

# Stand out from the competition

Add value to your pump and increase your turnover



Emotron CDU 2.0 Compact Drive

# Your ready-to-run pump with built-in intelligence

*Integrating speed control will add considerable value to your pump and enable you to increase your turnover. Optimise your pump by supplying a plug-and-play solution with built-in intelligence. Your customers will benefit from simplified installation, energy savings and improved process reliability – all from a single supplier.*

*We have more than 30 years' experience of developing drive technology for pump control.*

*The Emotron CDU compact drive is proven in installations around the world since more than ten years. You can opt for a unique solution tailored to your specific requirements or choose our standard design, cost-efficient even with smaller volumes.*

*We can add value to your pump and give it that extra competitive edge!*



*The Emotron CDU compact drive will turn your pump into an intelligent, ready-to-run solution. The choice of motor, functionality and design is up to you.*

### **Ready-to-run, tailored to your requirements**

Integrating an Emotron CDU compact drive with your pump will create an intelligent ready-to-run solution. Our standard design allows for cost-efficient solutions even with smaller volumes. You can also opt for a customized version designed by us or in close cooperation with your R&D team, with your choice of functionality, preset motor parameters, operator interface, logo and colours.

Either way, you will have access to all features of the Emotron CDU, including an energy-saving sleep function, patented pump protection, automatic pump cleaning, flow/pressure calculation and an integrated pump controller for sequence control or for automatic start of a standby pump in case of a breakdown.

### **Increase your turnover and save customers' money**

Adding value to your pump by integrating a compact drive will enable you to greatly increase your turnover while maintaining your margin. You can match the price of your offer to your customer's total cost of purchasing and installing a standard solution, and still offer them considerable cost savings through optimized energy consumption and reduced maintenance.

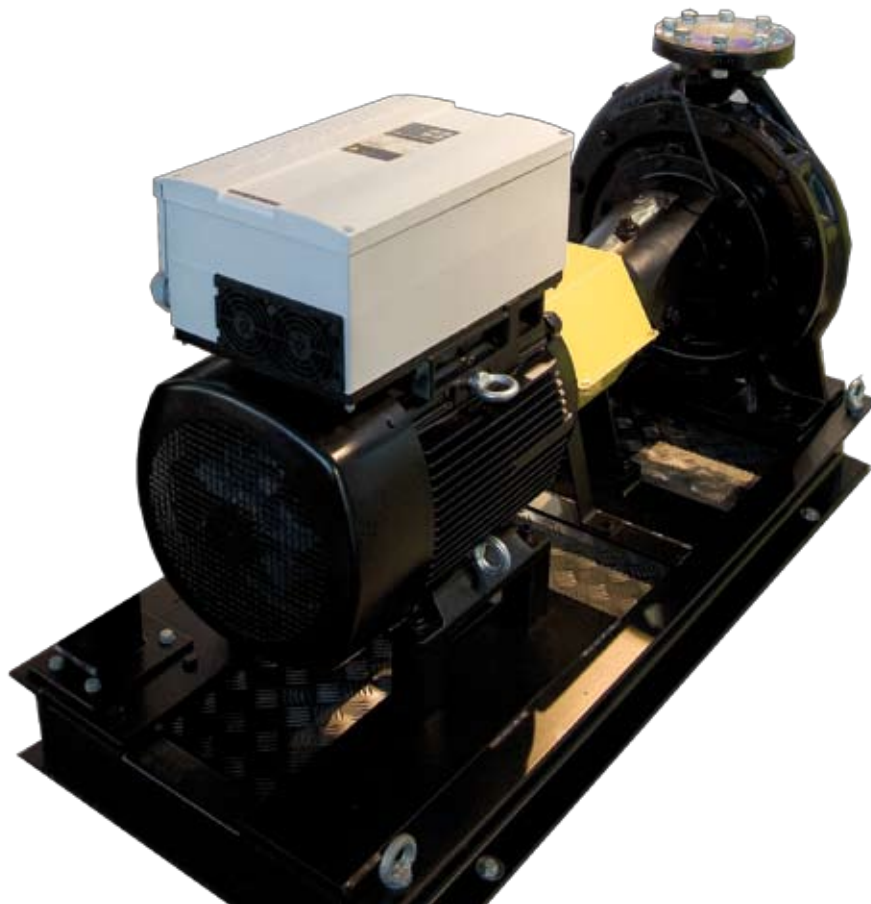
### **Saving space and installation costs**

The compact drive requires a minimum of space and cabling, saving your customers both time and money in installation and commissioning. No need for a separate variable speed drive, nor any external motor cables, control valves, cabinets or control panels – everything is built into your plug-and-play concept. Your customers will have it up and running in no time without the need for specialised skills.

