

Information about pallet roller conveyor systems

General Safety Guidelines

Since the pallet roller conveyors cannot be secured against trespass, the operator must ensure that only trained and instructed personnel have access to the area where the system is located. Prohibitive signs must be installed accordingly per DIN EN 50099.

Prior operating the system, the operator must train the system operators (e.g. forklift drivers) with specific instructions on the handling of gravity pallet roller conveyors.

Since heavy loads are moved automatically during operation, access of the pallet roller conveyors during operation is not permitted at any time. Access of the pallet roller conveyors is also not permitted during standstill due to the lack of safe places to step.

An area in front of the system must be marked where persons are prohibited from congregating due to possible falling loads. Likewise, the cabs of the forklifts must be protected with an appropriate cover. The operator must instruct personnel on this matter.

Additional hazards to handling a pallet roller conveyor include crashing, slipping and crushing. Therefore, utmost care is required when handling the system and the provided instructions must be followed at all cost.

Operating Notices

General

The pallet roller conveyors may only be operated with the designated load.

The function of the roller conveyor is only guaranteed if the intended pallet is used, it is undamaged and the running surfaces are not dirty.

The operator must create instruction lists for operating the system.

If damage to the system is discovered, it must be reported immediately and repaired as soon as possible. Affected areas or system components must be shut down immediately, provided they represent a hazard.

Continuous roller conveyors (FiFo)

A continuous roller conveyor may only be used in the rolling direction. Pushing pallets against the rolling direction is prohibited.

Partially or completely removed pallets may not be inserted or introduced again into the channel of a continuous roller conveyor against the direction of flow.

Placing into storage: Insert the pallets carefully in the centre, approximately 50 mm over the roller gate as far as possible. Place pallets on the carrying rollers and, if possible, tilt the pole. Remove the forks from the channel. Warning! Ensure that the pallet is not pulled along with the forks when reversing.

Removal from storage takes place by inserting the forks into the centre of the channel. The pallet can now be lifted. Since brake conveyor rollers are built into the continuous roller conveyors, the forklift can extend carefully yet quickly.

If a *separation* is integrated into the roller conveyor, the pallets should only be drawn out so much that the separation flaps are unable to be lifted very high, thus ensuring the continued function of the caster stop. The locking piece should hold the 2nd palette until the forklift has completely removed the palette from the channel. If the palette has been drawn out too far, it should be removed from the channel immediately so that the separation can function. If the separation ceases to function for the reasons named above, special measures are unnecessary. If the next extraction occurs in line with the operating instructions, the separation will perform its function in this next cycle.

The forklift should back up straight when extracting. Any attempts to turn while the forks are in the channel may damage the separation.

Continuous roller conveyor (FiFO) for grid boxes and transverse pallet transportation

The following must be observed when **removing from storage**:

The carrier must be lifted by forklift so that the separation flaps are free (as opposed to longitudinal pallet transportation).

Since the subsequent carrier is no longer held by the locking piece, the front carrier must be moved out quickly and straight back out of the channel so that the function of the separation is ensured.

The separation can be optimized in many cases using the following technical facilities:

- Installation of a time delay using hydraulic brake cylinders.
- Installation of a separation device with lock which can be unlocked by hand or forklift operation.

Slide-in roller conveyor (LiFO)

During storage and removal from storage, especially of goods prone to tipping, it must be ensured that the forklift engages gently and smoothly so that the pallet being loaded or that to follow reaches the stop slowly and without impact.

It is important - especially for conveyors without brake rollers - that pallets are not left stuck in the channel. This poses a hazard, for example, if the pallet comes loose on its own and hits the stop without brake rollers. If a brake roller is installed, it should not be regarded as an element for speed control, but rather as safety components.

When **placing into storage**, centre the pallet in front of the channel and lift the pallet gently over the stop. Gently and smoothly approach with the forklift. Insert the pallet over the stop into the channel and place onto the roller conveyor. Slowly pull out until the pallet has reached the stop (up to this point, the forklift supports the entire dynamic pressure from the channel). The forks should not come into contact with anything when pulling back.

When **removing from storage**, insert the forks in the centre under the pallet; lift gently over the stop and reverse carefully. The caster speed of the pallets to follow are determined by the extraction speed. If brake rollers are not available, reverse slowly until the pallets to follow have reached the stop.

Working in the channel

If work is required in a channel, the affected channel must be shut down. In addition, adjacent channels must also be shut down. The filling of this channel must be prevented during work.

A pallet or other carrier should never be pulled (risk of crushing). It may only be pushed.

People should never stand in front of the pallets (with reference to the flow direction).

For work in or on the channel, the following protective measures must be observed:

- Wear appropriate protective equipment
- Only use approved means for accessing the channel (e.g. working platforms)
- Attach a safety belt or other safety barriers

If pallets become stuck, the adjacent channels must be shut down and emptied. With the aid of suitable inspection pallets with continuous bases, the concerned channel can be made accessible via the adjacent channel. Create safe standing space as a result.

The continuous roller conveyors may never be accessed from the extraction side if pallets are still lodged in the channel.

Assembly Notices

The assembly manager responsible for the roller conveyor system must be technically competent and trained accordingly. He must be able to make the necessary adjustments to the system.

The assembly manager must be informed of the potential hazards. This includes hazards which may result if the system components are installed incorrectly.

Technical defects which cannot be resolved by the fitters must be reported.

The assembly manager must be informed of the necessary safety measures and instruct the fitters accordingly. He must ensure that the fitters comply with the general safety instructions.

Construction or conversion must be carried out in unloaded condition. Loading the system must take place only once the assembly is complete.

Procedure for assembling the roller conveyor:

- Install the preassembled roller conveyor segments from the extraction side. The individual segments are bolted together with connectors. These are factory installed already on each segment.
- Align the roller conveyor in the centre of the channel.
- Perform trial runs with small loads and the provided pallets.
- Check the following points if the running behaviour of the roller conveyor is incorrect or if the pallet shifts to the side:
 - Check the running surface of the pallet.
 - Check the diagonals of the roller conveyor and realign if necessary.
- Repeat trial runs

Maintenance Notices

Pallet roller conveyors are essentially maintenance free. Nevertheless, you should check the function of the individual components such as the carrying rollers, brake conveyor rollers, separations and stops in regular intervals (every three months at the latest).

If defects are found, the corresponding area must be shut down directly. The defect must be reported immediately and reported as soon as possible. Damaged parts must be replaced with original replacement parts.

The operator shall ensure that the system is always operational.