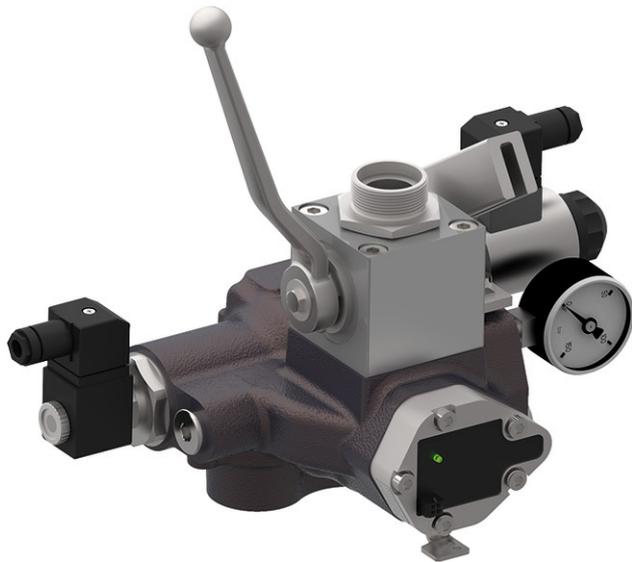


Potential for greater efficiency with CANopen Lift

Digitalization and networking offer new possibilities for modern elevator hydraulics. With the ongoing development of its valve technology in conjunction with sensors and serial network systems, Bucher Hydraulics provides solutions in this field.



The iValve series of valves feature a CANopen Lift interface, all operation-relevant information such as parameters and status data can be accessed via the elevator controller (Source: Bucher Hydraulics)

The [complete article](#) is published in the [September issue](#) of the CAN Newsletter magazine 2021. This is just an excerpt.

Viewed as a development platform, the iValve with CANopen Lift interface offers far-reaching improvement potential for hydraulic elevators – a potential that is already being exploited in the area of time- and cost-saving installation and commissioning. In addition, elevator manufacturers can develop new service concepts thanks to remote monitoring and the predictive maintenance that results from it. All in all, these advantages increase competitiveness and secure the elevator manufacturer's market position.

"Better to start right now than to wait for the total industrial revolution that is coming," is the motto for new technologies in hydraulic elevators. If the elevator concept, which has been reliable for decades, is to be enhanced to meet future requirements, this will be a job best done step-by-step. The primary objective is not Industry 4.0, but rather reductions in workload, such as shorter commissioning times and faster data access, which result from networking and implementing digital technologies. The prerequisite, however, is that the right basic components are selected. This will ensure that, in the event of later adaptations or extensions, all avenues are open. As a

specialist in the development of components for hydraulic elevators, Bucher Hydraulics uses its decades of product know-how as well as its industry insights to show elevator manufacturers valuable potential for increasing efficiency.

Right from the start of the development and construction of the iValve, this background knowledge led the specialists to attach great importance to economic efficiency and future application possibilities. The valve works with a particular learning algorithm that balances and optimizes basic settings and current travel data. This intrinsic intelligence ensures that the car starts faster and can approach the destination floor without any delay. This shortens the travel time and raises energy efficiency. For these reasons, the valve has become the new benchmark in elevator hydraulics.

Several display variants

The integrated electronics include all the parameters for setting speed, acceleration, etc. Up to now, elevator technicians have been able to change these values locally at the elevator system using a hand-held terminal. This means, however, that specific hand terminals must not only be available for components such as the drive, elevator controls, or doors, but must also be available immediately for on-site interventions, which in turn involves additional costs.

In addition, the know-how for operating the hand terminals must be available. For this reason, Bucher Hydraulics has now taken a significant step forward and is the first manufacturer of elevator hydraulics to use the CANopen Lift interface as a future-proof method of connecting the valve to elevator controllers. In conjunction with the iAccess valve function and the built-in sensors for measuring pressure and temperature, the iValve can now also communicate directly with the elevator controller via network protocol.



Bucher Hydraulics offers drive solutions for hydraulic elevators. The sophisticated, sector-specific solution using the iValve shortens elevator installation and commissioning times and enables proactive responses (Source: Bucher Hydraulics)



The valve technology helps users to implement predictive maintenance concepts thanks to a continuous awareness of the condition of the equipment (Source: Bucher Hydraulics)

Travel commands are transmitted rapidly, operating data and status/error messages can be displayed at the elevator controller, and valve parameters can also be changed right at the elevator controller. This technology offers several advantages. During installation and commissioning, the decreased amount of cabling saves time and also reduces the possible sources of errors. In addition, a fault memory provides all the relevant information that helps technicians to make informed decisions about how to correct an elevator fault.

The data can be displayed in different ways depending on the elevator controller. The spectrum ranges from two-line displays, through TFT displays and touch screens to smartphone apps via Bluetooth and is constantly being developed and extended. Users, thus have a clear understanding of the system's minute-by-minute operation without the need for any additional equipment and can

intervene using the existing elevator controller. The diagnostic functions, which are based on the information made available and then transmitted via serial network systems, form the basis for the predictive maintenance or needs-oriented service that has the aim of increasing the system availability. The early planning of predictable measures saves time, travel, and costs, as potential faults can be identified long before a possible stoppage.

Applying the valve technology of the iValve in conjunction with CANopen Lift, elevator manufacturers can use it to suit the particular requirements that the elevator must fulfill, and configure it for future customer needs. In further steps, systems can increasingly be networked and digitalized, thus making them smarter. Of course, this also applies to the modernization of existing hydraulic systems.

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