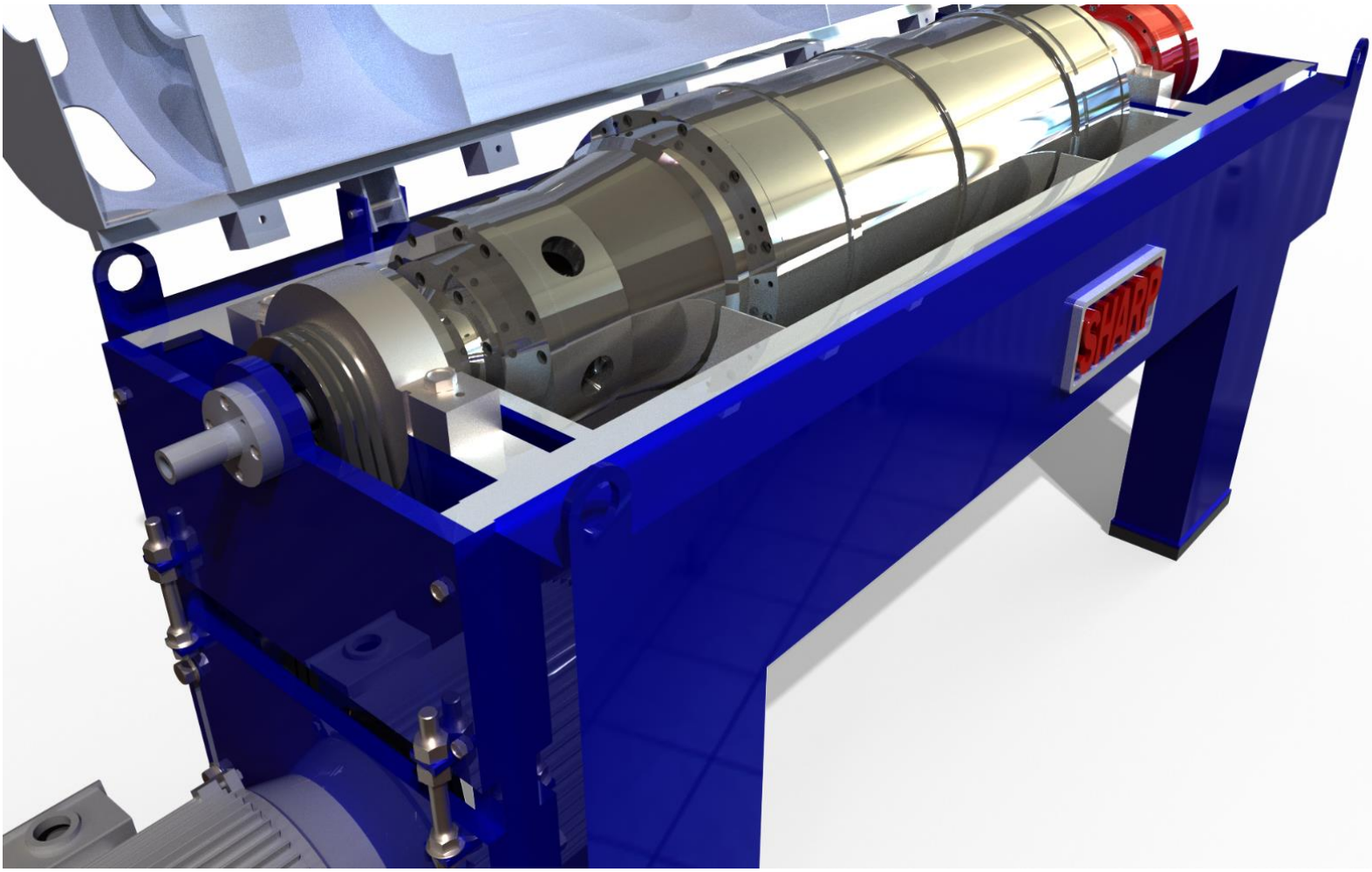
DECANTER CENTRIFUGE



Applications

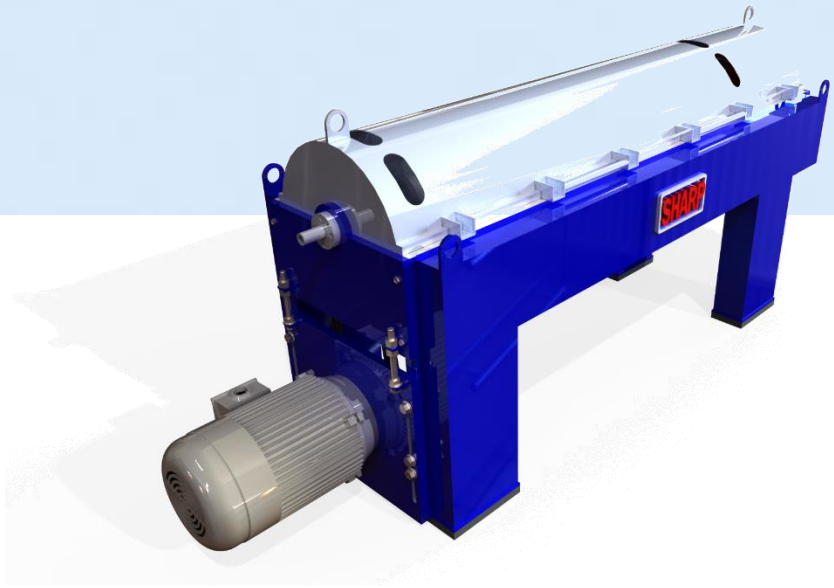
The SHARP Super decanter centrifuges is used for continuous solid - liquid separation. It is used in Chemical industry, Meat industry, Oil mills, Dying industry, Sewage treatment plant (STP) and Effluent treatment plant (ETP). They are designed to be efficient, simple to install and easy to maintain.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

