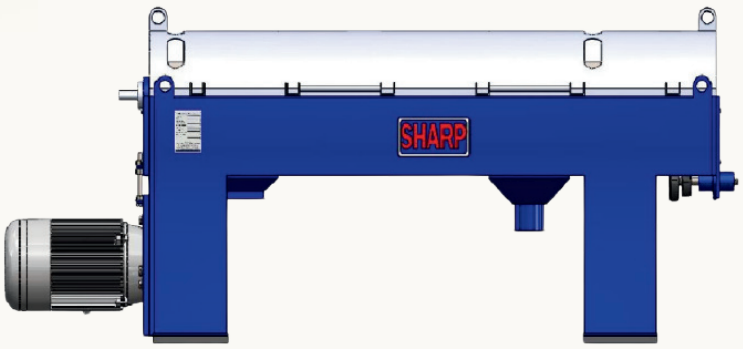
SHARP SEPARATION TCHNOLOGIES




# Complete Solution for Separation

# DECANTER CENTRIFUGE

## Continuous Solid-Liquid Separation

## Working principle

The feed product is pumped into the decanter centrifuge through the inlet. Feed goes into a horizontal bowl, which rotates. The bowl is composed of a cylindrical part and a conical part. The separation takes place in the cylindrical part of the bowl. The fast rotation generates centrifugal forces. Under these forces, the solid particles with higher density are collected and compacted on the wall of the bowl. A screw conveyor rotates inside the bowl at a slightly different speed. The screw conveyor transports the settled particles along the cylindrical part of the bowl and up to the end of the conical part of the bowl. At the smallest end of the conical part of the bowl, the dewatered solids leave the bowl through solid discharge port into the casing and the clarified liquid leaves through the port in the plate dam into the casing.

## Design

The Rotating part of SHARP super decanter centrifuge in a frame, with main bearings at both ends. Vibration pads are placed under the frame. The rotating part is enclosed in a casing with a stainless steel cover and a bottom section with integrated outlets for both solid and liquid.

## Features

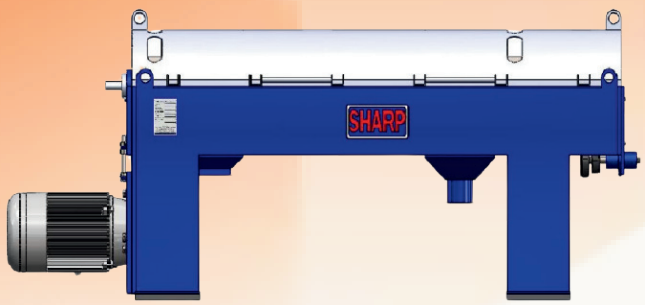
- All components in the decanter centrifuge is made up of wear-resistance material
- 360 solid and liquid discharge to avoid blocking
- Conical bowl for effective separation of any type of slurry

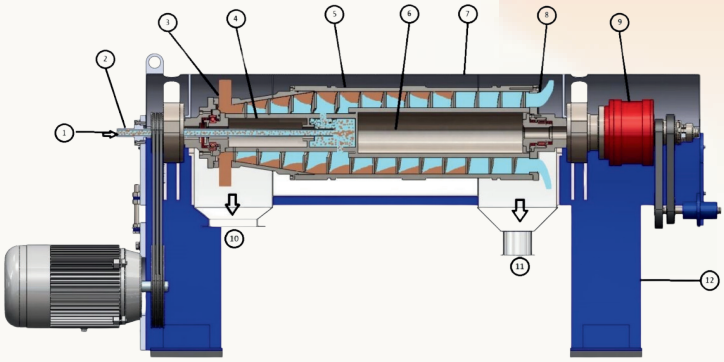
## Automation

The Sharp decanter centrifuge is equipped with a variable frequency drive (VFD). It is capable of controlling operation of the decanter for efficient performance and keeping costs of installation, commissioning and maintenance to minimum

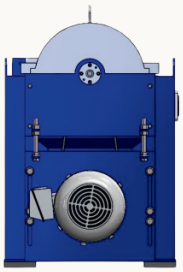
## Applications

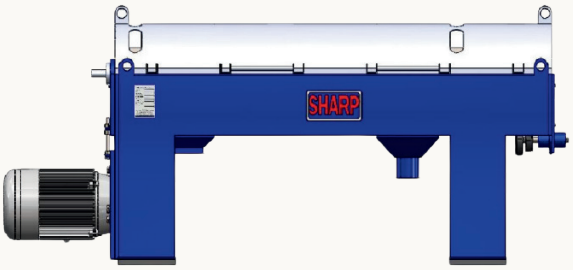
The SHARP Super decanter centrifuges is used for continuous solid - liquid separation. It is used in Chemical industry, Meat industry, Oil mills, Dying industry, Sewage treatment plant (STP) and Effluent treatment plant (ETP). They are designed to be efficient, simple to install and easy to maintain. The Installation and operating costs are minimum.



