



Incline Conveyors Support

Amek Belt Conveyors

For more information on
Wiring, conveyor safety, signage - please visit
www.beltconveyors.co.uk/bc113customersupport.htm

Safety note: Amek conveyors are designed for incorporation, therefore a relevant risk assessment and safe working method, must be carried out by the customer prior to use. This manual contains important safety information regarding your conveyor

Support - Inclined conveyors



Prior to Installation, thought should be given to where the conveyor is situated and the items to be transported on the conveyor, for example a shiny flat bottomed object will not go up inclined conveyors very well. Items with hot melt glue will not be suitable for PVC belt conveyors., or very long items will not go down incline conveyors very well. The position and work area around the conveyor should be clear of obstruction, *as it is often the location and the process which will limit functionality.*

For reference, below are some of the considerations

- What is to be transported (size, weights, materials)
- Where is the conveyor going to span from and to
- What type of belt and conveyor type should be used
- What space is available
- Will side guides be required
- What will the total weight be on the belt
- Is the loading and unload to be carried out manually
- Is a braked motor required to prevent product rolling back when power is lost
- Is there a requirement for an emergency stop
- Do other machines need to stop as well as the conveyor
- What additional guarding will need to be added to the area
- Can the conveyor be maintained safely
- Can the conveyor be cleaned safely
- What training and safe working practices will need to be implemented
- Is the conveyor manually or automatically fed

This is not an exhaustive list .

Notes: Unit Handling (Normally using a grip faced belt)

- The normal maximum angle for conveying cardboard is 25 degrees
- This can be reduced to 15 degrees when conveying certain types of plastics
- Maximum incline for grip face belts is 30 degrees
- Please use box tumbling calculation for your product
- Amek is happy to carry out incline testing for your product if required to determine maximum inclines.

Notes: Non uniform products (ie small parts, pellets and powders)

Dependent on the product transported inclines of up to 50 degrees are possible, with options such as flighted belts. If unsure our sales team will be able to aid on belt selection.

Support sheet - Inclined conveyors

Before use

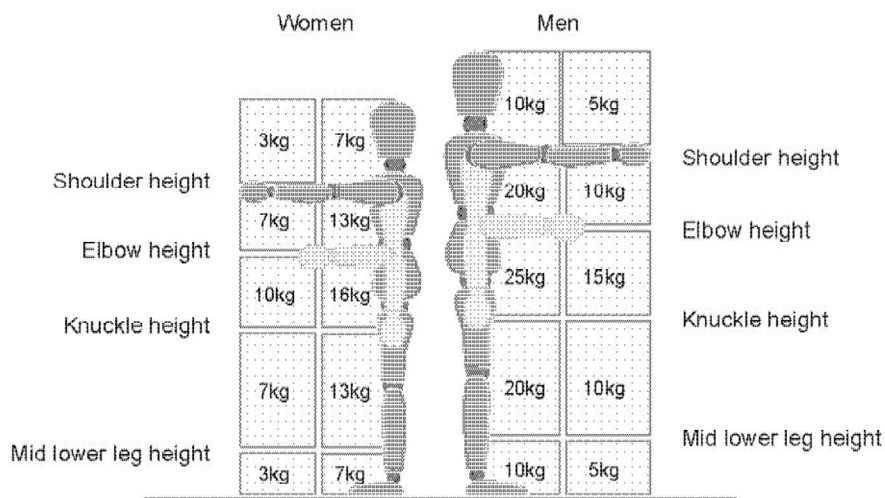
The rule of thumb is quite simple, unless you have had adequate training on the piece of equipment, do not use, clean or maintain it. This training should include, safest use practices which is application dependent, if conveyor is to be loaded by hand, manual handling training a full risk assessment and working procedure should be carried out on this piece of automation etc.

Once you have had the relevant safety training, ensure you familiarise yourself with the control function and process for your application. A driven conveyor by nature has moving parts and must be treated with care. (See user manual) (Training should include all aspects, use, cleaning & maintaining along with relevant safe working procedures)

Ensure the work area is clear of obstruction and any personal within the work area are aware of the conveyor starting.

