

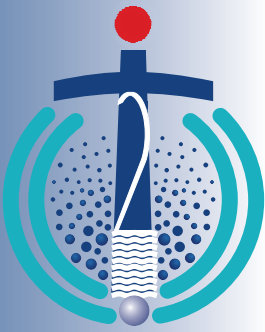
# DECANTER CENTRIFUGE

*“Understanding YOUR need is part of OUR process”*



*Experience the Change....*

*Water 2 People Teknologies*



Water 2 People Technologies

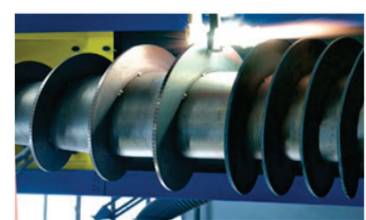
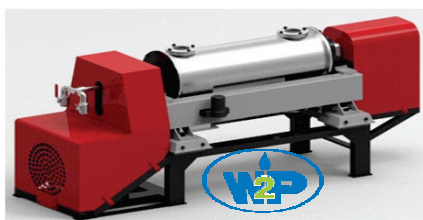
• Total Water & Waste Water Solutions •

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WATER2 PEOPLE TEKNOLOGIES provides solutions to all technological problems of Solid-Liquid separation backed by a modern infrastructural base, expertise of our in-house engineers, and rich experience, we have established our presence as the most reliable manufacturer, exporter and supplier of supreme grade *Solid Bowl Decanter Centrifuge*. Our products are manufactured using optimum grade material and advanced techniques in adherence to set industry norms. The complete array of the offered product is thoroughly examined against assorted quality constraints to make sure their quality. Additionally, we provide these products at pocket-friendly rates.

Based on the principle of sedimentation, the **Decanter Centrifuge Machine** uses the force developed under fast rotation of a helical screw conveyor which separates the liquid from the solid fraction at a slightly higher or lower speed than the bowl. Often the solids are too fine to be dewatered satisfactorily in the filtering centrifuges. They can be separated in solid bowl centrifuges provided their sedimentation speed in the mother liquid is sufficient. The sinking settling speed is determined by Particle size, Particle shape and difference in density between solids and liquids as well as their viscosity. In Decanter Centrifuges the cleaning of liquid takes place in cylindrical part where as dewatering of solids by compression of the filter cake takes place in conical part of the bowl. The geometry of the bowl, relation with length and diameter to be adapted to suit the application. The system is continuous, compact and enclosed while offering versatility, high performance, and low maintenance. The Decaners / Solid Bowl Centrifuges are used for clarification (liquid / solid separations), dewatering and classification duties in various process industries.



## PRINCIPLES OF SEPARATION SYSTEM

The decanter is used for the separation of two or more phases of different specific gravity, in particular for the clarifying of liquids in which suspended solids are present. The separation of solids and liquids takes place within a cylindrical/conical rotating bowl, upon the periphery of which the heavier solid phase collects and is continually removed by the internal conveyor. A polyelectrolyte, suitably chosen for its type and specific characteristics, may be added to the product being fed to the machine in order to improve the solid-liquid separation. The polyelectrolyte favors the aggregation and thus the easier capture of the solid particles. A polyelectrolyte is not always compatible with products being processed. It is generally used in purification processes for the drying of sludge, but not in intermediate product conversion processes, and even less in the processing of foodstuffs.



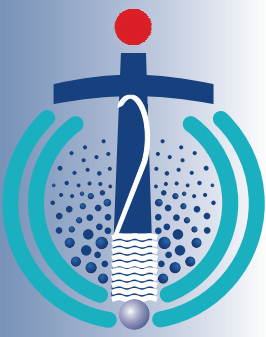
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## SALIENT FEATURE

- \* Co-Current design
- \* Simple, rugged construction
- \* Tow - three-phase separation process
- \* Rotor comprising screw conveyor inside conical/cylindrical bowl
- \* Screw conveyor (single flight or multiple flights), with or without hard surfacing
- \* Conveyor and bowl in various stainless steel : SS 304 , SS 316/316 L
- \* Solids discharge through collecting channel and hard-surfaced scrapers
- \* Wear protection of conveyor flights in tungsten carbide
- \* Wear protection (interchange able ) of conveyor systems
- \* Drive by electric motor and V-belt with gear box for high strength and reliability
- \* Oil lubrication for gear box and greasing for bearings
- \* Overload protection device
- \* Fixed differential speed variation
- \* War protection including inter changeable tungsten carbide tiles
- \* Automatic differential speed variation on request
- \* Vibration dampers



