.

## Your success drives ours

### R&D

We innovate to provide the best solutions in each project we undertake.

### FLEXIBILITY

Our teams are on call to provide the best solutions.

### COMMUNICATION

We strive to maintain our links with clients for constant innovation.

### TEAMWORK

We are United in all aspects, working as an extension and support system for our clients.



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United's differentiation and value as a preferred business partner is delivered through:

- In-depth technical knowledge base resulting from our long history in the industry. We have operations that trace their origins back to early 20th century.
  - Commitment to deliver superior customer satisfaction through consistent quality assured products, on-time delivery, industry leading technical and application engineering support.
  - Ability to quickly understand varying industry specific customer requirements drawn from our experience supporting customers.
  - Global footprint positioning us to support you as your business expands regionally & globally.
  - Commitment to long term business relations, founded on strong business ethics.
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# Proven processing technology

## CONDITIONING OF SEED

Preparation is the process of ensuring that the raw material is treated mechanically and/or thermally to ensure that maximum pressing efficiency and excellent quality of oil and meal is obtained.

Every step in preparation of seed prior to pressing is critical.

United Engineering provides solutions for all oil bearing seeds, and processes from weighing, cleaning, de-stoning, dehulling, cracking and or flaking.

We understand that each seed needs to be treated specifically, so that you get the most out of your seeds.



## Engineering, procurement and construction

United offers general contracting services for agro based projects such as edible oil extraction, refining, oleo-chemical plants, renewable energy plants as well as food processing plants.

From the inception of a project to the full turnkey post commissioning, we can support you. The business focusses on:

- Design and Process Engineering
- Complete Engineering, Procurement and Construction (EPC)
- Partial EPC
- Electro-Mechanical Contracting

United offers projects, which are built with best practises, followed across the globe and within schedule and budget.

### AREAS OF EXPERTISE

#### EDIBLE OIL

SEED PROCESSING PLANTS  
MECHANICAL PRESSING PLANTS  
SOLVENT EXTRACTION PLANTS  
EDIBLE OIL REFINING PLANTS

#### PIPELINE & LIQUID HANDLING

STORAGE FOR EDIBLE OIL, CHEMICALS,  
WATER  
PIPELINES

#### OLEO CHEMICALS

FAT SPLITTING PLANTS  
BIO DIESEL

#### FOOD PROCESSING PLANTS

PASTA PRODUCTION PLANTS  
FRUIT JUICE PLANTS  
VEGETABLE DEHYDRATION PLANTS  
DESSICATED COCONUT PLANTS

#### UTILITIES

STEAM GENERATION AND DISTRIBUTION  
WATER COOLING PROJECTS  
NITROGEN GENERATION AND DISTRIBUTION.

- Vertical Multistage Conditioners
- Indirect Heating of Seed
- Excellent Heat Transfer
- Specially Designed Agitators Ensures Uniform Treatment of Seed
- Adjustable Level and Retention Time Using Pneumatic Controls
- Facility of Moisture Addition Using Live Steam
- Aspiration System for Moisture Removal
- Feed And Discharge are Well Controlled.
- Easy to Operate and Control
- Pressure Tested and Certified
- Independent from the Press

# Engineered for productivity

## SCREW PRESSES

United presses can be used for various oilseeds, such as peanut, canola, rapeseed, sunflower, soybean, sesame, cottonseed, corn germ, jatropha, pangomia etc

### SMALL CAPACITY OIL PRESSES

These small scale screw type oil presses are characterised by their high output, excellent build quality that allows continuous operation and ease of use.

### HIGH CAPACITY OIL PRESSES

The EX Series is designed keeping in mind high outputs with a low cost of operation and maintenance.

### COLD PRESSING TECHNOLOGY

United has successfully designed, manufactured and commissioned cold pressing plants

## CAPACITIES OF PRESSES

| MODEL         | PRE-PRESS<br>TONS/DAY | 2ND PRESS<br>TONS/DAY | MOTOR RATING<br>KW | CAGE DIAMETER<br>MM |
|---------------|-----------------------|-----------------------|--------------------|---------------------|
| ASHOKA MK III | 25-30                 | 12-10                 | 22-55              | 240 X 215           |
| EX III        | 50-60                 | 25-30                 | 75-110             | 255 X 230           |
| EX V          | 75-100                | 40-60                 | 110-132            | 280 X 255           |
| EX VII        | 130-150               | 75-90                 | 160-220            | 305 X 280           |
| EX VIII       | 150-200               | 100                   | 220-250            | 330 X 305           |
| EX X          | 250-300               |                       | 250-300            | 355 X 330           |
| EX PREMIUM    | 400-500               |                       | 300-400            | 400 X 375           |



## FEATURES OF THE EX SERIES

### 1. BODY

The main frame is constructed with high tolerance levels and designed to absorb all types of forces associated with screw pressing.

