

**SPECTEC'S**

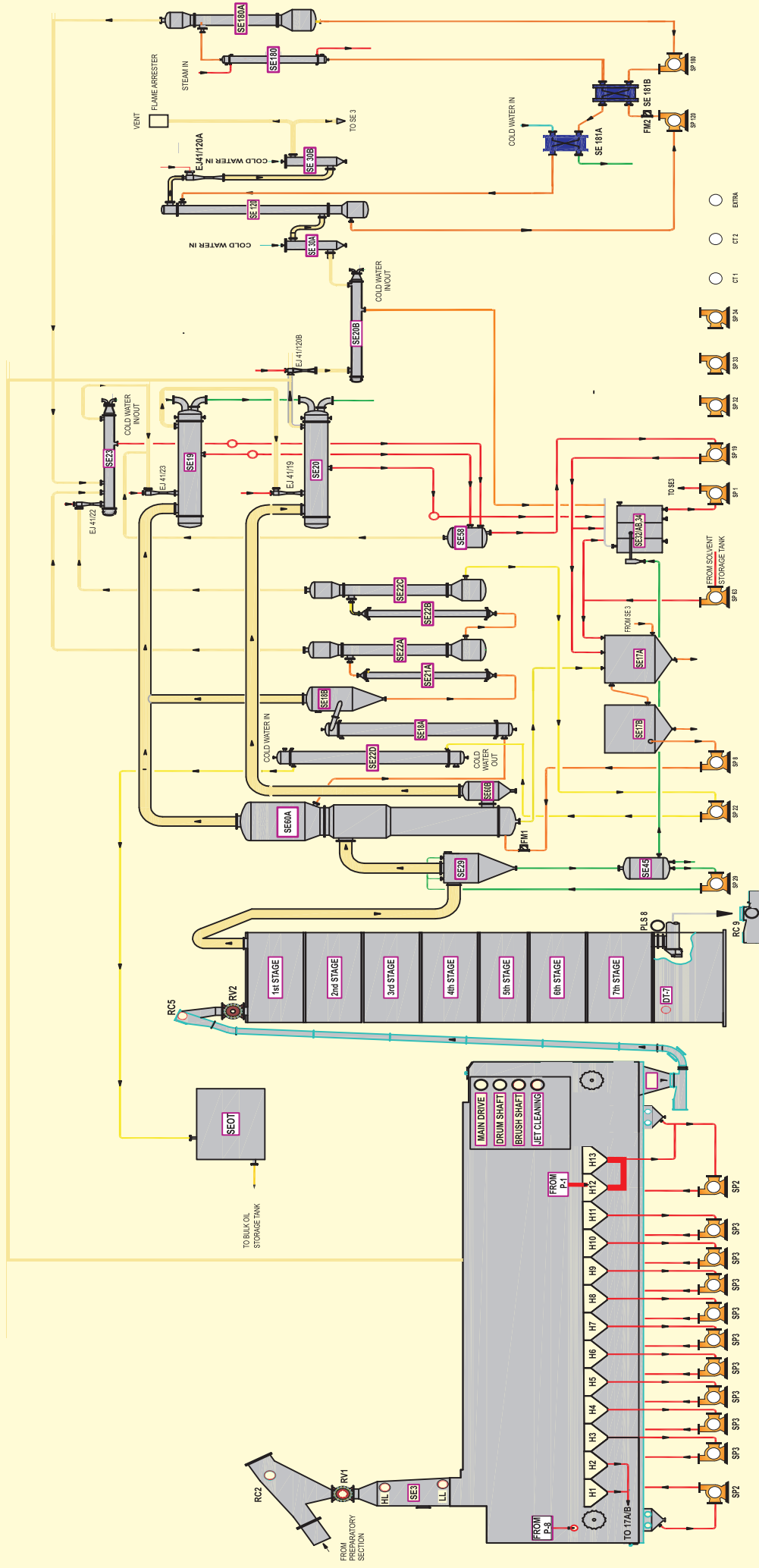
# **CONTINUOUS SOLVENT EXTRACTION PLANT**



**SPECTEC**  
TECHNO PROJECTS PVT. LTD.

[www.spectecindia.com](http://www.spectecindia.com)

