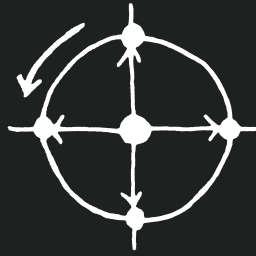




**HILLER**<sup>®</sup>

*Applied Physics of Life.*



According to Isaak Newton (1643-1727) the centrifugal force exerted on a rotating body is an inertial force that increases with rotational speed squared, and hence, can be described as potential energy.

## Technical results with driving power



Photo: Courtesy of Rolls-Royce, Aeroplanetechnik



**Drive systems for decanters**

$$\text{Thrust } S = m l (v_A - v_\infty)$$



# Applied Know-How

## ① HILLER® DecaTorque - hydraulic drive system

The bowl is powered by a frequency controlled electric motor and a vee belt drive. The scroll is driven by a rotating **HILLER® hydraulic motor** and a **HILLER® hydraulic pack**. Bowl and scroll speeds can be changed independently by adjusting frequency and oil flow respectively.



### Advantages

- A high and constant torque differential speed range
- Constant maximum solids dryness in the discharge through torque dependent differential speed control
- Very tough and reliable, even under rough conditions
- Registration and visualisation of all operation parameters via **HILLER® EMR5000** to for a fast overview and process safety

### Drive system requirements

- Rotor has to spin with high-speed
- Screw conveyor has to rotate simultaneously inside the bowl with a low differential speed and at the same time with a high torque

### Drive systems

- **HILLER® bowl drive systems**  
Adjustable speed hydraulic motors or frequency regulated electric motors
- **HILLER® scroll drive system**  
Hydraulic motors or gear boxes

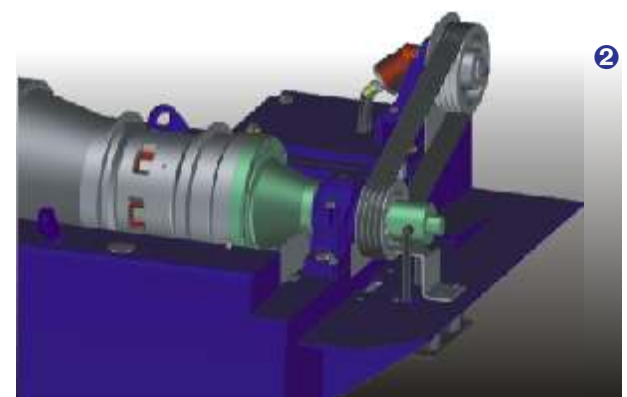
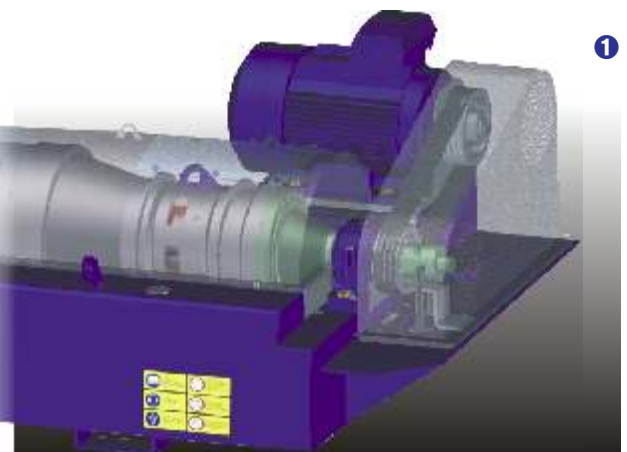
## ② HILLER® DecaTorque - full hydraulic drive

Bowl and scroll are each driven by a hydraulic motor. Pressurised oil is supplied by a power pack with two axial piston pumps. The speeds can be changed independently by variation of the oil flows.