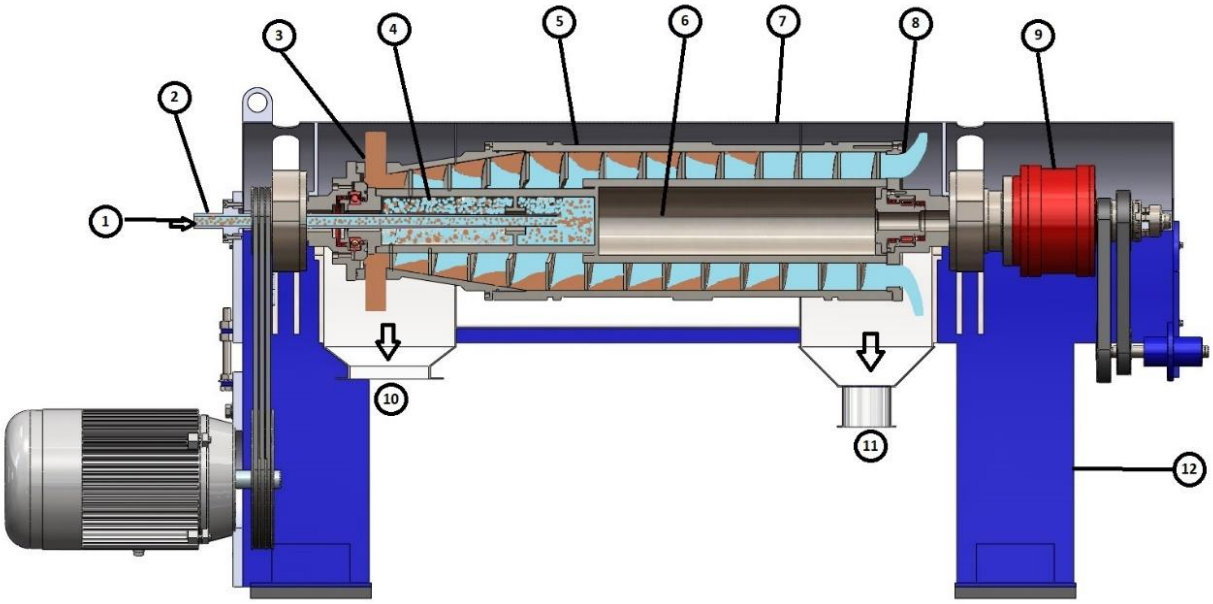
Design

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.

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.

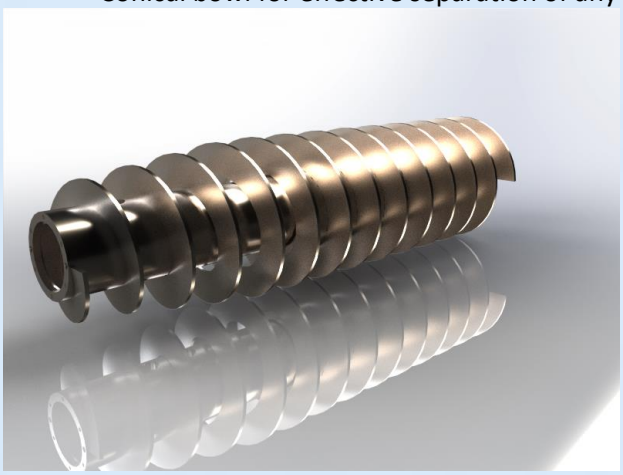




1	Feed inlet
2	Feed tube
3	Solid discharge port
4	Inlet distributor
5	Bowl
6	Screw conveyor
7	Cover
8	Liquid discharge port
9	Gear box
10	Solid
11	Clarified Liquid - out
12	Frame

