

Power under full control



Emotron DSV/GSV variable speed drives for lift control



Emotron variable speed drives for lift control offer fast, safe and comfortable riding of all lifts. They are well suited for both new and modernized systems. They operate with gearless and geared winches, using synchronous or asynchronous motor technology, and can be mounted in a machine-room or directly within the lift shaft. The complete range includes frequency inverters of up to 132 kW and digital DC drives of up to 90 kW.

High performance and travelling comfort

Emotron variable speed drives meet the highest demands for efficiency and performance. High speed and lift capacity are offered, without compromising safety or comfort. Silent operation, soft starts and stops, perfect matching with the mechanical brakes and precise levelling at landings, all contribute to a safe and pleasant ride. Noise and vibration are minimized thanks to very accurate torque control.

Plug-and-play solutions save time

Our unique plug-and-play solutions offer minimized installation time for new lifts and when modifying existing systems. The drives are delivered ready to use, with the parameter settings for your specific motor and lift characteristics. Maximum flexibility is offered through fieldbus communication and various connection options.

Security for passengers and installers

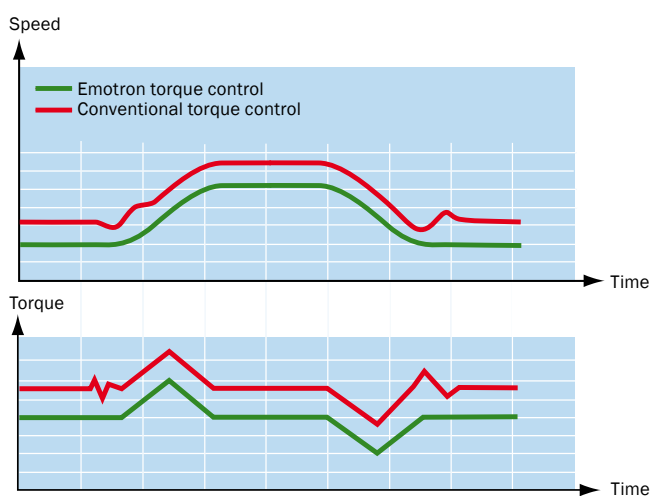
The Emotron lift solutions live up to the highest safety demands. They fulfil all applicable regulations, such as

the EMC directive, the low voltage directive, the machine directive, and the European standards for safety in electrical installations and electric equipment in machinery. A unique AddOn filter offers more efficient EMC protection than conventional net filters.

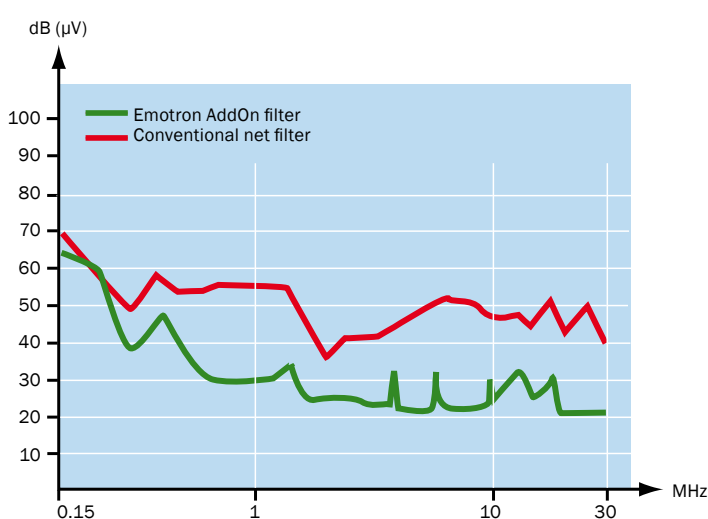
Options add functionality

Emergency evacuation is available as an option, using a battery or a UPS system. A lift, which has stopped between floors due to power failure, is automatically and safely moved upwards or downwards to the nearest landing to let passengers exit. Regenerative braking with line-recovery unit is available on request, as is secure stop according to EN 954-1.

Excellent CE and EMC performance is achieved with the Emotron AddOn-filter. Among the options are also motor and mains filters. An encoder can be connected for more accurate speed control. Option boards can be ordered for fieldbus and transmitting systems. Other options are net recovery and current regeneration.



Emotron variable speed drives offer accurate torque control over the whole speed range. Comfortable riding is ensured thanks to smooth starts and stops without jerks and with minimized vibration.



The Emotron AddOn filter offers more efficient EMC protection than conventional net filters. Net interference is reduced to a very low level, protecting the drive and the surrounding equipment.

