EISENMANN

ELECTRIFIED MONORAIL SYSTEM
FAST AND FLEXIBLY TO THE DESTINATION

SOPHISTICATED TECHNOLOGY.

An electric monorail system (EMS) is a rail-bound means of conveyance with individually driven vehicles which move independently on the rail system. Branch points can be implemented on the line with the aid of switch points. The vehicles are generally supplied with power and control signals via collector wires on the carrier rail. The actual rails themselves are attached either to the shop ceiling or – if this is too high – to a suspended or column-supported steel structure.

The use of an electric monorail is the obvious choice if it is necessary to interconnect large spatial distances or even different buildings logistically. Unlike stationary conveyor systems (e.g. roller conveyors or carrier chain conveyors), an EMS is far more efficient and faster. This is how your goods to be conveyed reach their destination within a very short time.

Not every load can be transported with standardized auxiliary equipment (e.g. on a Europallet). The EMS in such cases is extremely flexible. The basic structure of the trolley, admittedly, is always the same but the hanger can be designed individually to meet your requirements. Even as an assembly platform and within the framework of innovative order-picking systems, the EMS highlights its flexibility of use. An EMS system can be extended flexibly and at low cost by using further vehicles even as regards a higher transport capacity simply. During order-picking work, your staff is able to approach the trolley from all sides and move around the trolley. Neither are there special requirements as regards the surface characteristics.

High system availability

Virtually 100 % availability is today, in many sectors, e.g. in logistics, crucial to the decision for a specific system technology. This can be achieved simply with the Eisenmann EMS: if a vehicle fails, it can be slid without major effort from the transport line into the maintenance bay. Material flow then continues unhindered.
The track-guided hangers enable the optimization of material flows: sophisticated control strategies prevent bottlenecks and ensure an even distribution of work. The integrated hanger control system communicates constantly with the stationary control unit and is always up to date with the latest status of orders. As a result, picking routes can be modified as necessary, significantly boosting efficiency. Moreover, capacity can be increased by integrating additional hangers into the system.

High-performance trolleys

Variable-frequency drives permit acceleration and deceleration adapted to product and its environment. An intelligent spacing sensor orients itself to the left and right, thus allowing contactless accumulation, even in tight bends. This means that an EMS circuit with individual hangers is able to transfer to storage and remove from storage over 500 pallets per hour in a high-bay warehouse apron zone at the same time.

100 % track & trace of the trolleys and load units

Permanent data communication via a CAN railbus allows short response times. This allows continuous adaption of material flow strategies. Bidirectional data communication allows extensive trolley diagnosis. Programs and parameters are downloaded from a central point via the railbus. The absolute position sensing system using barcode strip or steel code rail allows layout-specific speed changes and a high positioning accuracy in the travel direction of the trolleys at the load change points.

Eisenmann individual trolley with drives up to 3 kW.

ELECTRIFIED MONORAIL SYSTEM
FAST AND FLEXIBLY TO THE DESTINATION

Graded rail system
Eisenmann's graded rail system covers different weight ranges. Depending on payload, the right carrier rail with the required bending and torsional strength is used.

The Eisenmann rail system requires no stationary sensors or busbar sections for control tasks along the route. This means that adaptations to routing or subsequent system extensions can be implemented very easily and quickly. This cuts investment costs owing to short assembly and commissioning times.

Gentle, low-noise transport
Sensitive goods to be transported are in the very best hands with an EMS. It avoids vibrations. It allows its load to reach the destination safely and quietly, it almost glides. This is ensured by plastic-sheathed wheels – and also at high speeds. This also has a positive effect on material wear and, thus, servicing and maintenance costs.

Oscilating hangers
The hangers attached to the trolleys, so that the hangers are able to swing, greatly reduce the centrifugal forces acting on the product. Load slip is thus restricted, in particular when cornering fast. After cornering, its shock absorbers immediately return the hangers to their initial position. This allows transfer stations to be arranged even just after the bends. Floor guides are not required on high-speed transport sections.

Own trolley controls
Since 2001, Eisenmann has used its own trolley controls with an open architecture, and these have been further-developed in ongoing manner. A digital display with sealed keypad on each controller and a special-purpose, infrared remote control offer convenient diagnosis and handling. All components fitted are freely available on the market. System adaptations, be they software or hardware, can be done by the customer himself.

Advantages at a glance
- The EMS is the central element to connect production & warehouse picking areas
- The system is reliable, delivering 100 % availability
- 100 % track & trace of each trolley and load unit
- Easy to expand capacity through the use of additional trolleys
- The solution is cost efficient – less is spent on transportation and maintenance
- Future-proof thanks to modularity and customizable parameters

Gentle transport of sensitive goods to be transported even for gradients up to 45°

EISENMANN
www.eisenmann.com

Eisenmann Anlagenbau GmbH & Co. KG, Tübinger Str. 81, 71032 Böblingen, Germany, Phone: +49 7031 78-0, Fax: +49 7031 78-1000