### 2. DRIVE

Gearboxes are sourced from leading manufacturers, guaranteeing reliability and efficiency. They can withstand higher radial and axial loading and are supplied with water/air cooling or heating systems. The gearbox is belt driven for flexible operating speeds or with AC drives where extreme precision is desired.

### 3. THRUST BEARING HOUSING

The design is specific to the high thrust loads in the press.

### 4. MAIN WORM SHAFT

Forged from special alloy steels to withstand high torque loads, the shafts can be easily removed without disturbing the drive section.

### 5. WORM ASSEMBLY

Every application and raw material requires a specific worm design. Six decades of intensive R&D and special hardening techniques help us ensure maximum extraction efficiency.

### 6. CHAMBER/CAGES/LINING BARS

The cage splits in a vertical axis and opens to a horizontal plane which eases maintenance and replacement of the lining bars. The lining bars are made from specially hardened alloy steels and are designed for maximum drainage.

### 7. FEED CONTROL

The press has a horizontal and vertical feeder. A PLC controls the feed into the press depending on the type of press.

### 8. OILS & FOOTS CONVEYOR

A separate drive beneath the main press helps

in the removal of oils and foots from the oil tray.

### 9. CAKE BREAKER

Cake breaking knives, which disintegrate the cake while it is hot, can be installed. The rotating cutter has a stationary profile. In the case of pre-pressing the extractability of cake increases and in full pressing it helps reduce load on the cake cooling system.

### 10. SHAFT TENSIONING TOOL

The tool is hydraulically operated and specially designed for the EX Series. It ensures that once the worm assembly has been installed the space

between the worms and collars are reduced to the minimum.

### 11. BARRING MOTOR

Using the frequency drive, the barring application ensures the press can be emptied without opening the chambers.

### 12. WEAR PARTS QUALITY

All wear parts are hardened with unique hard facing techniques. Quality controlled welding procedures ensure longer life spans. Worm assembly and cage bars can last entire seasons.

### 13. EASE OF MAINTENANCE

Hooks are provided on the side of the main body, so the opening of the cage and attaching it to the main frame to change bars is easier. No pressure is required to remove the worm assembly.

### 14. PLC CONTROLS/AC DRIVE

Frequency drives on the main motor are used to precisely control the speed of the press. It can also be used as a barring application and helps in power saving.



## Cold pressing

Cold pressing is a traditional and natural way to produce oil.

United's provides technology to mechanically extract oil from oil seeds efficiently at low temperatures which ensures that the full essence and character of the oil is preserved.

Pressure, temperature and retention time are controlled to obtain the maximum efficiency of extraction.

Processing at low temperatures helps to produce oils with low peroxide values (PV), low free fatty acids (FFA) and natural color of the oil.

Our process ensures that cold pressed oils have all the natural goodness of the oilseeds, low from saturated fats and free from trans fats.

If the oil is stored correctly it will achieve an extremely good shelf life.



## Hammer mills

United's range of hammer mills are used in various industries for pre and post grinding operations.

- Available for grinding of different kinds of materials
- High capacity grinding operations
- Flexible in operation
- Specially designed rotary feeder
- Low vibration and sound
- High grade liners to minimize wear
- Beaters are hard faced
- Easy to open and maintain

## Solutions from seed to bottle

United provides complete turnkey solutions from:

- Seed Preparation,
- Mechanical Pressing,
- Filtration of Oils
- Handling of Meal.

Our expertise includes supplying complete plants using PLC, SCADA based systems.





**UNITED ENGINEERING (E) CORPORATION**

PLOT 75 SECTOR 3, IMT MANESAR,  
GURGAON 122051  
HARYANA, INDIA

P. +91.124.4273011-14  
F. +91.124.4273015  
E. SALES@UEC-INDIA.COM

**CORPORATE OFFICE**

SUITE 2 & 3, 10TH FLOOR,  
8 CAMAC STREET,  
SHANTINIKETAN BUILDING  
KOLKATA 700 017, INDIA

P. +91.33.22823914, +91.33.22820157  
F. +91.33.22823742  
E. KOL@UEC-INDIA.COM

[WWW.UEC-INDIA.COM](http://WWW.UEC-INDIA.COM)