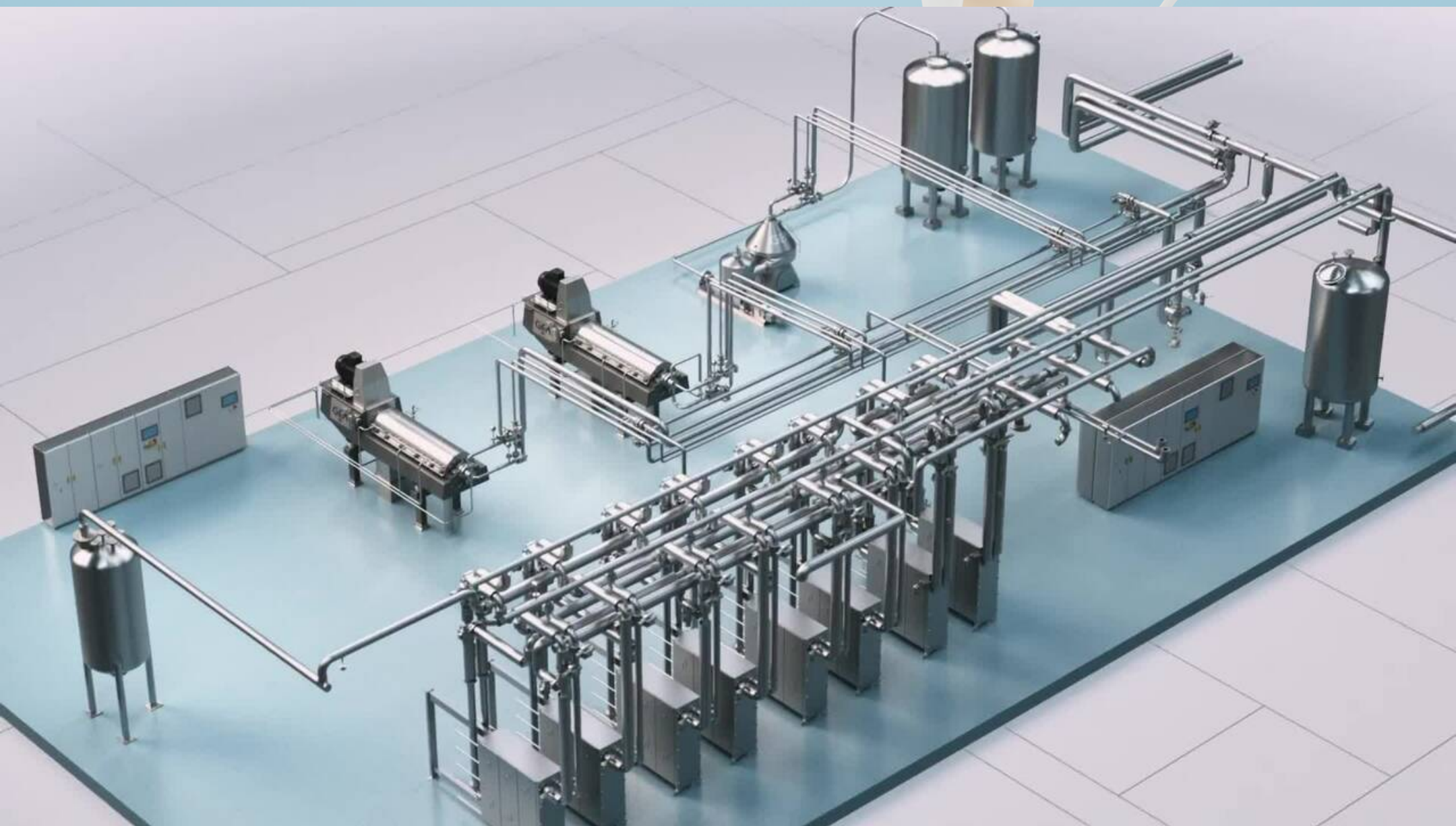
DECANTERS AND SEPARATORS

FOR PLANT PROTEINS



Decanters/separators are types of equipment used in the production of plant-based proteins to separate solids from liquids. This equipment is commonly used to extract protein from plant-based sources such as soybeans, peas, and canola.