# CONTINUOUS SOLVENT EXTRACTION PLANT





**SPECTEC offers continuous solvent extraction plants with latest technologies**

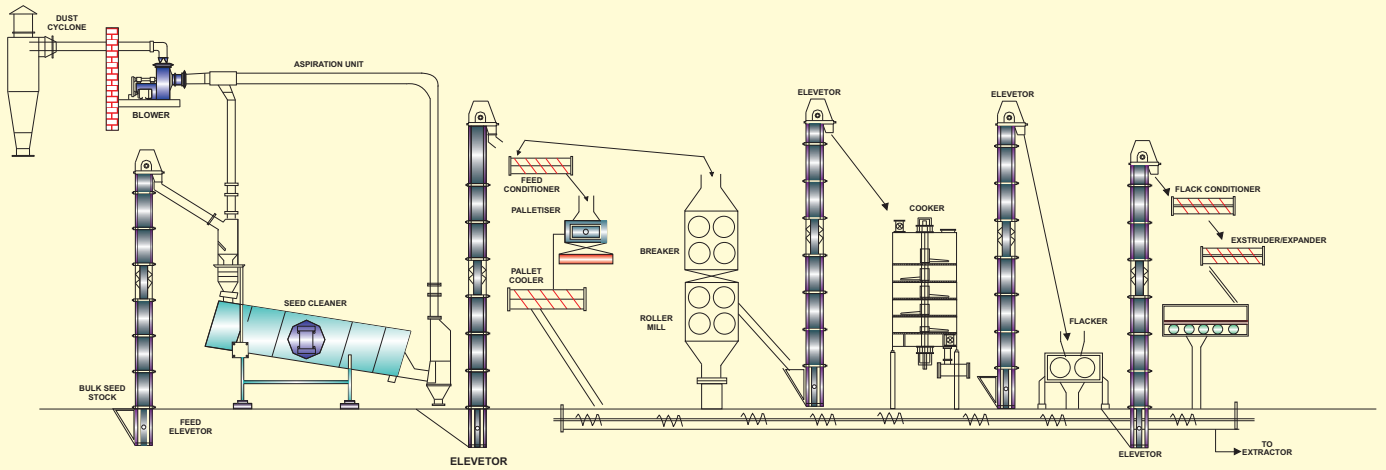
Mechanical method is the combo of high pressure, high temperature, & high moisture, which causes color fixation, oxidation, hydrolysis. Some seeds like rice bran & soya cannot be handled by the expellers. continuous solvent extraction plant does not cause any alteration to the property of oil and recovers it with the characteristics as where present in the raw material and can handled all materials.

**CAPACITY - 50 TPD TO 2000 TPD**

**SPECTEC continuous solvent extraction plant consists of**

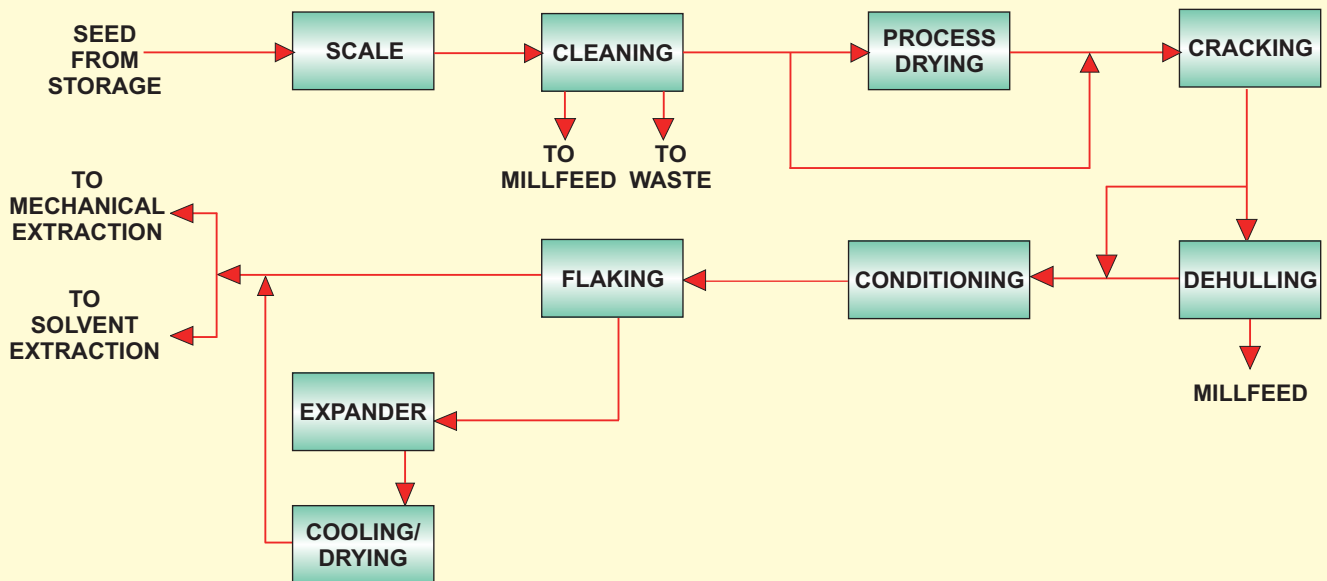
- Seed preparatory section
- Solvent extraction section
- Distillation section
- Meal desolventising section
- Recuperation section
- Meal conditioning section

