

### **Liebherr's new frequency converter systems for megawatt industrial applications**

- Newly developed Liduro Drive high-power density low-voltage frequency converter system for applications with a drive power of up to 4 MW
- Modular switch cabinets for installation in single or multi-axis applications
- Special cooling system for long life and fast protection system for increased safety provision

**Nussbaumen (Switzerland), 27 September 2018 - At the Europe's leading trade fair for electrical automation, SPS IPC Drives 2018, Liebherr unveils the new Liduro Drive low-voltage frequency converter system for megawatt applications.**

At Europe's leading trade fair for digital automation, SPS IPC Drives 2018, Liebherr unveils the new Liduro Drive low-voltage frequency converter system for megawatt applications. With this new development, Liebherr Components offers a solution for large-scale industrial installations. The power output of this frequency converter system ranges from 110 kW to 4 MW and is designed for a voltage range of 400 V to 690 V. The system is suitable for single- as well as multi-axis applications with outputs up to the multi-megawatt range. Typical applications include sugar refineries, cement production or water treatment.

Reliable, low-maintenance operation is a must, not only in the process industry, but also in the discrete manufacturing industry. Requirements on plant and operational safety are also constantly increasing. To meet these challenges, Liebherr Components Biberach GmbH has equipped the new frequency converter system with an innovative cooling concept. This makes it possible to keep the temperatures of individual components low. This in turn significantly increases the life expectation of the components and their quality. The frequency converter cabinets are designed with IP 54 level protection and are completely closed, so that they are independent of environmental influences and are applicable in extremely hot or cold regions without a change in their mechanical structure. The heat output is reduced in the installation rooms thanks to this high degree of protection as well as the effective liquid cooling. The high degree of protection also

helps to avoid costly maintenance of air filters on doors and prevents dust from penetrating into the device.

Another innovation is the Liduro Fast Protection System, which provides a very fast and secure defect detection and repair. The simple service concept also eases repairs and maintenance work. The cabinet solutions are installed in such a way, that access to the individual system components and assemblies for servicing needs is quick and easy.

Liduro Drive is based on a platform architecture built around the high-power power modules of the new LCU 300 series. These modules deliver winning performance due to their extreme power density and an extensive power range from 110 kW to 2,000 kW, in just two sizes. Fast and reliable protection functions ensure a secure and long service life. The power modules can be configured as generators or grid infeed units (AFE). These can be used in parallel operation with a common DC voltage bus for high total output, or for a partially-redundant system design. As an option, the modules can also be configured with an integrated brake chopper.

The system design of the intermediate circuit allows for the integration of further components, such as the Liduro energy storage system LES 200. The system helps to reduce the grid connection power and avoid feedback to the public grid. During repeated regenerative processes, the system saves braking power and makes it available again, when needed.

Another platform component is the Liebherr LCF control unit, with the corresponding control, protection and supervision functions, along with rotary encoder and communication interfaces. For a complete system, power switches, filter chokes, du/dt filters and braking resistors are available.

One further considerable benefit of such a system design is the high flexibility with which individual and sometimes complex industrial plants can be configured in extremely compact installation spaces.

**Captions**

liebherr-power-electronics-liduro-converter-cabinet-closed-industry.jpg

Liduro Drive low-voltage frequency converter system for megawatt applications

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