Of course the drive is just as easy to dismount and service. Screw terminals offer easy, reliable connections. Mains voltage can be supplied from the side or the bottom for flexible motor mounting.

### **Made for the toughest conditions**

A robust IP55 certified design makes Emotron CDU well suited to harsh environments. It is shock and vibration proof and can be fitted with a built-in EMC filter category C1. The drive has its own thermally independent cooling system, so there is no need to adapt the motor's cooling system. A built-in PTC thermistor prevents the motor from overheating and PTC/PT100 sensors can be connected for temperature feedback without a transmitter.





*When choosing an Emotron compact drive solution you will have access to our worldwide support, including product training of your sales team.*

## 30 years of developing drives for pump control

The Emotron CDU compact drive has been on the market for more than ten years and is well proven in installations around the world. The variable speed drive included in the concept is in turn the result of more than 30 years of development. While our wide range of compact drives covers motor powers of 3-22 kW, our standard units are the ideal choice for powers of up to 1,500 kW or extremely hazardous areas. Both are based on the same technology platform and offer the same functionality.

### **Worldwide service and support**

When working with Emotron, you will appreciate our flexibility and direct way of communication. We are small enough to give you our personal attention and big enough to develop advanced technical solutions and support your business on a global scale. This of course includes product training to help prepare your sales team for the introduction of your new offer. Qualified and highly available service is supplied through our worldwide network of authorized Emotron partners.

### **Contact us for a free consultation!**

We will be happy to suggest a compact drive solution tailored to your specific demands, designed by us or in close cooperation with your R&D team. Contact us today for a free consultation.

# Keep up pressure and save energy

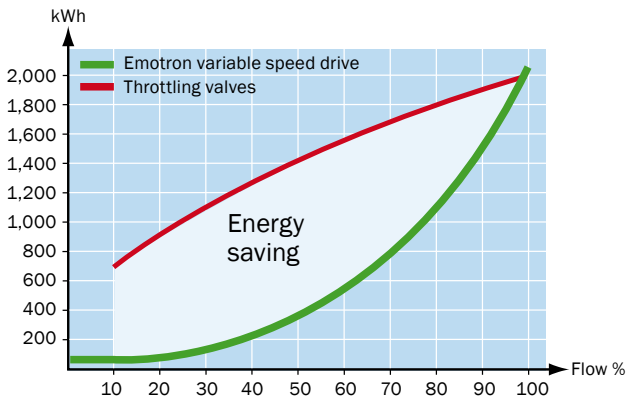
Integrating speed control automatically adapts the operation of your pump to demand, minimizing energy consumption and wear. The Emotron CDU offers a sleep function that saves further energy by reducing the motor speed to zero when it does not need to be run in order to keep up pressure. Automatic pump cleaning enhances efficiency by running the pump at full speed for certain intervals to clear out sludge.

A compact drive solution also means that your offer will be prepared for the new Ecodesign directive, aimed at improving energy efficiency in electric motors. From 2015 all motors of 7.5-375 kW, produced in or exported to the EU must meet the IE3 efficiency level, or meet the IE2 efficiency level and be equipped with a variable speed drive. From 2017 this will be extended to include motors down to 0.75 kW.