## OPERATION SYSTEM

- \* Separation takes place in Horizontal conical / cylindrical bowl with screw conveyor.
- \* The slurry in feed into the bowl through a stationary inlet tube and accelerated by specially design inlet distributor.
- \* Centrifugal force leads to instant sedimentations of the solids on the wall of bowl.
- \* The conveyor , rotating in the same direction as with differential speed, conveys the solids to conical end. The solids are lifted clear of the liquid and centrifugally dewatered before being discharged into the collecting channel.
- \* The clarified liquid flows into the housing through opening in cylindrical end of the bowl.

## TYPICAL APPLICATIONS

- \* Treatment and disposal processes of sludge form municipal and industrial waste water
- \* Drying of animal slurry
- \* Inorganic products aluminum hydroxide, barium sulphate, lead oxide, chromium oxide ferrous hydroxide, magnesium hydroxide, titanium dioxide, zinc sulphate, etc.
- \* Organic products carboxymet hylcellulose, caprolactam, dimethylterephthalate, terephthalic acid, phthalic acid, etc.
- \* Plastics carboxymethylcellulose, caprolactam, dimethylterephthalate, terephthalic acid phthalic acid, etc.
- \* Silicates asbstos , clay, etc.
- \* Cellulose de-inking flotation concentrate.
- \* Foodstuffs fishmeal, casein, whey, etc.



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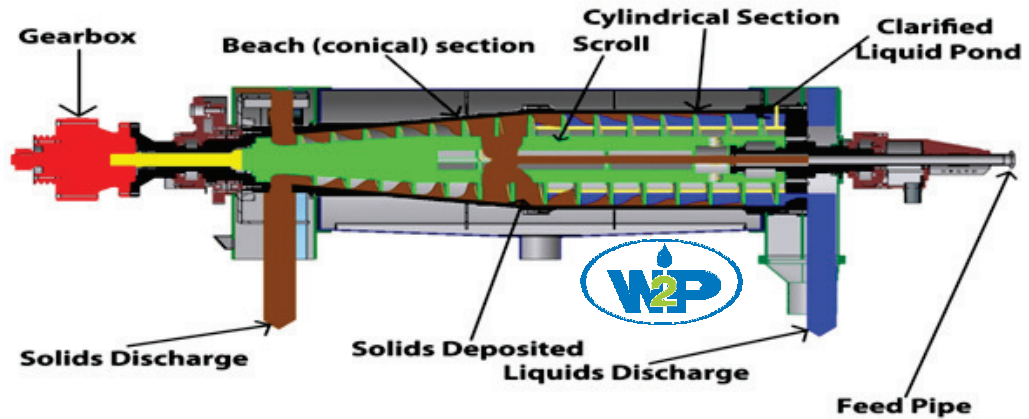
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## EQUIPMENT PARTS DETAIL

**Solids Discharge:** This is where the dewatered solids drop. Normally, screw conveyor with a valve or diverter gate is position bedfellow the discharge . This is because for the first few second after star up liquid will come out of the solids discharge of a centrifuge.

**Solids Deposited:** There are the settled solids. They for man annular, 360 degree, shape around the bowl, and being conveyed forward by the scroll/screw of the centrifuge at a rate relative to the differential speed.

**Liquids Discharge:** This is the liquids discharge end of the centrifuge, this liquids is still dirty, and is end bak to the head of plant. The water looks clear or slightly turbid, with a usual capture rate of 95----98%.



**Feed Pipe:** This is were the sludge is fed, one some machine, the feed pipe is on the other end of the machine. The sludge is fed upon half way through this feed pipe, at which time the sludge is release and by the centrifuge force, the solids settle along the out side of the bowl. This is adjustable for optimization.

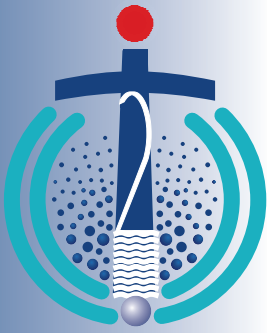
**Clarified Liquid Pond:** This is the separated liquid part of the centrifuge, once the liquid reaches the outlet level, the liquid begins to discharge.

