

Moving loads at the tip of two fingers

Intuitive balancer for improved ergonomics and safety

Ergonomics improves efficiency thanks to a servo-pneumatic balancer that enables employees in assembly and logistics to lift and move loads effortlessly, using just two fingers. At the heart of the balancer is the powerful and reliable drive solution YHBP from Festo with automatic weight detection and safety Performance Level d – perfect for the automotive and packaging industries.

The system automatically detects the weight of the load and sets the balancing force itself, even when suspended loads are added or removed. This makes production processes with a large number of variants much more flexible. And operation is child's play thanks to intuitive control using a pneumatically activated, ergonomic handle.

Playing it safe

Ergonomics must always go hand in hand with machine safety. The safety variant of the drive solution, with dual-channel speed monitoring and power shutdown, achieves Performance Level d. This ensures it is always brought to a safe state in the event of a faulty component. Dangerous movement is likewise prevented if there is a voltage failure or sudden drop in pressure.

The servo-pneumatic drive solution YHBP consists – depending on the version – of a pneumatic ISO cylinder with a diameter of 80 to 200 mm, a displacement encoder, optionally with safety relay for safety applications, the balancer valve unit VPCB, a pneumatically operative handle, the balancer controller CECC-D-BA for activation of the balancer. A balancer software with browser-based web visualisation is pre-installed on the controller for commissioning and diagnostics.

Additional functions can be easily configured via digital inputs and outputs. For example, the balancer can be moved to a predefined (start) position, the speed can be changed or it can be operated in jog mode. If you want to view the balancer's status data centrally on a host system, this function can be implemented via the controller's Modbus interface.

Kinematics and applications

The drive system has proven to be versatile and flexible, making it suitable for nearly all balancer kinematics, from lifting column to parallel kinematics and articulated-arm kinematics, regardless of whether it is standing or hanging, for example from a rail system.

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In the automotive industry, the balancer can be used to move and precisely adjust heavy components, such as in the assembly of shock absorbers, engines, dashboards, tyres, windscreens, doors and seats. In the food processing and electronics industries, the balancer handles the loading and onward transportation of heavy containers, packages and goods. In the packaging industry, the focus is on conveying rolls of paper and film, and automated loading and repositioning of pallets. Similar applications can also be found in general machine and system building, in toolmaking, and in domestic appliances, heating and air conditioning engineering.

Photos de presse



Balancer

Ergonomics improves efficiency: a servo-pneumatic balancer combined with Festo's drive solution YHBP allows employees in assembly and logistics to lift and move loads effortlessly, at the touch of a finger.