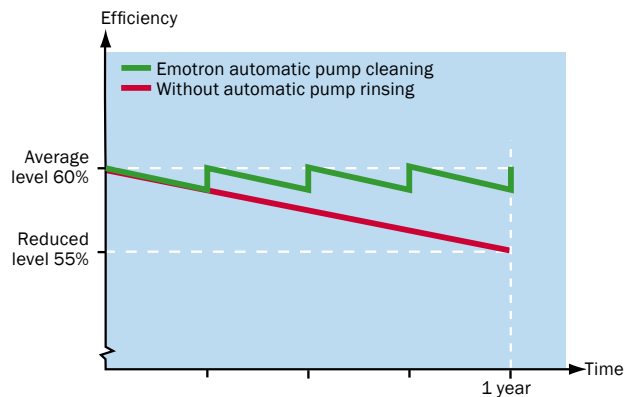
## Protection from damage and downtime

The Emotron CDU has a patented monitoring function that offers efficient protection against damage and inefficiency. Any deviation from normal load is detected immediately, across the entire speed range. This allows for preventive action, for example if the pump is at risk of running dry, a pipe is blocked or a valve is not fully opened. No energy wasted and no unnecessary wear.

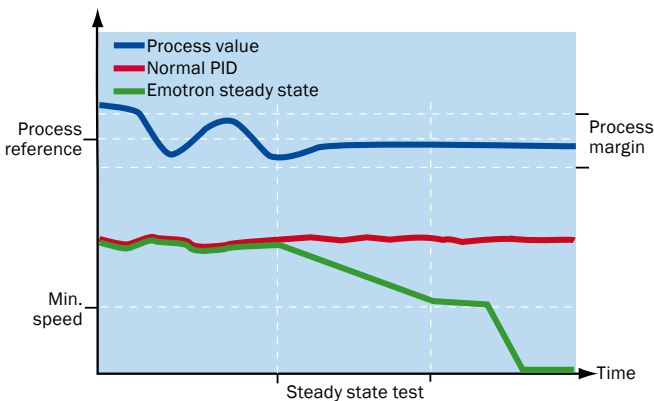
The pump is also protected from damage and mechanical stress through smooth operation. Controlled stops eliminate the risk of water hammer without the need for costly motorized valves. Reduced start currents allow for smaller fuses and cables, reducing installation and energy costs.



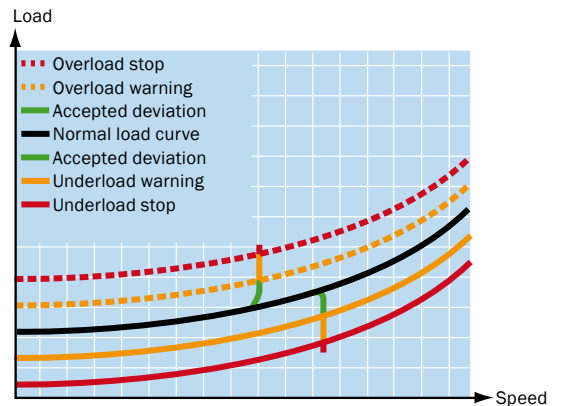
In this pump application, energy consumption is reduced by up to 50% compared to throttling valves. Calculation assumes a 2.2 kW motor.