## PREPRATORY FOR SOLVENT EXTRACTION PLANT



Preparation is the process of properly preparing seeds for extraction of oil either by solvent or mechanical method. While a particular seed may contain from 20 % - 50 % oil, the oil is tightly bound within the cell & mechanical action must be taken to either forcefully remove the oil or to make the oil accessible to subsequent solvent extraction. The unit operations typically involved are scaling, cleaning, cracking, conditioning (or cooking ) & flaking. Depending on process & oilseed in question, process drying and hulling may be employed, as may expander and collect dryer/coolers.

## PREPRATORY FOR SOLVENT EXTRACTION PLANT

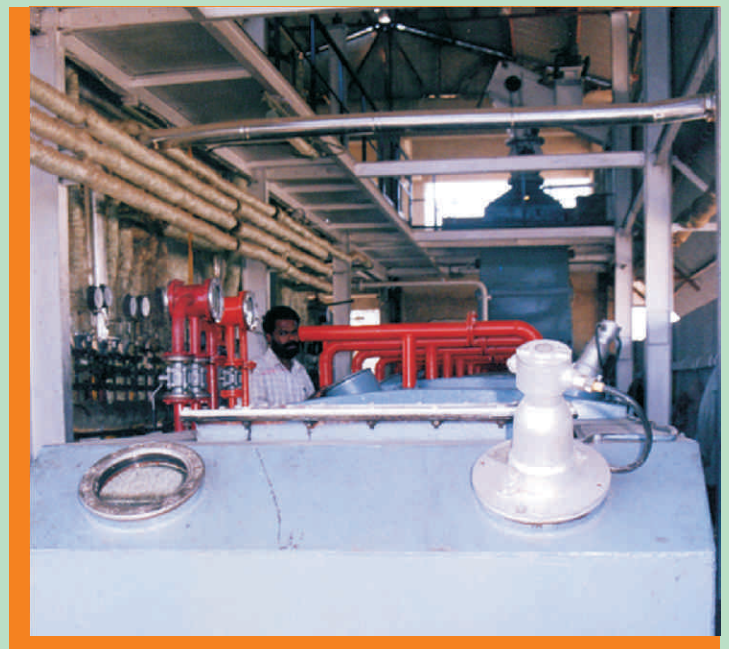


## SOLVENT EXTRACTION SECTION

Welcome to the SPECTECs Solvent Extraction Process

The main objective of the extraction process is to reduce oil content in oilseed to the minimum possible level. The chain conveyor from preparatory transfers the prepared material to the Rotary Airlock Feeder, which further drops it to the feeding hopper. Rotary airlock feeder ensures the effective vapor seal also the regulates the feed. Hopper is provided with the special flameproof level switches for the indication of high and low level. So as to enable to generate audio signal in the situation of high level, for preparatory operator to take corrective actions. SPECTECs Extractor is a mild steel construction rectangular vessel, installed horizontally. Pretreated material from preparatory moves on the specially designed articulated band conveyor inside the extractor. Band conveyor speed is adjusted according to the process demand. Band conveyor insures the continuous travelling of the feed material from feed end to the final end with determined speed, pre-calculated bed height and under the continuous solvent spray. Bed of the feed material on band conveyor is adjusted by adjustable damper. Band conveyor cleaning is accomplished by high pressure jet spray of fresh solvent on to the return of band conveyor at discharge end which ensures perfect cleaning of mesh and completely eliminates the possibilities of mash choking & channeling.

SPECTECs specially designed spray breakers ensures the uniform distribution of solvent over the entire width of moving bed. Fresh solvent is admitted into the extractor near the discharge end of the moving bed of the material and the full miscella is recovered from the initial stage, thus ensures the perfect counter current flow of the material and the solvent. The miscella circulates in a closed circuit in each of the successive section by overflowing from each hopper. So in each section there is an equilibrium between the oil extracted from the seed in corresponding section and the difference in oil content of solvent overflowing the preceding hopper together with the solvent overflowing the following section.



