

DDE 4042

Decanter Centrifuge for Waste Water



THE PRODUCT

DDE4042 is a decanter centrifuge: horizontal rotating bowl, 2-phase configuration, continuous discharge of sludge through scrolling conveyor, dual-drive type, variable differential speed.

THE APPLICATION

DDE4042 has been designed by HAUS for municipal and industrial waste water treatment plant, or potable water plant. DDE4042 extracts the larger number of suspended solids from the water, concurrently increasing the dryness of the sludge. Advance manufacturing and innovative design make DDE4042 a competitive solution for any dewatering needs.

SPECIAL FEATURES

DDE4042 is able to treat continuously a medium quantity of waste water with high solid content, extracting the greatest part of suspended solid, and generating a dryer sludge.

This is possible thanks to design solutions, like:

- High G-Force: a slender cylinder, rotating at very high speed
- Pond Depth Regulation: to work positive, neutral, or negative
- Variable Solid Conveying Speed: to handle different solid quantity with desired dryness
- Dual Drive: a main motor moving the bowl, and a secondary motor moving the conveyor, both driven by Frequency Converter (VFD) and linked by a high torque gearbox without friction clutch.
- PLC with Human-Machine Interface (HMI): to set different automatic mode, to adjust the sludge dryness and other operational parameters, to monitor alarms.
- High Stability Basement, a robust steel structure painted epoxy, with dumpers and anchor plates for easy ground installation
- Quality Materials: the rotating parts are made in high grade stainless steel, while the conveyor tips and feed zone are protected with sprayed hard material, for longer wear resistance
- Functional Covers: main casing made by double layer of stainless steel, with friction assisted hinges for easy opening and bowl inspection and cleaning; two separate smaller casings protecting the driving parts, allowing a dedicated access for maintenance and inspection.

DDE4042 higher efficiency means a cleaner water and a dryer sludge, while consuming less chemicals and energy

APPLICATIONS

- municipal waste
- industrial waste
- thickening
- dewatering
- potable water
- aquaculture
- Bruckner sludge
- DAF sludge

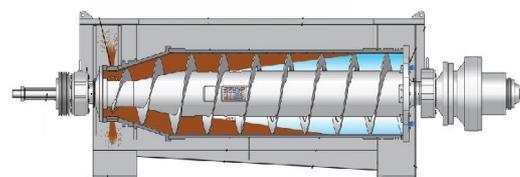
HIGHLIGHTS

- capacity
- hydraulic load
- solid load
- efficiency
- clarification
- sludge dryness
- heavy duty
- energy saving
- polymer saving
- auto-regulation
- wear resistance
- easy service

OPERATING PRINCIPLES

The product mixture is introduced from the center in to the bowl, where it is put on rotation. The centrifugal force let the solid and liquids being separated according to the density differences. The heaviest solid accumulates to the bowl periphery, and it is driven by the conveyor towards the conical end. The conveyor pushes the solid to exit at a smaller radius, obtaining a draining effect. The liquid fill the bowl below the solid, and exit at the cylindrical end, where outlet ports of proper radius (liquid level) are mounted. The relative speed of the conveyor defines the solid scrolling capacity and the solid dryness, while the radius of the liquid outlets defines the liquid purification degree.

In the Dual Drive system, the speed of the conveyor is determined by the speed of the secondary motor, that supply also the additional power. When the secondary motor is driven by frequency converter, setting of such a speed and its variation is possible and easy even during running



Example of 2-phases bowl configuration



Example of Dual Drive system

STANDART CONFIGURATION

- Decanter Standalone, 2 phase, Dual Drive
- Control Panel Standalone with PLC and Variable Frequency Drives for main and secondary motors
- Set of Tools
- Operator Manuals

OPTIONALS

- Polymer Make-Up unit
- Accessories: pumps, valves, probes, etc.
- Automatic Lubrication for bearings

TECHNICAL DATA

Bowl Diameter - L/D ratio	400 – 4.22
Installed Power kW (main+sec. motor)	30 + 11
Optional (sec)	15
Gearbox Nominal Torque kNm	3.15
Optional	5.0
Weight Total (kg)	2.200
Main Dimensions (mm)	3.930 x 1000 x 1.115

MAIN MATERIALS

Bowl Body	Duplex EN1.4470
Optional	Super duplex EN1.4410
Bowl Internal Protection	AISI 316 Ti Liners
Optional	Super duplex EN1.4410
Frame	Steel structure, epoxy painted
Scroll Body	AISI 304
Optional	AISI316, Duplex EN 1.4470 Super duplex EN1.4410
Scroll Flights	AISI 304
Optional	AISI316, Duplex EN 1.4470 Super duplex EN1.4410
Scroll Flight Protection	Flame Sprayed TC*
Optional 1	Sintered TC Tiles Until Solid Outlet
Scroll Feed Zone Protection	TC Coated Plate
Bowl Solids Outlet Protection	Replaceable Bushing in Hardened Cast Iron
Optional 1	Sintered TC Bush

* TC = Tungsten Carbide