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



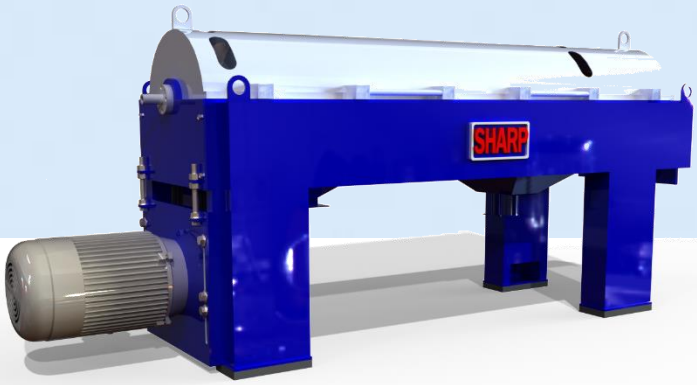
Process optimization

Sharp super decanter can be adjusted accordingly for specific requirements

- By varying bowl speed to obtain the G-force required for most efficient separation
- Conveying speed for liquid clarity and solid dryness

Drive system

In Sharp decanter centrifuge, the bowl is driven by an electric motor. Power is transferred to the conveyor via a planetary gearbox. The differential speeds of the bowl and the conveyor can be controlled without changing the pulley or belt

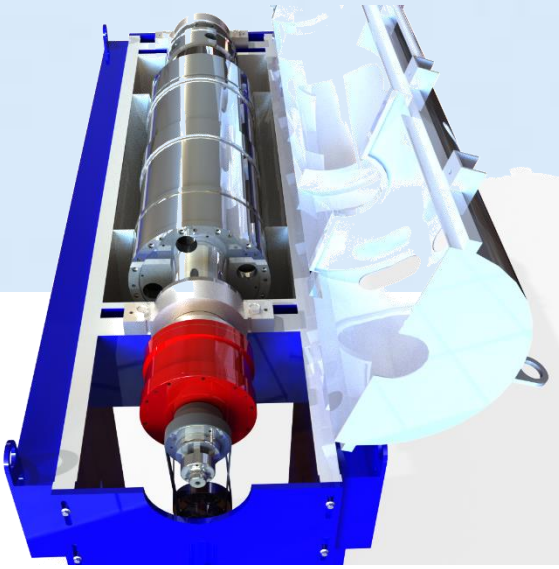


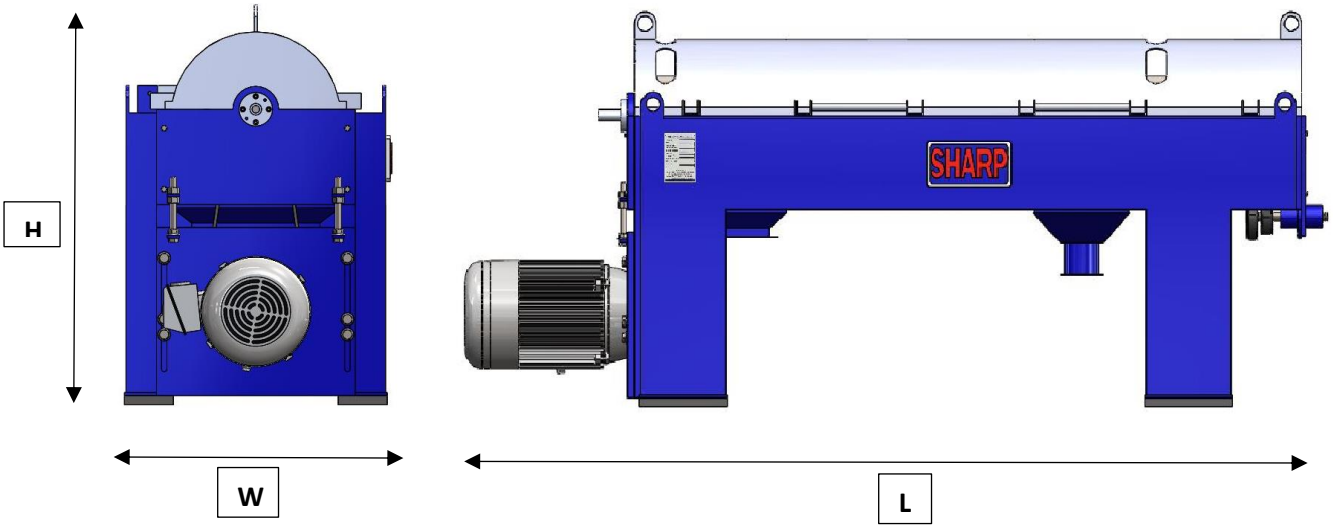
Materials

The bowl, conveyor, feed tube, cover and other parts in direct contact with process media are all made up of stainless steel. The frame is made up of mild steel

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





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