

SIMINE^{CIS} Pump enhances concentrator productivity significantly, while gearless drives eliminate the reducer gear between motor and pump and all corresponding maintenance. For added value, the system operates the cyclone pumps with variable speed to adjust their energy consumption to the optimized flow of pulp.

The challenge

Concentrator plant operations place the highest demands for availability and reliability on the cyclone pumps and their drive system. Reducer gears are subject to mechanical wear, require maintenance, and consume lubricants and energy. Pulp flow adjustments are made using energy-consuming choke valves. All this adds up to a major portion of concentrator operating costs.

Our solution

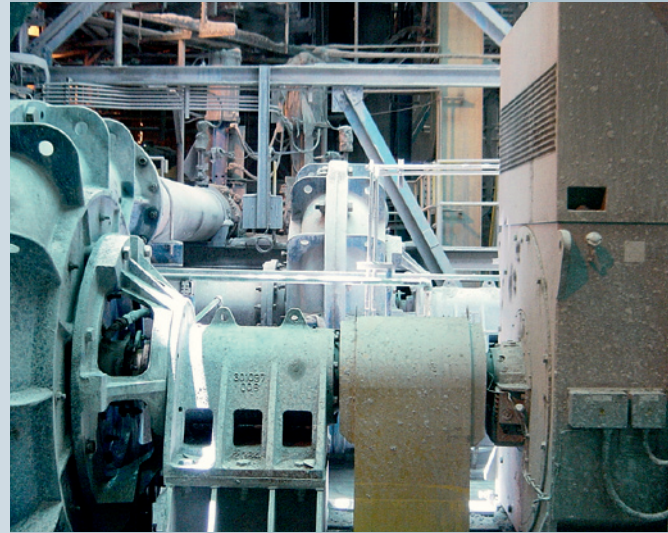
The SIMINE^{CIS} Pump GD (with gearless drives) concept eliminates all gears between the motor and the pump. The pump shaft is coupled directly to a low-speed, squirrel-cage induction motor with a rated speed equal to the rated speed of the pump. A frequency converter enables the motor to operate at variable speed.

Range of application

Siemens offers SIMINE^{CIS} Pump from 300 kW to 1,000 kW with low-voltage supply and from 1,000 kW to 3,000 kW with medium-voltage supply. Special sizes up to 10 MW are possible.

Higher cyclone pump availability

The elimination of the reducer gear not only eliminates its maintenance requirement, it also saves the cost of replacements for this expensive part, which is sensitive to vibration of the pump. And the elimination of downtime for replacement of reducer gears actually increases the availability of the cyclone pump.



Good reasons for SIMINE^{CIS} Pump

- **Reduced costs.** SIMINE^{CIS} Pump provides operational cost savings over its entire life cycle.
- **Less energy consumption.** The variable-speed adjustment of pulp flow leads to energy savings of up to 30%, which is particularly important where electric power must be purchased at high cost.
- **Minimized downtimes.** The availability of the cyclone pump increases sharply by omitting the reducer gear, eliminating the downtime once needed for its replacement.

SIMINE^{CIS} Pump

Enhances productivity, optimizes costs – gearless drive for pumps

Mining Technologies

SIEMENS

Energy savings of up to 30%

Because the drive operates at variable speed, it supports adjustment of pulp flow to the process changes – yielding considerable energy savings of up to 30% over flow adjustment with choke valves. Elimination of friction caused by the reducer gear saves even more energy.

