

Battery charging systems

Synchronous conveyors

Sickert & Hafner GmbH

Automotive systems

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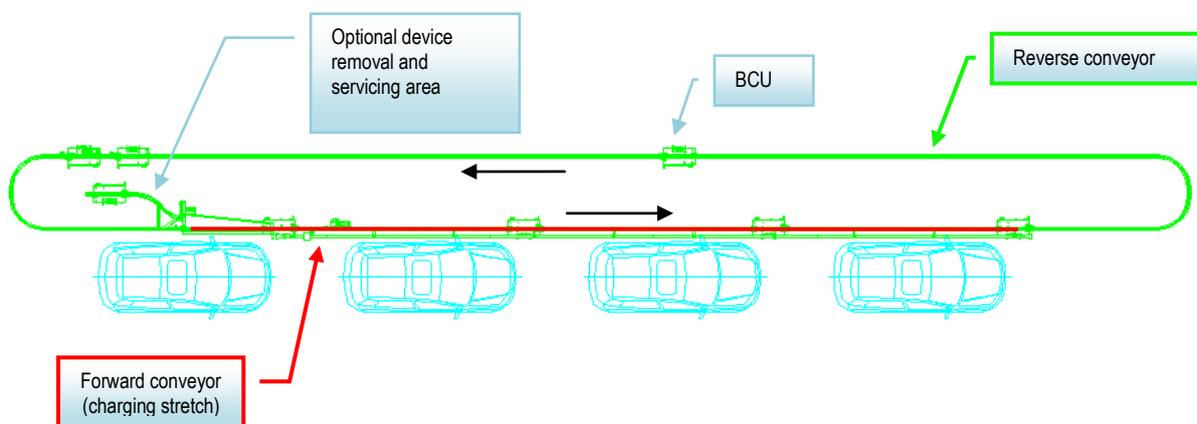
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Synchronous conveyor system

Our *synchronous conveyor system* is a low cost chain driven all-round system that is mainly used in situations that for technical reasons do not allow for the use of any other system.

System overview

The system is composed of a conveyor circuit with two independently driven conveyor chains.

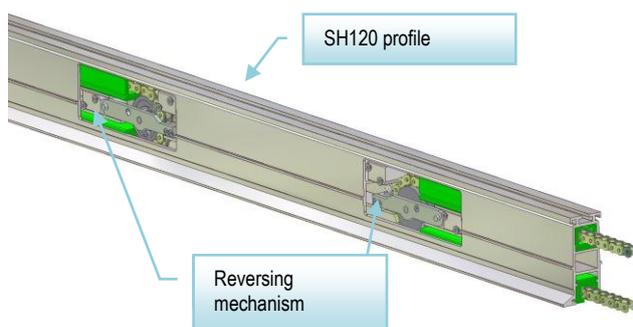


One conveyor is used for battery charging purposes and moves the battery charging unit (BCU) forward at approximately the same speed as the production line.

The BCU is returned via a second autonomous conveyor that moves several times faster than the production line.

The battery charging unit is transferred from one conveyor system to the other automatically.

An optional device removal area allows the unit to be serviced right at the conveyor.



The synchronous conveyor system integrates our SH120 profiles, which allow for forward and backward movement within a single profile via a reversal mechanism.

Application domain

In addition to deployment in front-loaded synchronous floor conveyors that carry only one type of vehicle, our synchronous conveyor systems are also suitable in situations where...

- vehicles of differing lengths need to be kept charged while on a floor conveyor.
- both front and rear loading needs to be carried out. This allows for manual positioning of the battery charging unit using a friction coupling. The unit can also be positioned automatically using a vehicle recognition sensors on the floor conveyor.
- a floor conveyor's cycle lengths vary.

Safety mechanisms

The following safety mechanisms are integrated into the battery charging unit of the synchronous conveyor system to minimize the risk of damage resulting from operator error:

All jumper cables integrate a rated breaking point with a view to avoiding vehicle or conveyor damage in the event, for example, a vehicle is removed sideways from the production line with the jumper cables still attached to the battery.

If a unit is pulled via the integrated traction cable and placed on top of another unit, an integrated impact attenuator prevents any damage from occurring at the BCU.

Advantages

- Our synchronous conveyor system is a low cost all round system that allows numerous different types of vehicles to be kept charged on the production line.
- Front and rear loading can be realized.
- The system supports cycles of differing lengths.
- Lower cost and simpler “synchronization” via the floor conveyor.
- The number of battery charging units needed is limited to the number of conveying cycles realized, plus one or two units for the return stretch.
- The system is easy to handle and its device carrier can be adjusted to an ergonomically optimal position for the operator.

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