| | |
|---|---|
| 1 | Feed inlet |
| 2 | Feed tube |
| 3 | Solid discharge port |
| 4 | Inlet distributor |
| 5 | Bowl |
| 6 | Screw conveyor |
| 7 | Cover |
| 8 | Liquid discharge port |
| 9 | Gear box |
| 10 | Solid |
| 11 | Clarified Liquid - out |
| 12 | Frame |






## Technical specifications

| MODEL | SD-100 | SD-200 | SD-300 | SD-400 | SD-500 | SD-600 |
|---|---|---|---|---|---|---|
| LENGTH (L) | 1800 mm | 1800 mm | 3000 mm | 3200 mm | 3750 mm | 4050 mm |
| WIDTH (W) | 550 mm | 500 mm | 990 mm | 900 mm | 1100 mm | 1260 mm |
| HEIGHT (H) | 1000 mm | 900 mm | 1300 mm | 1100 mm | 800 mm | 800 mm |
| WEIGHT | 675 Kg | 863 Kg | 1860 Kg | 2400 Kg | 2900 Kg | 3600 mm |
| MAIN DRIVE MOTOR | 7.5 - 10 HP | 12.5 - 15 HP | 20 - 25 HP | 30 - 40 HP | 60 HP | 75 HP |
| STARTER/PANEL | VFD* | VFD* | VFD* | VFD* | VFD* | VFD* |
| *variable frequency drive | | | | | | |

## Parameters

| MODEL | SD-100 | SSD-200 | SD-300 | SD-400 | SD-500 | SD-600 |
|---|---|---|---|---|---|---|
| BOWL DIAMETER (ID) | 230 mm | 280 mm | 355 mm | 450 mm | 550 mm | 750 mm |
| BOWL LENGTH | 1060 mm | 1060 mm | 1512 mm | 2100 mm | 2460 mm | 2710 mm |
| BOWL SPEED | 5000 RPM | 4600 RPM | 4000 RPM | 3150 RPM | 2300 RPM | 1500 RPM |
| G Force | 3150 G | 3150 G | 3150 G | 2400 G | 1616 G | 1000 G |
| GEARBOX RATIO | 1:159.5 | 1:100 | 1:57 | 1:50 | 1:137 | 1:137 |

# DISC BOWL SEPARATOR

## Continuous Solid-Liquid-Liquid Separation

**Separator drive SHARP DISC STACK SEPARATORS, separating liquid-liquid with fine solids continuously. The rotation of disc stack separator vertically. The conical make disc stack is fixed inside the bowl. The mixture of two immiscible liquid and fine particles feed inlet at the top of the stationary arrangement feed tubes. the bowl rotate at high speed and generate high amount of force, immiscible liquids separated and discharged at the top of the two outlet ports, the fine solid resting inside. The bowl while running the separators the sliding bowl open through hydro system, fine solid will troughed through solid ports in bowl. Drive motor connected with bowl shaft, the energy is transmitted through worm and worm wheels or belt drives, losses are lower than other drive. The motor operated through VFD programmed control panel with high speed indication. Eliminating need for gears, clutches, and belts consumes less Lubricating.**

## Material of Construction

**All products welted parts are made of stainless steel. The bowls are made of High Chrome Nickel Steel. Sealing are made of NBR, EPDM, and VITON.**

