

EDILOG ELECTRIC LOG STACKERS

CASE STUDY

MANUFACTURER:	EdiLog
PRODUCT:	AM 370 Pump Drive
MAXIMUM INPUT POWER:	700 kW (939 hp) 0.7:1 ratio @ 1200 rpm
APPLICATION:	Pulp mill log stacker
ELECTRICAL SYSTEM DESIGN:	Elforest Technologies
LOCATION:	Östrand, Sweden



SITUATION

Log stackers must operate flawlessly all day, every day to maintain pulp mill production—but continuous operation with traditional diesel engines leads to significant carbon dioxide emissions and high fuel costs. EdiLog was determined to create a more cost-effective, reliable log stacker that would be better for people in and around the machine, and better for the planet.



CUSTOMER NEEDED SIGNIFICANT FUEL SAVINGS, REDUCED MAINTENANCE COSTS

CHALLENGE

In addition to emissions issues, traditional diesel engines can be maintenance-intensive. Taking time for maintenance and repairs means costly interruptions to the workflow, in addition to the costs of repair work, spare parts and lubricant. Diesel engines also produce noise and vibration that can affect the machine operator.



DESIGN A LESS MAINTENANCE INTENSIVE AND MORE DRIVER-FRIENDLY SYSTEM

SOLUTION

EdiLog turned to Elforest Technologies to design a hybrid drive system combining electric and diesel operation. And Elforest chose the Twin Disc AM 370 Pump Drive. “We’re operating the diesel engine at 1200 RPM, which significantly reduces noise,” says Kjell Arne Engberg, EdiLog CEO. “The AM 370 at an 0.7:1 ratio gives us the hydraulic flow and generator efficiency we need.”



Energy is stored in ultracapacitors that deliver better performance than batteries and have a service life equal to that of a diesel engine. Reducing noise and vibration increases operator comfort. And the electric motor is simpler than a conventional gearbox, with fewer parts in the power train. That minimizes maintenance, maximizes reliability and lowers operating costs.

AT AN 0.7:1 RATIO, THE AM 370 DELIVERED HYDRAULIC FLOW AND GENERATOR EFFICIENCY

“ The coupling between diesel and the AM 370 is now working flawlessly. We have delivered seven hybrid log stackers, and together they have run more than 50,000 hours.

Kjell Arne Engberg
CEO, EdiLog

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RESULT

EdiLog's next-generation log stacker takes sustainability to new levels with Twin Disc's AM 370 Pump Drive, enhancing uptime for production-critical equipment.



Results:

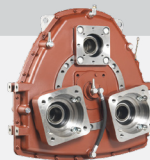
- Fuel savings estimated at 28%
- Lower operating and maintenance costs
- CO2 emissions cut by 120 tons annually

Savings breakout:

- 5% from reusing kinetic energy
- 5% from reducing idling
- 25% with more efficient start and stop

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TWIN DISC PUMP DRIVES



Twin Disc pump drives are available in a wide variety of gear ratios, including both speed increasing and reducing configurations.

Benefits include:

- Cast iron housings
- Case hardened and ground spur gears
- Ball bearings
- Case hardened shafts
- Viton seals on input shaft
- Output rotation opposite the direction of input rotation
- Gear ratios identical on all outputs
- Modular design