

ebm-papst ArgoDrive enables omnidirectional driving

Driving/steering system for Automated Guided Vehicles

Automated Guided Vehicles (AGV) are considered a forward-looking solution for the fast and flexible flow of goods. However, a lot of space has to be reserved for track-guided vehicles. By contrast, omnidirectional systems powered by the new ArgoDrive driving/steering system from ebm-papst allow any travel maneuvers and transport up to two tons of total weight.

AGVs are now indispensable in many warehouses, distribution centers and production facilities. However, they usually travel in a rigid and inflexible way along the line markings on the floor, and the limited maneuverability also results in a high surface requirement or lengthy positioning cycles. Selective approaching of production stations or automatic route changes are not possible.

Omnidirectional driving

Transport vehicles with omnidirectional motion, on the other hand, can carry out precise maneuvers even in very confined environments. The infinite steering angle enables space-saving, free-range vehicle movement – even from a stationary position. This mobility is required for fine positioning at the machine and at material transfer stations in particular.

Driving/steering system for free-range mobility

A new drive solution for AGVs with free-range mobility is the ArgoDrive driving/steering system from ebm-papst. It is a unit consisting of motors, special transmissions, sensors and all the necessary connections. Its two motors contribute towards steering, acceleration, movement and braking, depending on requirements. Just two ArgoDrives on opposite corners of an AGV guarantee full omnidirectionality, two additional freely moving support wheels ensure stability. Depending on requirements, any number of drive systems can also be installed.

Four ArgoDrives transport up to two tons

The ArgoDrive can be used even for heavy loads and on inclines. ebm-papst offers its driving/steering system in the light, standard and heavy versions for weight classes up to 100, 300 or 500 kg. For example, four driving/steering systems in the heavy version allow a total vehicle weight of up to two metric tons.

Condition Monitoring thanks to digitalization

Motors like those in the ArgoDrive also function as sensors that detect a large number of conditions. For example, if torque increases, wear can occur on the wheel module. Thanks to GreenIntelligence and Condition Monitoring, the necessary replacement of the wheel module can be announced in good time before a failure. The data recorded by the engine supports higher-level systems that generate added value in this way.

The ArgoDrive will be available from mid 2022. Samples are now possible.

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Fig. 1: The ArgoDrive driving/steering system from ebm-papst for AGVs is a unit consisting of motors, special transmissions, sensors and all the necessary connections and allows for free-range navigation.

Fig. 1	ebm-papst
Characters	approx. 2,800, including headings and sub-headings
Tags	driving/steering system, transport vehicles, driverless, free-range mobility, ArgoDrive, omnidirectional, intralogistics, drive solution
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About ebm-papst

The ebm-papst Group, a family-owned company in Mulfingen, Germany, is the world market leader in fans and drives. Founded in 1963, the technology leader with its core competences motor technology, electronics and aerodynamics, has set international market standards ever since. With over 20,000 products, ebm-papst offers customized, energy-efficient and intelligent solutions for virtually any ventilation and drive technology requirements.

In fiscal year 2019/20, the hidden champion achieved a turnover of 2.188 billion euros and employed almost 15,000 people in 29 production sites (e.g. in Germany, China and the US) as well as in 48 sales locations. With their fan and drive solutions, ebm-papst defines and sets the benchmark in practically all industries, such as ventilation, air-conditioning and refrigeration, heating, automotive, IT, mechanical engineering, catering and household appliances, intralogistics and medical engineering.

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