



Floor-based  
conveying technology



# Floor-based conveying technology: unrestricted access from above

- ▷ 1 Flexible transport through tight corners and high positioning accuracy in robot applications: This is indispensable in the painting process of light, narrow plastic components. The smart floor-based conveying systems by Louis Schierholz GmbH meet these requirements with ease.



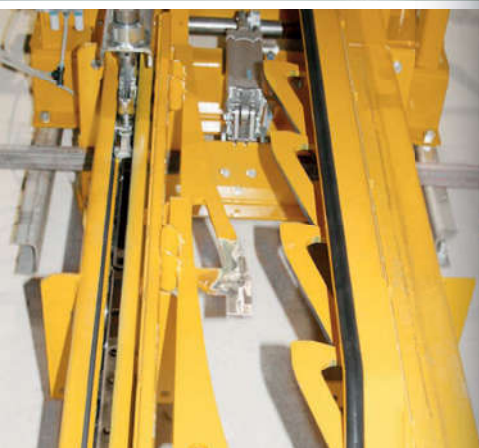
## Clever transport on the floor

- ▷ 2 In multistage coating processes, conveyor technology must meet special requirements. To achieve good coating quality with high efficiency, factors such as the accessibility of conveyed material, cleanliness, precision and flexibility play a central role. Particularly in the automotive industry, skid conveyor technology was preferably used in the past for the rapid transport of same-size components. However, this technology requires many drives, a complex control technology and refrains from cornering. The floor conveyor technology based on the Schierholz Power & Free-System offers users many advantages. The floor conveyor technology is ideally suited for transporting lightweight plastic components in specific formats and allows free movement of spray painting robots in applications where suspended load handling devices restrict conventional Power & Free conveying systems. As the elaborate construction of complex steel structures is omitted, floor-based conveyor systems are clever, economical solutions that allow a great deal of freedom in process handling. The floor-based conveyor technology averts the potential risk of contamination by falling particles.



- ▷ 3 **Flexible or rigid as needed**

The Schierholz conveying system combines the flexibility of suspended transport systems such as the high-performance Power & Free technology with the aforementioned advantages of floor-based conveying technology. Schierholz floor-based conveying systems can be modified to suit particular applications. For example, the system „BFT 813“ is adapted to the specific production handling in the automotive industry to allow for conveying long, narrow plastic components through a multi-stage surface coating process. The Power & Free system is a two-track solution permitting uphill and downhill gradients, as well as branching in the material flow. This enables flexible transport of the items to be coated as well as variable velocities. Very high position accuracy can be achieved—even with long masts that accommodate customer products—through isolation from the conveying system and with custom guide rails including press-on devices and centring pins (see cover picture, page 1).



- ▷ 4

## Proven, space-saving system

- ▷ 5 Mechanical turning devices ensure that the items to be coated are temporarily stored in the process areas with minimum space requirements. A locking unit integrated in the load-carrying platform ensures precise positioning of the conveyed material, depending on the needs of the different areas in the application process. The conveyor system runs on the ground or can be partially recessed in pits. Using components of proven Power & Free systems guarantees high plant uptime and low maintenance.



- 1 ▷ Power & Free – Floor-based conveyor running as a two-track solution in a pit at a manufacturing plant for plastic bumpers      2 ▷ Circular conveyor running as a two-track solution on the ground in a firing furnace      3 ▷ Power & Free – Floor-based conveyor as two-track solution in the feed / delivery area at a manufacturing plant for plastic components. The conveyor is for security reasons covered with metal sheets or cordoned off by security fences
- 4 ▷ Mechanical turning device on runners of a Power & Free – floor-based conveyor as two-track solution      5 ▷ Basis-Power & Free – Rail system without project-specific special equipment      6 ▷ Power & Free – Floor-based conveyor as two-track solution in a pre-treatment plant



# Floor-based conveying technology at a glance

All advantageous features that are familiar from suspended Power & Free systems hold true also for floor-based conveying systems comprising standardised components.

## ▷ For layout and design

- Uphill- / downhill gradients up to 45°
- Branching / merging of conveyor flows
- Buffer lines, maintenance lines, parallel feed / delivery stations, overtaking lines, multiple passes
- Compact storage arrangement by 90° turning stations for load handling
- Low capital expenditure due to low space consumption

## ▷ For mode of operation

- Conveyor lines of different velocities using branching and chain change
- Conveyor lines in different temperature zones (up to 250°C) using separate chain circuits
- Intelligent closing time switching, colour change control and plant start-up within the system
- Standard system control with PLC including system visualisation

## ▷ For running costs (TCO)

- Simple, proven mechanics, low cost for the provision of spare parts
- Low maintenance expenditure, low-maintenance oil-free universal joint link chain with sealed roller bearings
- High energy efficiency through lightweight design and small cross-section for feed and discharge such as for paint lines

