

# Cane mud dewatering using decanter centrifuges.



## **Broadbent - Solving separation problems.**

Broadbent is a specialist manufacturer of solid-liquid separation equipment and has been supplying the Sugar Industry with batch and continuous centrifuals for over a 100 years. Broadbent also manufacture and supply a range of large decanter centrifuges for the petrochemical, mineral, mining and effluent industries throughout the world.

## **Decaners for cane mud processing.**

Recent improvement in decanter centrifuges now allow them to be used to process cane mud clarifier underflow and as a result large decaners are being used along side rotary vacuum filters (RVFs) where there is a need to increase the filter station capacity. The advantages of decanter centrifuges include space and manpower savings with the further benefit that no bagacillo addition is needed

Decanter installation.



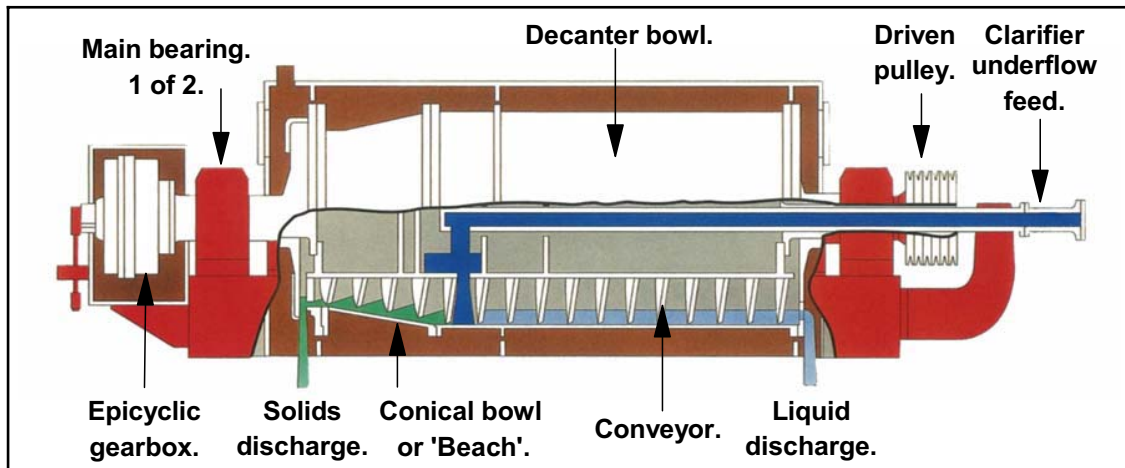
Decanter operating.



## **Principle of operation.**

RVF's operate by filtration, whereas decanter centrifuges separate solids from liquids by sedimentation. In the past decaners have been tried on cane muds where they suffered from high wear and poor washing leading to high sucrose losses with the mud. Recent developments by Broadbent include improved cake washing and the use of wear protection methods developed initially for the offshore drilling industry and the mining industry. As a result sucrose recovery has improved and high wear is no longer a problem.

Layout of decanter centrifuge.



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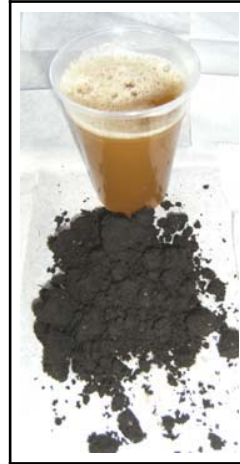
## Process performance.

- Patented cake wash reduces the mud sucrose loss to that of an average RVF station.  
Patent nos : 11/049627 / 0402630.8 / 7,448,992
- No bagacillo addition is required.
- Decanter mud cake is approximately 6-8% w/w dryer than RVF cake.
- Sucrose recovery : 93 - 97% w/w
- Suspended solids recovery : 80 - 90% w/w
- Suspended solids in centrate : less than 1%
- Capacities per decanter range from : 100 USgpm (22 m<sup>3</sup>/h) to 400 USgpm (90 m<sup>3</sup>/h) depending on model.

## Operational benefits.

- Simple to automate with large turn down ratio.
- Significantly reduces the need for local operators.
- Wear protection gives long life to all rotating parts of the decanter.
- Electrical power consumption similar to that of a typical RVF installation.
- Smaller floor area and lower headroom requirements than an equivalent RVF.
- Smaller temperature drop through the station and less bacterial activity.

Centrifuged mud solids and centrate.



Wear protection.  
(new)

Wear protection.  
(part worn)



Small scale decanter site trial prior to full scale installation.



## Contact details.

For more information or to discuss your requirements please contact our Sugar & Sweetener Division on +44 1484 477230 [sugar@broadbent.co.uk](mailto:sugar@broadbent.co.uk) or Broadbent Inc on +1 (817) 595 2411 [broadbent.inc@att.net](mailto:broadbent.inc@att.net) [www.centrifugals.com](http://www.centrifugals.com) (C) Broadbent Ltd. 2010.

