

Centrifugal Decanter

 **INGOR**
Industrial Equipment Custom Manufactured

CENTRIFUGAL DECANTER

Centrifugal decanters have been designed and built under the most modern European technology with an accumulated experience of more than 30 years.

The centrifugal decanters are used to separate two or more phases having different specific weights, that's to say in liquid clarification processes having solid materials in suspension.

The separation of the solid phase from the liquid one takes place inside a conical-cylindrical revolving bowl. The heavier solid phase is deposited on the internal walls of the bowl, being constantly scraped off by the internal cochlea until being expelled through the orifices located at the end of the conical section.



CONTROL SYSTEMS

INGOR has a wide range of centrifugal decanters with two possible differential speed control systems:

- **Electrical Control:**

This control system is done by means of the installation of two independent engines leading the bowl and the worm gear. Both engines are governed by two frequency variators. This configuration allows adjusting the speed with total accuracy, optimising the torsion stress at the exit, and to adapt each specific operation to the requirements of each specific process and product.

- **Mixed control:**

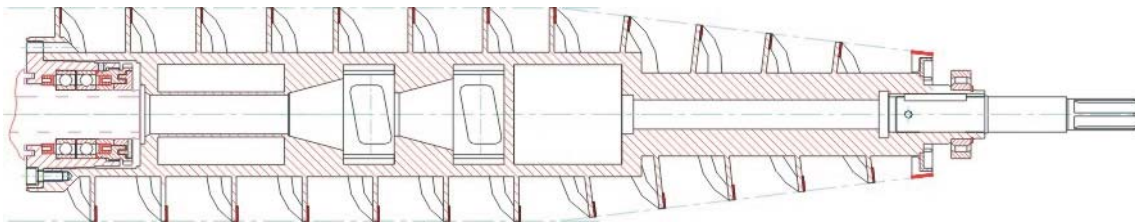
This system adopts the installation of an engine managing the bowl, and a hydraulic power station controlling the worm gear differential speed. The control includes, in addition, a protection system by means of an alarm that limits the speed to a maximum value with automatic readjustment and an automatic emergency shutdown. The original differential speed is between 5-25 rpm. While starting up the unit, this value is adjusted to the requirements of the plant and the product to treat. The equipment differential speed is automatically adjusted in function of the return.



DESING

We can emphasize from the Centrifugal Decanter design:

- The ratio between the length of the bowl and its diameter (L/D) is around 4,3, allowing, thus, working at a high turnover rate and a low differential speed. The exceptional length of the bowl, together with the quotient between L/D allows increasing the time of residence of the mixture inside the equipment, to extend the separation between the two phases and to obtain a higher separation.



- The differential speed between the bowl and the screw is placed between 5-25 rpm.
- All the parts in contact with the product are built in stainless steel AISI 304L or 316L. The unit main mechanical parts (bowl, screw, screw blade) have a 2 -3 mm WC2 (65%) layer. This protection improves the mechanical resistance and prolongs the working life.
- The bowl and screw speed control has done independently, either by means of the installation of two engines or an engine to operate the motor and a hydraulic power station for the control of the worm gear differential speed.
- According to the needs of each specific plant, the working parameters such as speed, differential speed, number of steps and the opening of the screw can be adjusted easily.

TOTAL AUTOMATION

The Centrifugal Decanter is an automatic unit working in continuous and can be programmed avoiding, thus, the intervention of personnel while the starting up, the cleaning process, or the shutting down at the end of the working day.



Under the centrifugal force, the sludge is introduced in the feeding chamber through the screw and is expelled from the body once separated. While this happens, the sludge is continuously being fed circulating through the bowl, thanks to the screw action, to be finally expelled at the end of the run.

Available

Model	Supply flow (m ³ /h)	Sludge disposal (kg/h)	Weight (kg)	Drum's length (mm)	Drum's diameter (mm)	L/D Relationship	Rotacional speed (rpm)	Engine power (kw)
DC1-220	2-6	400	900	930	220	4.2	4.800	11
DC1-300	4-11	800	1.400	1.300	300	4.3	4.200	11~15
DC1-350	6-17	1.200	1.800	1.550	350	4.4	3.700	15~22
DC1-400	9-28	2.000	2.200	1.750	400	4.4	3.200	18.5~30
DC1-450	12-35	2.500	2.600	1.940	450	4.3	2.800	22~37
DC1-530	23-70	5.000	4.000	2.270	530	4.3	2.500	30~45
DC1-650	37-90	8.000	6.500	2.800	650	4.3	2.200	37~55
DC1-760	47-110	10.000	8.500	3.040	760	4.0	2.000	55~90
DC1-900	70-150	15.000	12.000	3.600	900	4.0	1.800	75~135



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