Loading and unloading manually

The HSE recommendations are briefly as follows. Do not lift anything over 25 kg, the sketch below shows roughing what is and is not acceptable for male and female. If there is twisting or tight access involved these figures should be reduced by 20%.



Manual Loading

Operational loading.

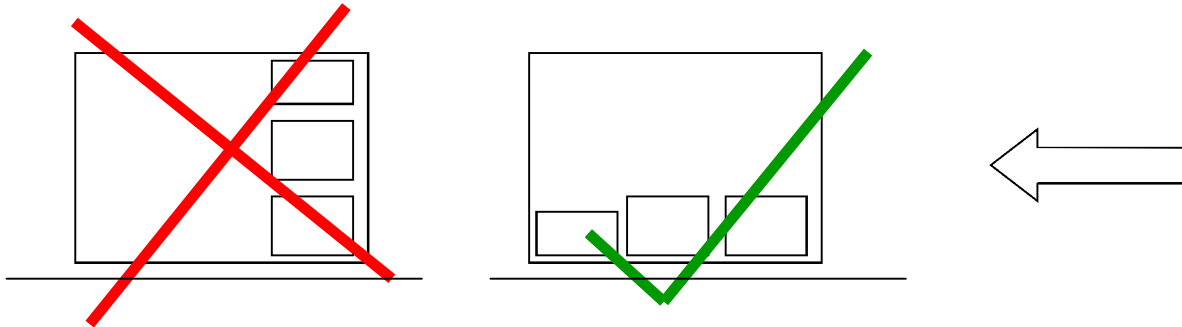
When working against the conveyor the rule of thumb is a maximum of 450mm reaching is acceptable. Please note the weights you can lift near your person are not the same as when you reach over something. - **NOMINAL OPTIMUM LOADING HEIGHT = 850mm**

Using incline conveyors with basic start / stop function. (manual operation)

The best (safe) practice is to have one person at the top and one person at the bottom, with an effective means of communication between them. Transport one item at a time which will lower the risks of one of the people been overwhelmed. Note: always be in control of the contents on the conveyor. An application specific training document created and should be followed at all times, with a copy of it and the relevant safety signs displayed near the conveyor. (Safety signs available from our website)

Load distribution on incline conveyors

Due to the nature of incline conveyors, care must be taken in the packing of boxes totes and general positioning of items. The load must be as evenly spread against the conveyor belt, for example, do not stand a coat rack up on the conveyor and expect it not to fall over. When using boxes or totes make sure the load is spread out on the bottom of the box (see sketch)

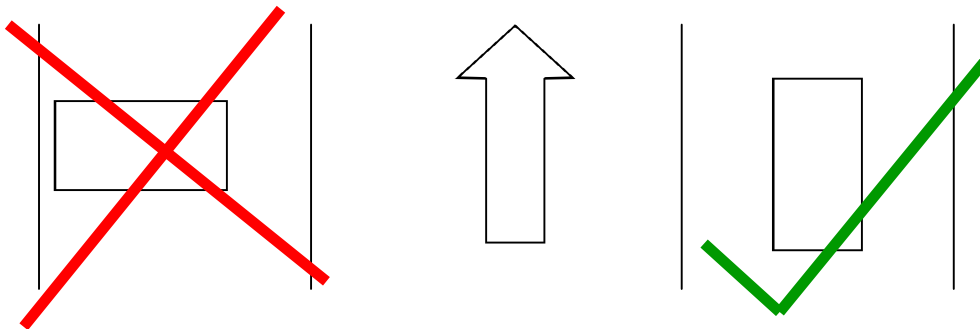


**Do not place items directly onto a moving conveyor belt.
Do not load an inclined belt whilst the conveyor is stopped.**

An ideal loading involves placing the item on a gravity roller or fixed table and gently pushing the package (from the top of the package) towards the moving belt until the moving belt takes it away.

Position and orientation of items on the belt.

Items should always be placed centrally on the belt with short side leading



General safety.