Complete range to meet your demands

The Emotron lift drives are available in several versions, all offering the same functions for optimized lift operation. They can be ordered ready to use, with the parameter settings for your motor and lift characteristics.

- *Emotron DSV* – Frequency inverter for all lift systems, with or without gearbox, using asynchronous or synchronous drive technology.
- *Emotron DSV Plus* – Compact version with integrated contactors, chokes and filters.
- *Emotron DSV Flat* – Thin version for machine-roomless lifts, requiring only 160 mm of depth.
- *Emotron GSV* – Digital DC drive for the control of brushed DC motors.

Power under full control

Emotron DSV frequency inverter is the choice for all lift applications. It offers up to 6 m/s of speed and up to 132 kW of lift capacity. Accurate control of speed, position and torque is ensured in all quadrants. Acceleration and deceleration is very smooth thanks to virtual load measuring using fuzzy logic control.

Noise levels are extremely low thanks to harmonically modulated PWM and 1Vpp technology. Non-pulsating torque is achieved using field-orientated control cycle (0.2 ms). An integrated PLC means no external control system is required. Several encoder types are supported, over digital/analogue inputs or via a bus system. You can easily upgrade your system via the Internet using a PC.

Compact all-in-one solution

Our compact all-in-one version Emotron DSV Plus has the contactors, chokes, filters and rectifier integrated in a screened housing. This saves space, improves the EMC performance and minimizes external wiring. Units are available for motors of up to 25 kW power and offer up to 6 m/s of speed.

Small size for shaft mounting

The Emotron DSV Flat is offered in customized sizes for machine-roomless lift systems. You will benefit from the same performance in a compact design. Plug connectors can be located sideways or frontal, according to your need. The thinnest version only requires 160 mm of depth. Adaptors are available for all lift PLC's on the market.

Modernize with digital DC

The Emotron GSV is a fully digital DC-drive for the modernization of high-speed lifts, while maintaining the original DC-motor. The drive has a compact design and is available with lateral connections or connections at the front panel. The drive is suitable for all brush-afflicted DC-motors: gearless, planet pinion, hypoid, V-belt, drive belt, etc.

Very accurate speed and position control is ensured using the latest IGBT technology. Torque swing is avoided thanks to armature and field current control with 10-12 kHz PWM. The motor windings are protected against fast voltage rising, which makes the drive suitable for re-equipment.

High regulation quality and best cyclic run is achieved through field-oriented current control with typically 65,536 points per engine revolution. All usual encoder types can be used. Extreme speed setting range at 1:32,000 is offered. Braking energy is handled with standard brake resistors or regeneration units, with no mains reactive power.



	Emotron DSV	Emotron DSV Plus	Emotron DSV Flat	Emotron GSV DC drive
Output power	6.6-165 kVA	6.6-32.9 kVA	15-35 kVA	4.6-115 kVA
Motor power	3-132 kW	3-25 kW	7.5-27 kW	4-90 kW
Supply voltage	3 x 400 V ±10% 50-60 Hz ±5%	3 x 400 V ±10% 50-60 Hz ±5%	3 x 400 V ±10% 50-60 Hz ±5%	3 x 400 V ±10% 50-60 Hz ±5%
Pulse current	20-375 A	20-70 A	40-86 A	15-375 A
Protection class	IP20	IP20	IP20	IP20
Approvals	CE, EMC	CE, EMC	CE, EMC	CE, EMC

Dedicated drive

Emotron develops products for starting, protecting, controlling and stopping machines and processes driven by electric motors. Our drive is to create measurable benefits for our customers through reliable, cost-efficient and user-friendly solutions. By focusing on selected applications, such as pumps, cranes and lifts, we can offer functionality optimized for specific needs.

Since 1975 we have established a solid position as an innovative and pioneering company. Research and development takes place at our head office in Sweden and at our subsidiaries in Germany and the Netherlands. Germany is also the location for the Emotron technical centres for lift and crane solutions. We have sales offices in Sweden, Germany, the Netherlands, China and Latin America, as well as a worldwide network of authorized service partners.



Products for your specific needs



Our complete product portfolio offers optimum solutions for your specific needs. The products are all based on the same technology platform and can easily be integrated in complete solutions. Wide power range, high protection class and compliance with global standards mean they fulfil the highest demands.

- *Shaft power monitors* – protect your process from damage and unplanned downtime.
- *Softstarters* – ensure smooth starts and safe stops.
- *Variable speed drives* – minimize energy consumption and wear.



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