**Cylindrical Section:** 90% of the dewatering occurs in this section.

**Beach (Conical Section):** This section is designed to exert additional force on the solids, squeezing out the last drops of liquids as are not only applying the centrifugal G- for but also pushing the solids uphill. It is designed to elevate the solids above the water line into the discharge chamber. The angle of inclination canary from 8 to 15 degrees depending on the sludge character rustics.

**Drive System:** The centrifuge is equipped with a drive system composed of an electric motor, a hydraulic motor, hydraulic pump and cycle gear box. The electric motor provides the power required to turn the complete rotating assembly driving the drum directly and the scroll through the hydraulics. Controlling the differential speed between the drum and the scroll in PLC Controlled. The PLC Controls the working cycle as well as the protection in case of torque overload





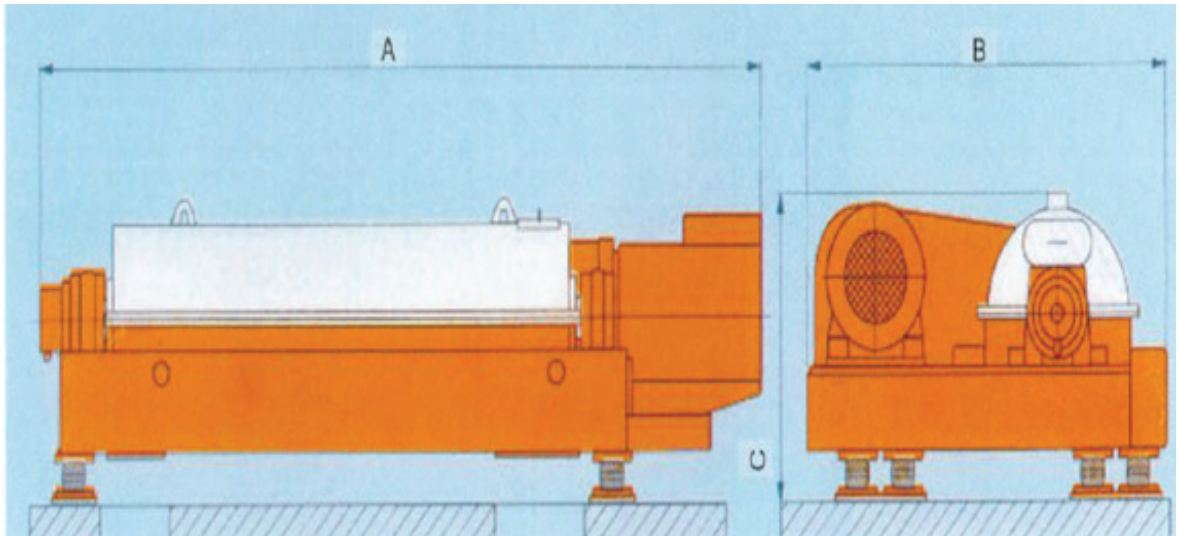
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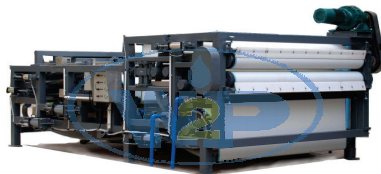
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## TECHNICAL DATA



Centrifuge Model	Capacity M3/Hr	Drive Motor HP	Max 'G' Force	Max bowl Speed RPM	Machine Size(mm)	Dimensions*		
						A (mm)	B (mm)	C (mm)
CFG-250-H	1-2	10	2689	4400	250 X 750	1512	1040	620
CFG-350-H	4-6	15	2247	3400	350 X 1050	2189	1400	825
CFG-350-HL	8-12	25	2662	3700	350 X 1560	2850	1280	789
CFG-450-H	12-15	25 / 30	2175	2950	450 X 1350	2732	1515	1012
CFG-450-HL	20-25	30	1755	2650	450 X 1950	3425	1515	1012
CFG-530-H	25-30	30 / 40	1425	2200	530 X 2270	3700	1515	1012

### Our Other Dewatering Products



**Belt Press**



**Filter Press**



**Basket Centrifuge**

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