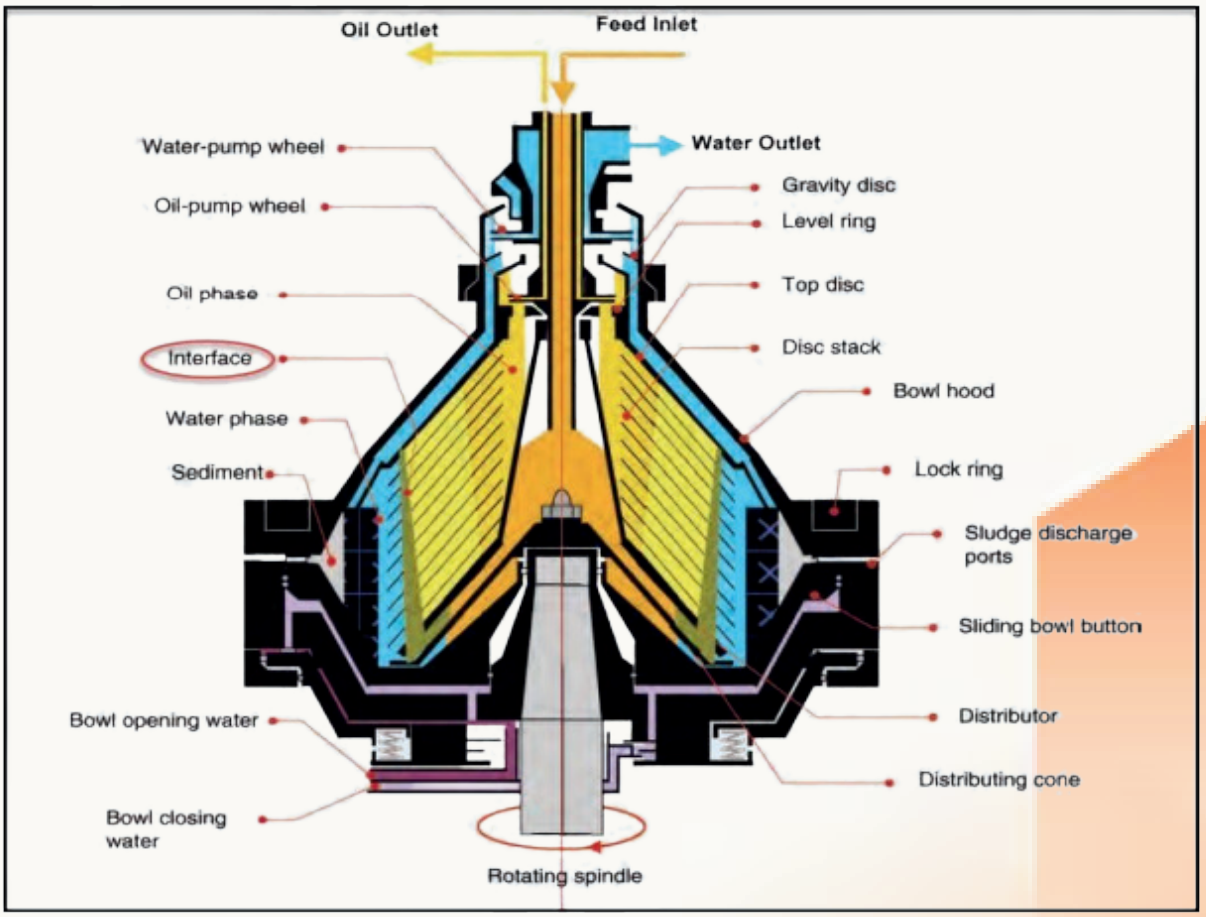
## Rotor Bearing and Lubrication

**The special selection and arrangement of bearings provide long life and exceptional reliability. The lubrication of bearing has internal systems with level indicators.**

## CIP

**Designed according to the requirement. They can easily be integrated into automatic CIP system.**


HOW IT IS WORKS:



# HIGH SPEED CENTRIFUGE

Continuous Liquid-Liquid Separation

## High Speed Tubular Bowl Centrifuge

**High Speed Vertical Tubular Bowl Centrifuge, generating centrifugal force in excess of 16000 times the force of gravity. This centrifuge used for continuous separation of two immiscible liquids having different specific gravities, and for clarification of liquid.**

## Description

**A slow acceleration special motor and starter operates this machine. The slurry is fed through the bottom of the bowl and the separation takes place inside the bowl by centrifugal force created by high speed. It creates separate circle of layers and comes out continuously through the bowl top and further separate discharges through covers.**

## Standard Material

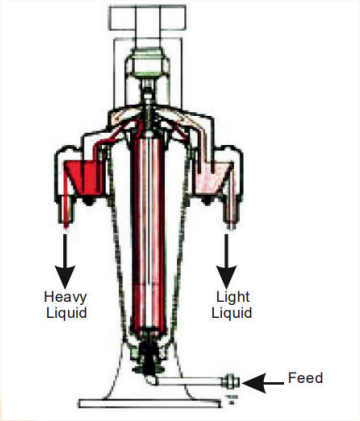
**The High Speed Centrifuge has a prominent frame and a high grade steels**
**Application: Chemical Pharmaceutical Oil and Others**