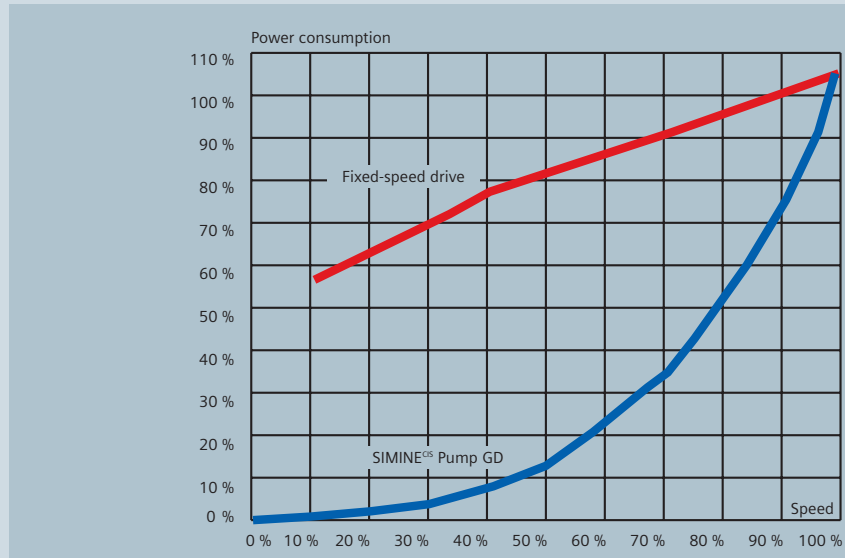
Life-cycle cost savings

Apart from the fact that mechanical parts such as omitted gear are no longer requested, SIMINE^{CIS} Pump GD provides operational cost savings over its entire life cycle.

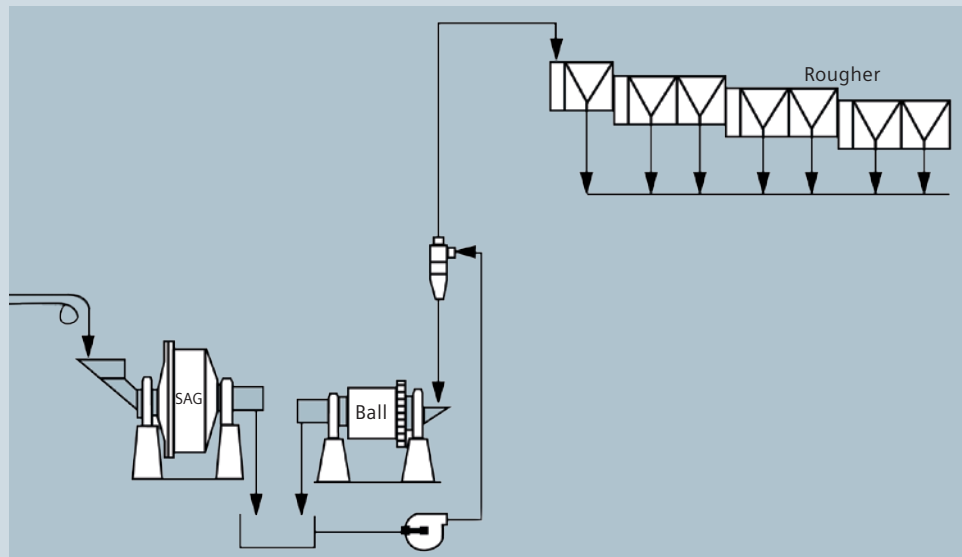
Our services ensure your success

It's crucial to ensure top performance throughout the entire life cycle of your plant. We make certain that you achieve that goal with our professional services, which range from financing and conception to project planning, integration and commissioning, as well as optimization of your plant operations.

For operation of your facility, we offer sophisticated diagnostic tools and service strategies to ensure high availability, including spare parts service, hotline service, correction of faults via a dedicated modem line, and ongoing maintenance to ensure high reliability. And by modernizing your plant at the right time, we can bring it up to a performance level in line with today's expectations.



Energy savings



Beneficiation process

Siemens equipped mine in Mongolia with largest slurry pump system

Siemens has installed a pump system (6MW/15,000 m³/h) for a copper mine in Mongolia (Erdenet Mining Corporation). The purpose of the pump system is to improve the tailings extraction process in the copper mine and to cope with the increase in the mine's production.

The system was supplied and installed by Siemens and started operating at the beginning of 2007. It is the largest slurry pump ever supplied to a mine.

Siemens AG
Industrial Solutions and Services
Mining Technologies
Schuhstr. 60
91052 Erlangen, Germany
E-mail: mining@siemens.com

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CIS = Completely Integrated Solutions

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