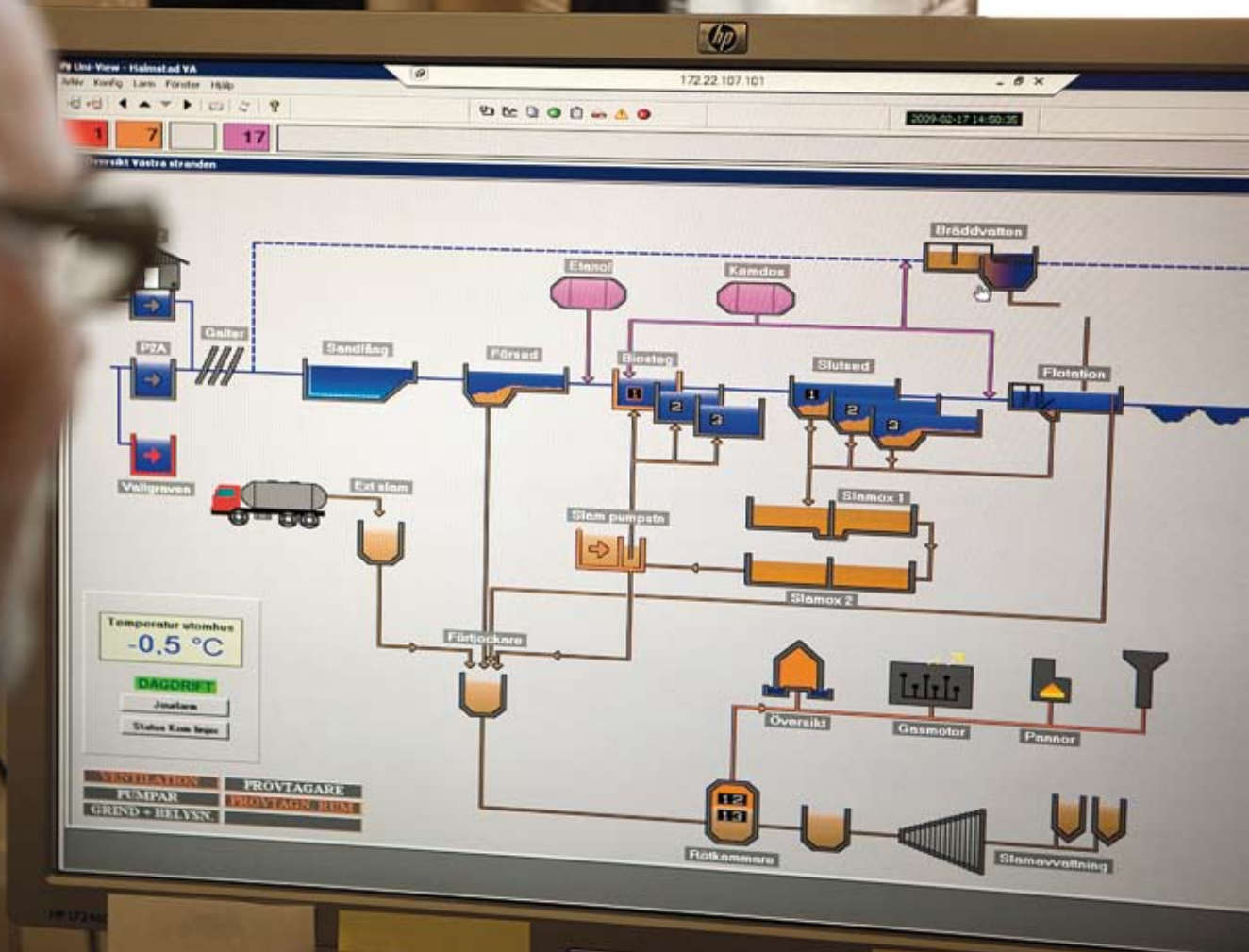
This centrifugal pump at a sewage treatment plant is set to run at full speed for certain intervals to clear the impeller of sludge.



Further energy can be saved by pausing the motor when it does not need to run. The sleep mode can also be activated in low flow situations to prevent overheating and energy waste.



The patented protection function immediately detects over- or underload situations across the entire speed range, preventing damage and energy waste.



Connecting the Emotron CDU to an Industrial Ethernet network enables remote monitoring and configuration. Other options include fieldbus communication, extended EMC protection and safe stops.

## Fit-for-purpose with up to four options

Up to four options can be combined to customize functionality according to your requirements.

Communication options include:

- Fieldbus communication via Profibus DP or DeviceNet
- Industrial Ethernet via Modbus/TCP
- Serial communication via RS232 or RS485 with Modbus RTU

Other options include:

- Up to three I/O boards each providing three relay outputs and three digital inputs
- Built-in EMC protection category C1
- PTC/PT100 for motor protection and temperature feedback without a transmitter
- Standby power supply
- Safe stops during mechanical maintenance in accordance with EN 13849-1 and EN 62061



#### **Technical data Emotron CDU 2.0 compact drive**

Motor construction	B3, B5, B35, V1, V18 etc.
Rated power	3-22 kW
Supply voltage	380-480 VAC / 480-525 VAC
Protection class	IP55
Approvals	Global standards
Ambient temperature	0-40 °C during continuous operation
Vibration and shock	IEC-EN60721-3-3 class 3M7
Altitude	0-1,000 m above sea level
Atmospheric pressure	86-106 kPa
Relative humidity	0-90% no condensing

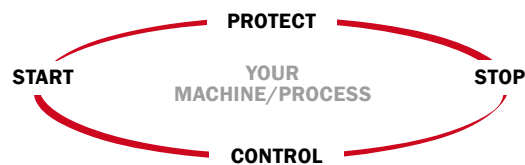
# Dedicated drive

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 distributors and 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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