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Brochure

Vickers® by Danfoss
Variable Speed Drive Solutions

Saving energy. Cutting costs. Reducing noise.

Vickers® by Danfoss

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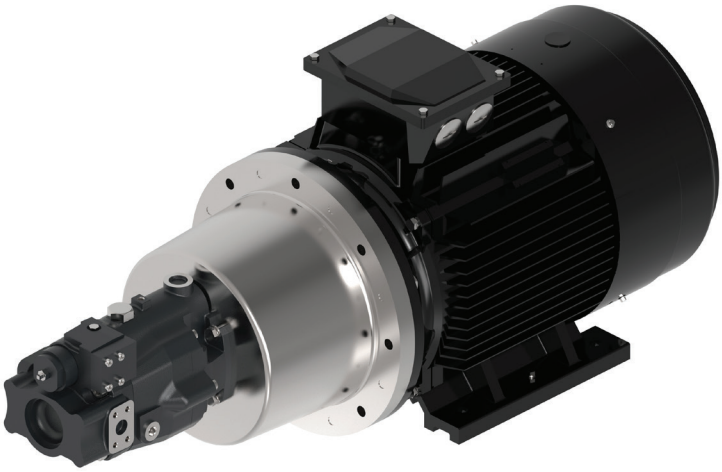
Save energy. Cut costs. **Reduce heat and noise.**

With the costs of energy steadily rising, energy consumption is playing a more significant role than ever in the total cost of machine operation. As a result, the hydraulics industry is demanding energy efficient solutions that also meet stringent government regulations for environmental protection.

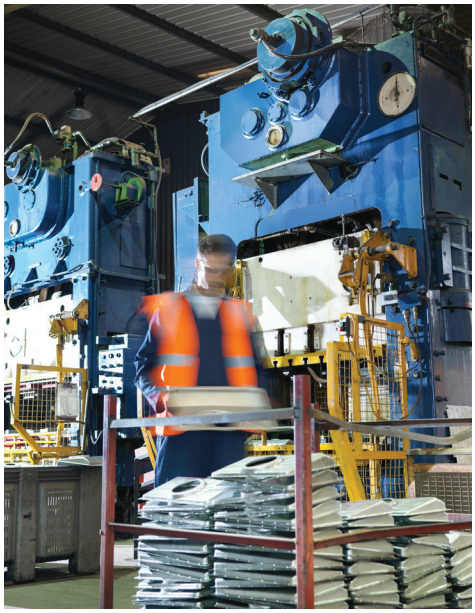
Backed by experienced application engineering, service, training, and sales support, Vickers by Danfoss' proven pump and variable speed drive products can be a powerful combination to resolve challenges in today's demanding market.

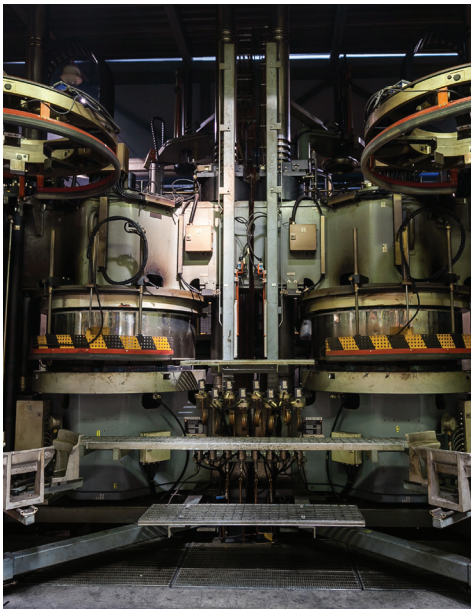
Proven value and benefits

- Up to 70% energy savings — Sustainability and cost reduction
- Quieter operation — Improved safety and regulation compliance
- Reduced or eliminated cooling needs — Machine cost reduction
- Pump and motor downsizing — Machine cost and footprint savings
- Danfoss standard products — Proven reliability and availability



Vickers by Danfoss Variable Speed Drive





Reduced energy cost and consumption

Vickers by Danfoss Variable Speed Drives (VSDs) can help cut energy usage up to 70% depending on the machine duty cycle. This helps significantly reduce operating costs and quickly pay off the investment.

The proven performance and power density of Vickers piston pump family—combined with the smart control of Danfoss VLT Performance Drives enable these systems to achieve power-on-demand more efficiently than conventional constant-speed drive pump systems. Instead of operating constantly at 1500 rpm or 1800 rpm (depending on the region), Vickers by Danfoss VSD can be controlled to match the load requirements of the current duty cycle, thus eliminating energy waste.

Reduce energy usage by up to

70%

Reduced noise pollution

Noise reduction is another significant benefit of running pumps at variable speeds. In Vickers by Danfoss VSDs, the electric motor and pump speed vary to match the duty cycle requirement. This results in remarkable noise reduction, which helps protect operators' hearing and meets more stringent noise regulations.