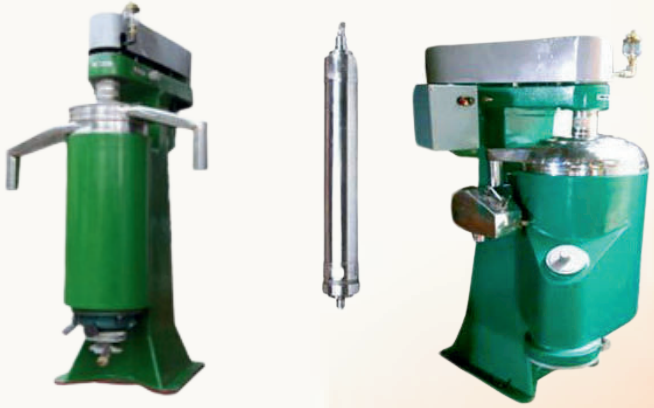
## Capacity

**300, 600, 1250 LPH**

## Advantages

**Increased Daily Production**
**Highly economical operational costs. No recurring expenses. Zero spillage due to close and com operations. Easy to apply and user friendly.**



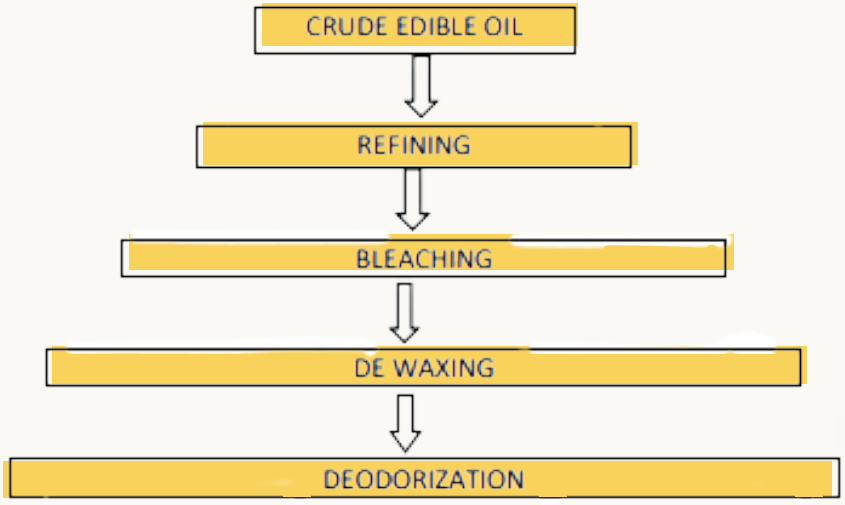
# EDIBLE OIL REFINING PLANT

Crude Edible oil is normally processed by means of chemical or alkali refining, and established technology reliable for production of finished oil of consistent quality, regardless of the origin of characteristics of feedstock.

Complete alkali or chemical refining as three basis steps, after de-gumming, first step starts with a phosphoric acid condition to transform water insoluble phosphatides into hydrophilic compounds. Next, oil is mixed with caustic which, besides neutralizing oil is mixed with caustic which beside neutralizing free fatty acids, also decomposes pigments, traps phosphorus compounds trace metals, proteins and oxidizing materials.

This oil goes to the second main step, bleaching , where contact with good quality bleaching earth is enough to adsorb pigments, decompose one half of remaining oxidation products, adsorb all soaps and most of phosphotides. Bleached oil flows to the third step dewaxing here we chille oils and remove the gums by the help of plate and frame filter and foruth deodorization, where fatty acid, aldehyde, ketones, hydrocarbons and other unwanted materials are vapourised with stripping steam at high vacuum.

The final edible oil collected in the final oil tank. Quality of the deodorized oil measured as flavour stability and other parameters is good.








# SHARP ON QUALITY, DURABILITY & COST EFFECTIVE


## HEAD OFFICE & FACTORY

SHARP SEPARATION TECHNOLOGIES
Plot No. RTC 60 AND 61
MIDC, RABALE, NAVI MUMBAI
400701, MAHARASHTRA

+91 98928 25158
+91 93218 66363
+91 86930 35909
+91 84509 52576
+91 91363 12845

SHARP SEPARATION TECHNOLOGIES
Plot No. E3/1 MIDC Anand Nagar
Ambernath East Thane,
Maharashtra, 421506

sharpdecanter@gmail.com

sharpengg.com

Delhi Bengaluru Hyderabad Chennai.