- **The working principle of decanters/separators for plant proteins is based on centrifugal force, which is the force that causes objects to move away from a center of rotation.**

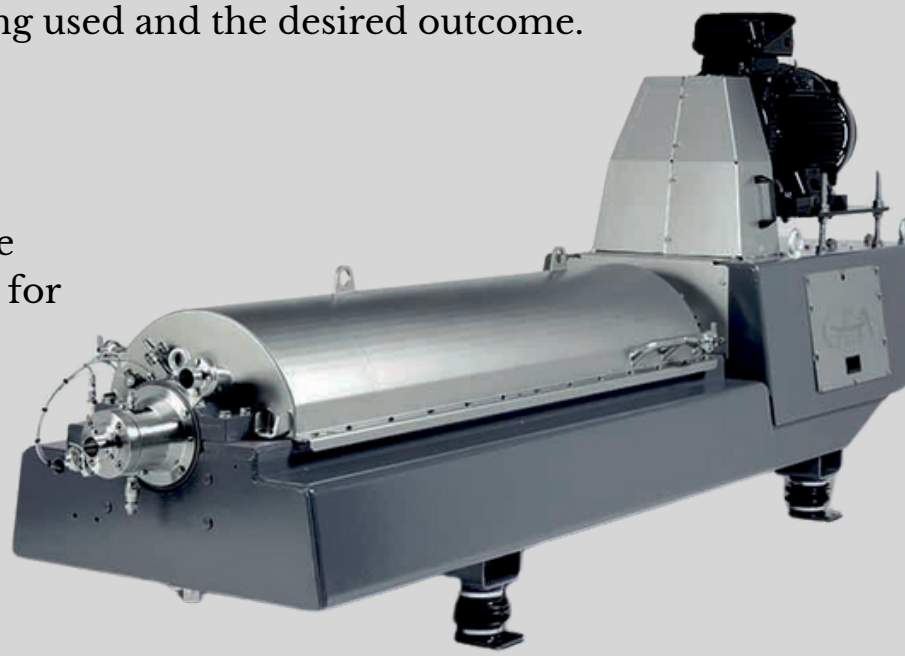
- **Decanters** are centrifuges that use gravity to separate the solids from the liquid. The plant-based material is introduced into the decanter and spins rapidly. The denser solids, which contain the protein, are forced outwards while the lighter liquid is drawn towards the center.

- Separators work in a similar way to decanters but use a different type of centrifugal force. The plant-based material is introduced into the separator and spun rapidly, causing the denser solids to separate from the liquid.

- The solids are then discharged through one outlet while the liquid is discharged through another.

- Both decanters and separators are used to extract protein from plant-based sources, but the choice of equipment may depend on the specific plant material being used and the desired outcome.

For example, decanters are often used for the high-volume processing of soybeans, while separators may be preferred for processing smaller batches of peas or canola.



Examples of food products:

1. Soy milk

2. Plant-based meat substitutes

3. Plant-based protein powders

4. Plant-based yogurts and cheeses




Working principle:

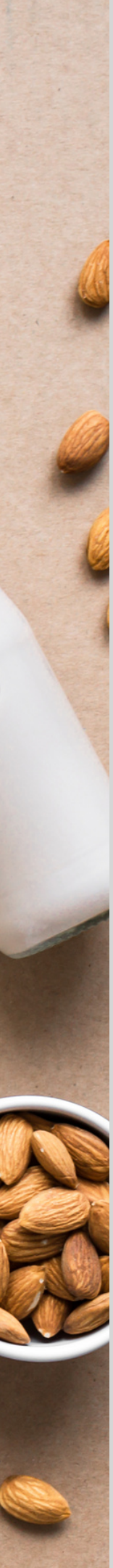
1. Feeding: The plant material, such as soybeans, peas, or canola, is fed into the decanter/separator.

2. Centrifugation: The equipment spins the plant material at high speed, creating a centrifugal force that separates the denser solids from the lighter liquid. The solids contain plant protein, while the liquid contains other components such as sugars, fibers, and minerals.

3. Discharge: The solids are discharged from the decanter/separator through one outlet, while the liquid is discharged through another.

4. Further processing: The extracted plant protein can then be further processed, such as through filtration or drying, to produce a purified protein product.

The specific equipment used in decanters/separators for plant proteins can vary depending on the type of plant material being processed and the desired outcome. For example, some decanters are designed to separate solids from liquids continuously, while others are batch-based.



Market scope

- The market for decanters/separators for plant proteins has been growing in recent years due to the increasing demand for plant-based proteins in food and beverage products.
- Decanters/separators are essential equipment in the production of plant-based proteins, as they enable efficient separation of solids and liquids, resulting in higher yields and reduced waste.
- The global market for plant-based protein is expected to continue to grow in the coming years, driven by factors such as increasing consumer interest in plant-based diets, health and wellness trends, and sustainability concerns.
- According to a report by Grand View Research, the global plant-based protein market size was valued at USD 16.5 billion in 2020 and is expected to grow at a compound annual growth rate (CAGR) of 7.8% from 2021 to 2028.
- This growth is expected to drive demand for decanters/separators for plant proteins, as manufacturers look for ways to extract protein from plant-based sources efficiently.
- In addition, there is increasing demand for high-quality plant protein products that have minimal processing and fewer additives, which further highlights the importance of efficient processing using decanters/separators.

Major players

Alfa Laval, GEA Group, and Andritz Group