GN Disc Stack Separator – New Centrifuge for solids liquid separation

GN is always bringing the qualified industrial separation equipment to client. This artical will introduce GN disc stack separator from the operating principle, classification, applied industries to make visitors or equipment user a clearly understanding of GN separator.

HOUSTON (PRWEB) May 09, 2020 -- Being a separation solution provider, GN Separation is always committed to manufacturing and supplying single equipment and integrated system to client for their separation challenges. In GN production line, the disc stack separator is no doubt a star product due to the wide application in many industrial areas.

GN Disc Stack Separator Working Principle
Disc stack separator, also named conical plate centrifuge, different from the horizontal decanter centrifuge, is a type vertical installed centrifugal separator; however with much higher rotating speed and G force that are seemed as the most important factors in solids liquid separation. GN disc stack separator is designed top feeding with low pressure; therefore, before being fed into the separator, the slurry can be stored in a vessel above the machine or fed into the separator by using a low pressure pump.

When it comes to the 3-hpase separation disc stack separator, the working principle is as followed. The slurry getting into the bowl of the disc stack separation, under the high centrifugal force produced by high speed rotation, the slurry passes through a group of disc/conical plate intervals. the liquid with larger specific gravity moves along the disc wall towards the outside the neutral hole and the flows upward to the centripetal pump, heavy slag accumulates in the sediment area, the lighter liquid with a smaller specific gravity moves along the disc wall into the neutral hole and converges to the lower centrifugal pump. The light and heavy liquid phases are discharged different centripetal pump respectively.

GN Disc Stack Separator Types
The disc stack separator can be classified as per different standard or definition. Here would introduce two ways to classify this type centrifuge.
1. Classification as per solids discharging method:
   - Solids retaining type –this type is always solid bowl, used when the solids content is less than 0.5%, and need to remove the solids manually.
   - Nozzle type – this type is used when the solids content is less than 35%. It can discharge the solids continuously.
   - Solids ejecting type – this type is used when the solids content is less than 10%. It can automatically discharge the solids intermittently.

2. Classification as per material to be separated:
   - 3-Phase disc stack separator – it is normally used to separate heave liquid, light liquid and solids. The most application is oil, water and solids separation in wastewater treatment. Sometimes, when separate 2 types of insoluble liquids with different density, the 3-phase disc stack separator is also applied.
   - 2-Phase disc stack separator – it is always used as a clarifier machine to remove the small amount of suspended solids to make the liquid much clear. Therefrom, the 2-phase disc stack separator is also named clarifying disc separator. A typical application is to remove the yeast in beer fermentation broth.

GN Disc Stack Separator Features
1. The bowl is made of imported high-strength and corrosion-resistant stainless steel material through high-pressure integral forging, four times non-destructive testing and CNC machining. Ensure the safe and reliable
operation of the separator under long time, high load and high speed.
2. The key part of disc is made by one-time spin forming, precision surface finishing treatment, so that the slurry can be separated under the minimum friction resistance to obtain the best separation effect.
3. The main control cabinet can be designed to be explosion-proof and non-explosion-proof. Usually the start, stop, emergency stop and manual slag control of the separator, ammeter, alarm, etc. can be performed in real time. Each separator is equipped with independent PLC control and independent touch screen, and has four kinds of alarm functions: vibration alarm, speed alarm, slag discharge less than specified value alarm and drum leakage alarm.

Typical Disc Stack Separator Application
In most of the industrial separation applications, the decanter centrifuge and disc separator are always used together but located at different procedures. The decanter centrifuge or tri-canter centrifuge is used to remove large solids content as heavy duty separation equipment, the disc separator is used for clarifying purpose to work more gently.
1. Environmental and wastewater Industry
Sludge dewatering treatment is the important stage of the urban swage, water plant sludge water, industrial and agricultural waste treatment engineering. It can not only create social and economic benefit, but also reduce pollution emissions.
2. Chemical and Pharma Industry
In the chemical and pharma industry, the performance of the disc stack separator has strict requirements. Safe is the most priority. GN can customize the appropriate disc separator to ensure the machine availability and applicability.
3. Food and Beverage Industry
GN disc stack separator is widely used in clarification, concentration and extraction processes in the production of dairy products, soy drinks, alcohol drinks, tea and edible oil.
4. Biofuel Industry
In the biofuel production process, the disc stack separator is usually used to separate glycerin water from fatty acid esters and biodiesel-washing. And clarifying disc stack separator is used to separate solid impurities from biofuel.

For more information on GN disc stack separator, please feel free to contact with GN Separation via below contact information. Besides, you can also get more information regarding the solids control technology that is the other GN Separation solution especially for mud treatment.

Website: https://www.gnseparation.com
Email: sales (at) gnseparation (dot) com
Contact Information
Bruce Dong
GN Separation and Conveying Equipment Co., Ltd
http://https://www.gnseparation.com
+86 13731500403

Thomas Meng
GN Solids America LLC
http://www.gnsolidsamerica.com
+1-7138780880

Online Web 2.0 Version
You can read the online version of this press release here.