Reduced heat generation

With improved energy efficiency comes less heat production, so these systems can often allow downsizing or even elimination of oil coolers. Otherwise, they can help reduce the amount of hydraulic oil used and the size of the tanks, thereby extending the life of seals and oil.

Reduced pump size

Vickers by Danfoss VSDs enable the downsizing of pumps to cut costs. Because the system can now utilize full motor speed range (up to 3600 rpm) rather than running at fixed 1500 rpm or 1800 rpm, it reduces the pump displacement requirement without changing the max. available oil flow - shrinking the machine's overall footprint.

Reduced motor size

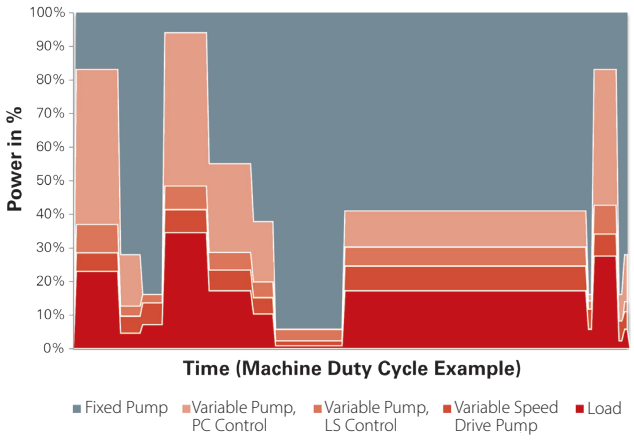
Downsizing of the pump opens the same possibility for the motor too. A pump with smaller displacement requires less torque to deliver the same pressure.

Variable speed capability also enables utilization of the high overload capability of electric motors to deal with the short high torque parts of the machine duty cycle.

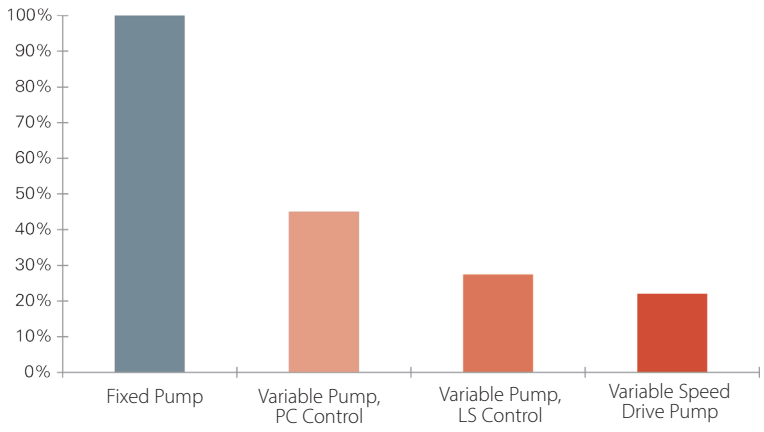
Both of these allow selection of the smaller motor size – further improving total cost of ownership and decreasing power unit size.

Energy consumption comparison of different types of pump systems

Energy consumption comparison



Energy cost comparison



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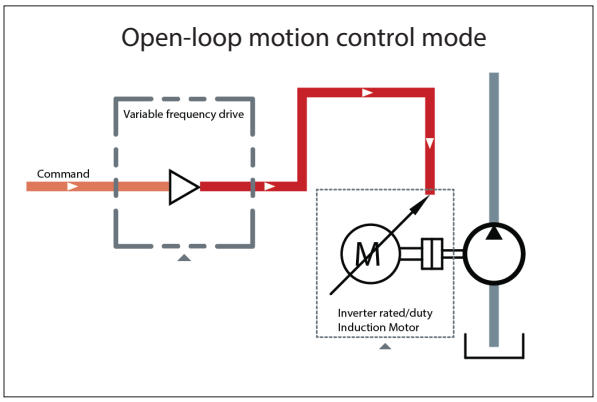

System components

Vickers by Danfoss PVM Code B piston pump

- Up to 315 bar rated and 350bar peak pressure
- Displacements: 18-131cc
- Operating range: 0 up to 2800 rpm - rated pressure available from 250 rpm

Danfoss VLT® AutomationDrive FC 302

- Designed for variable speed control of all asynchronous motors and permanent magnet motors, on any industrial machine or production line
- Standard features out of the box include graphical control panel, IP20 chassis for cabinet mount, coated PCB board for longer lifetime, RFI filter, and sensor-less speed feedback
- Optional features include chassis options up to IP66, analogue I/O cards, brake choppers and EMC filters, various fieldbus protocols and safety functions (STO, SS1, SLS, SMS and SSM)

Asynchronous induction motors

- High efficiency electric motors with nominal power 3 - 90 kW meeting Ecodesign European requirements (IE3 class <75kW, IE4 class above 75kW)
- Equipped with both flange and feet (B35 mount) for freedom in machine design
- Available with standard cooling (IC411) or forced cooling (IC416) to meet requirements of various application duty cycles

VICKERS by Danfoss

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