





HYDROSTATIC DRIVE SYSTEM FOR DECANTER CENTRIFUGES / ROTODIFF® vs Gear Box

Viscotherm ROTODIFF®		Gear Box		Benefits of ROTODIFF
<p>Simple, compact, lightweight design, easy to maintain</p> <p>Low maintenance; continuous cleaning and cooling in a closed, 100% filtered system (filtered to 10 microns)</p>	<p>No gears, uses only slow-moving parts; creates less friction</p> <p>Scroll can run leading or lagging (optimized performance) at all speeds and torque ranges</p>	<p>Complex, heavy design</p> <p>Unfiltered, uncooled closed system; retains all wear debris possibly shortening the gear box life</p> <p>Multiple gears and moving parts at higher speeds; creates more friction and higher power consumption</p> <p>Limited to a one-direction process</p>	<ul style="list-style-type: none"> • Lower Maintenance • Long-term Reliability • More Powerful and Efficient • Longer Life 	
<p>No overheating of the hydraulic motor due to automatic, continuous heat dissipation through the oil conditioning system</p> <p>Perfect lubrication at high speed</p>	<p>Excellent weight/torque ratio, about half the weight of gearbox with same torque capacity</p>	<p>External cooling often required; overheating is a common problem</p> <p>Reduced lubrication caused by centrifugal forces and splashing losses</p>	<ul style="list-style-type: none"> • Powerful Operation 	
<p>Lower overhung weight reduces both load on main bearings and machine vibration (less wear on bearings). Less weight means reduced power input</p> <p>All mechanical components are protected against overload by various safeguards and finally protected by simple pressure relief valve (higher torque capacity)</p>	<p>One set of V-belts to drive the bowl</p> <p>Versatile design for multiple application</p>	<p>Heavy overhung gear increases load and heat on main bearing, causing reduced bearing life and more vibrations. More weight requires more power to operate</p> <p>Repeated high shock loads will damage and destroy in-line components and cause premature failure (Cyclo gear reduced torque capacity at higher differential speed)</p> <p>Multiple sets and types of belts</p> <p>Limited design requires different units for each application</p>	<ul style="list-style-type: none"> • More Reliable 	
<p>Full range of differential speeds at all bowl speeds, including zero RPM, start-up, shutdown and standstill</p> <p>Robust and reliable; process control with direct torque reading. The direct measurement of scroll torque and speed allows immediate response to process changes</p>	<p>Simple and accurate measurement of scroll speed; provides precise control of differential with unlimited bowl speed options</p> <p>Differential = speed of ROTODIFF</p>	<p>Limited range of differential speeds at lower bowl speeds and standstill</p> <p>Complicated calculations of different speeds through multiple gear reductions, increase errors and dramatically slows response to process changes</p> <p>Complicated, indirect measurement of scroll speed; calculated from bowl and pinion speed, gearbox ratio and control error</p> <p>Differential = (bowl speed and pinion speed) gear box ratio</p>	<ul style="list-style-type: none"> • Energy Efficient • Precise Measurement and Control 	
<p>Low energy consumption; power is not lost or wasted. Scroll drive ROTODIFF operates independently from the main drive motor</p> <p>No drag or parasitic loss on the main drive; uses only the energy required to convey solids</p> <p>Reduction or elimination of Chatter or Slip Stick</p>	<p>Versatile use also in Ex-proof areas (ATEX)</p>	<p>Increased energy cost; gearbox design steals energy from the main drive</p> <p>Robts energy from main drive; torque adds braking horsepower; increases drag on main drive motor</p> <p>Chatter or Slip Stick damages gear box</p>	<ul style="list-style-type: none"> • Lower Operating Cost • Efficient Operation • Longer Life 	
		<p>Limitations on the control system or expensive installation costs if used in Ex-proof areas (ATEX)</p>	<ul style="list-style-type: none"> • ATEX certified 	