### Advantages

All of the normal **HILLER® DecaTorque - hydraulic drive** as well as:

- Only one electric motor on the power pack with DOL starting and without frequency converter
- Variable drum speed without frequency converter
- High power density of the hydraulic motors
- Compact design of the decanter



# Decanters which exceed your expectations



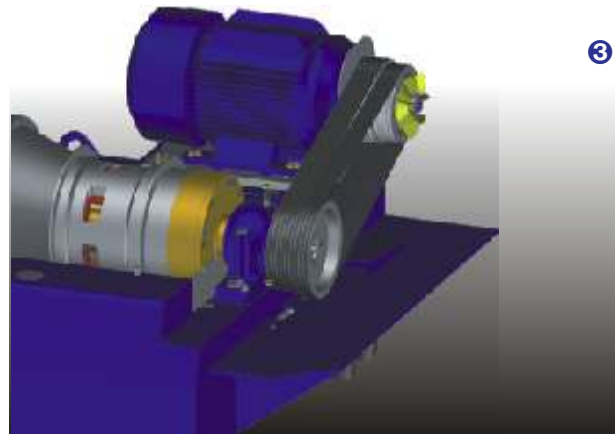
HILLER® Regulating system EMR 5000

## ③ HILLER® fixed differential speed drive systems

Bowl and scroll are driven by one common electric motor and via two vee belt drives. The scroll is driven by a rotating gear box. The differential speed can be adjusted by changing the vee belt pulleys.

### Advantages

- Simple and cost effective set-up
- Only one electric motor
- No controls required

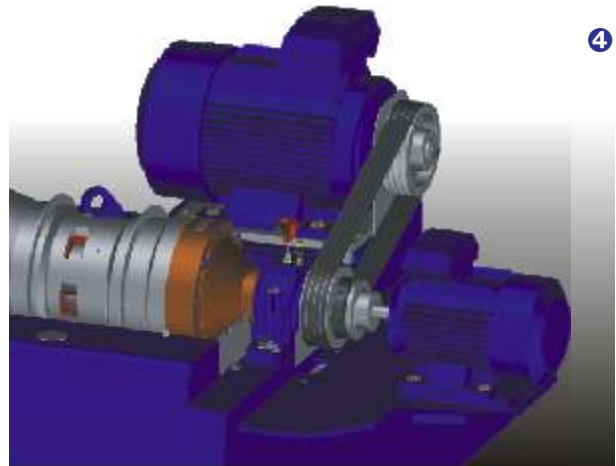


## ④ HILLER® DecaDrive

Bowl and scroll are each driven by an electric motor with one frequency converter, which are coupled for energy recovery. The scroll is driven via a rotating gear box. Both speeds can be adjusted by variation of the respective frequency.

### Advantages

- Compact set-up with little maintenance requirements
- Torque dependent differential speed control for high solids content in the discharge
- Registration and visualisation of all operation parameters via **HILLER® EMR5000** for a fast overview and process safety



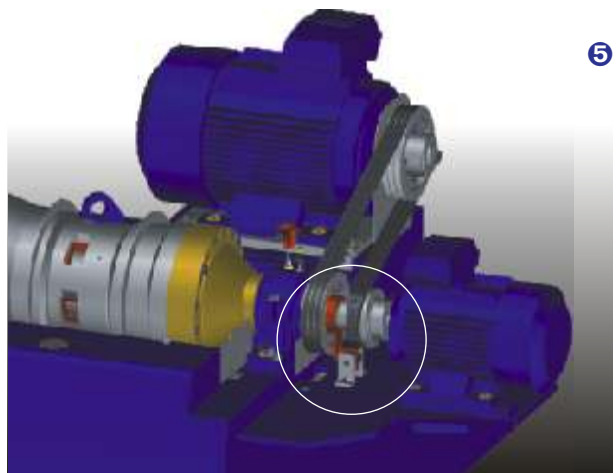
## ⑤ HILLER® DecaDrive VWG

Bowl and scroll are each driven independently by an electric motor with frequency converter. The scroll is driven via a rotating gear box. Both speeds can be adjusted by variation of the respective frequency.

### Advantages









all of the normal **HILLER® DecaDrive** , as well as:

- Again higher energy efficiency due to direct drive of both rotor parts
- Bowl and scroll speed are entirely independent from each other, analogous to the hydraulic motor





## We have experience in the following sectors and special applications:

-  Foods and beverages / DecaFood
-  Oliveoil / OV
-  Oils and Fats / DecaOil
-  Classification / DecaClass
-  Chemical and Pharmaceutical Industries / DecaChem / DecaPharm
-  Recovery and sorting of plastics / DecaSort
-  Municipal and industrial wastewater plants / DecaPress<sup>®</sup> / DecaThick<sup>®</sup> / DecaDrain
-  Tunnel construction / DecaPress<sup>®</sup>

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