## SOLVENT DISTILLATION PROCESS

Special features of SPECTECs Economizers

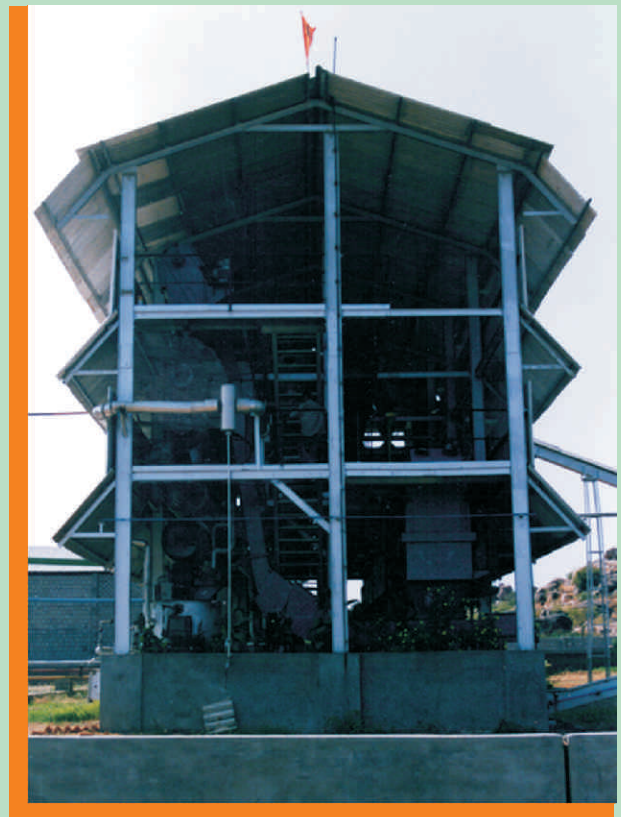
- Reduces the steam consumption.

- Increases the capacity of distillation section.

- Increases the capacity of condensing section.

The miscella from the tank is pumped through the vapor economizer, to the first evaporator. The economizer unit is specially designed in order to effectively utilize the heat of vapors emerging from the desolventizer toaster.

The concentrated miscella thus obtained from the economizer unit is rapidly heated in the first evaporator by means of low pressure steam and enters into the flasher, where solvent vapors are flashed off. The oil rich miscella thus obtained is charged into the second evaporator & stripper. The flashed of solvent vapors are condensed into the condensers & liquid solvent is recirculated back to the process through solvent water separator. Distillation system operates under high vacuum & lower temperatures & short distillation period ensures good quality of oil. Further more the distillation system is coupled with a final drying of oil in final oil heater, which results in production of oil with exceptionally low volatiles in it.







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## SERVICES

### TURNKEY PROJECTS.

with latest technologies and Related Forward & backward Integrations

Oil Seed Processing Machineries  
Oil Mill / Crushing plant ( Expellers )  
Solvent Extraction Plants  
Vegetable / Cooking Oil Refinery Plants  
Cooking Oil Physical Refinery Plants  
Dry Fractionation Plants  
Winterization Plants  
Hydrogenation Plants  
Steric Acid Plants  
Vanaspati Plants  
Bakery Shortening & Margarine Plants  
Fat Distillation Plants  
Lube Oil Refinery  
Bio Diesel Plants  
Acid Oil Plants  
Effluent Treatment Plants  
Wax Extraction Plants  
Pilot Projects  
Laundry/Toilet Soap Plants  
Cattle / Poultry Feed

### MODERNIZATION & CONSULTANCY

New and Existing systems.  
Incorporation of best of batch and continuous process.  
Feasibility study.  
Project Planning  
Erection & Commissioning.  
Piping, Electrical & Instrumentation.  
Basic Civil Construction.  
Utility Control.

### SPECIALITY EQUIPMENTS

Pressure Leaf Filters  
Plate & Frame Filters  
Polishing Filters  
Heat Exchangers  
Knife Mixer  
Disk Mixer  
All Types Of Control Valves  
Material Conveying Systems  
( screw conveyor, bucket elevator,  
belt conveyor etc.)  
All Types Of Bellows & Covers  
Non IBR Baby Boilers

### FABRICATION

Pipng  
Structure  
Storage Tanks  
All Equipments & Vessels related  
to above Projects  
All Kind of fabrication jobs  
Silos

**Head Office : CB-254,off No.1, 1st Floor, Ring Road, Naraina, New Delhi - 110028.  
Tel : 011-3265 8725 Fax : 011-2577 7397**

**Branch Office : Off No.19,Ground Floor, Udyog Kshetra, Link Road, Mulund (W),  
Mumbai-80. Tel : 022-32232125 Fax : 25662129**

**Email : [info@spectecindia.com](mailto:info@spectecindia.com)/[officespectec@gmail.com](mailto:officespectec@gmail.com)/[spectec7@gmail.com](mailto:spectec7@gmail.com)  
[www.spectecindia.com](http://www.spectecindia.com)**