If the conveyor is to be used by more than one team of people, We would recommend a reporting book, white board etc to pass information team to team

Maintenance checks

OPERATOR

Daily:

Check the general condition of belt. - Report any problems to an engineer
Visually check fixings for loose fixings

ENGINEER

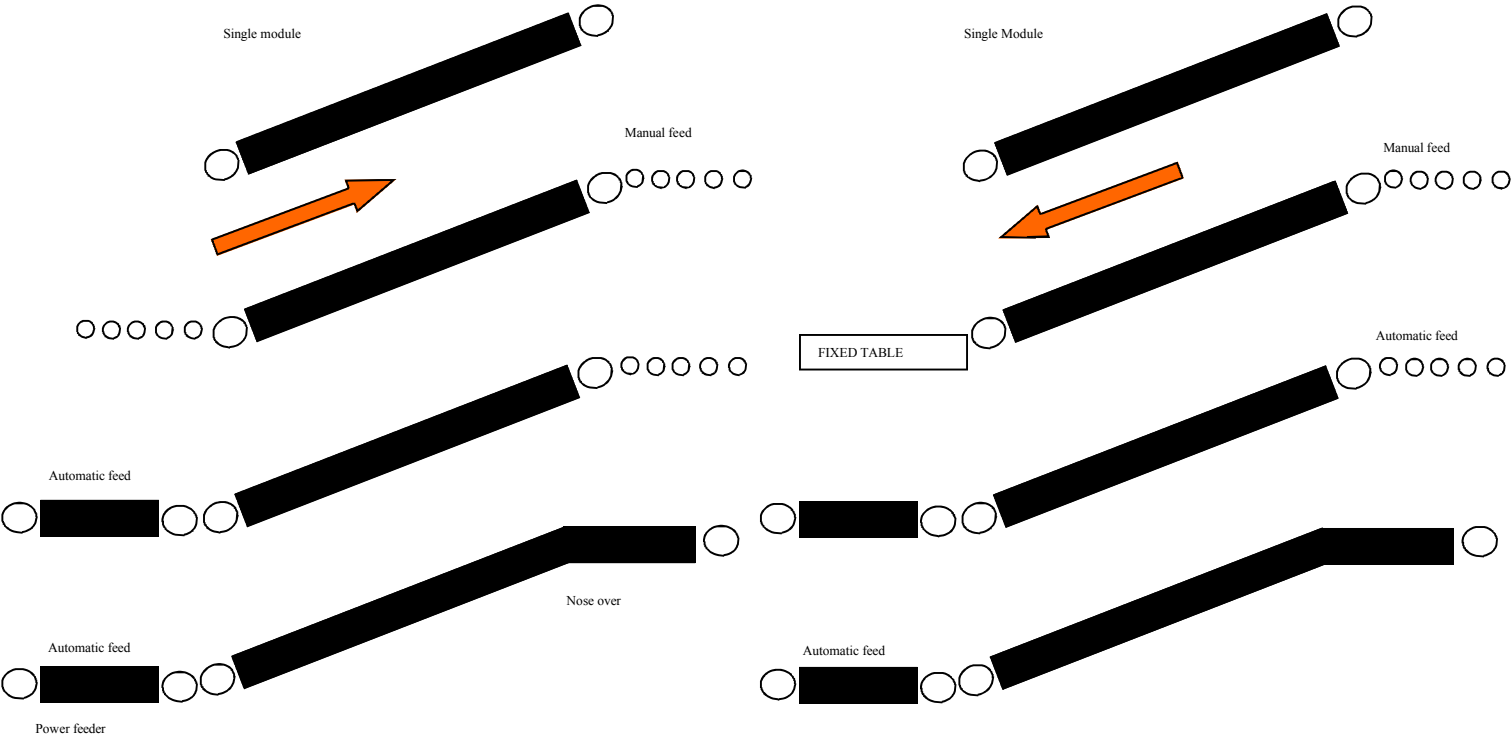
Monthly:

Check condition of drive drum and return rollers, repair or replace as required.
Ensure tracking is correct, adjust if required.
Check fixings are tight (see user manual for additional maintenance required)

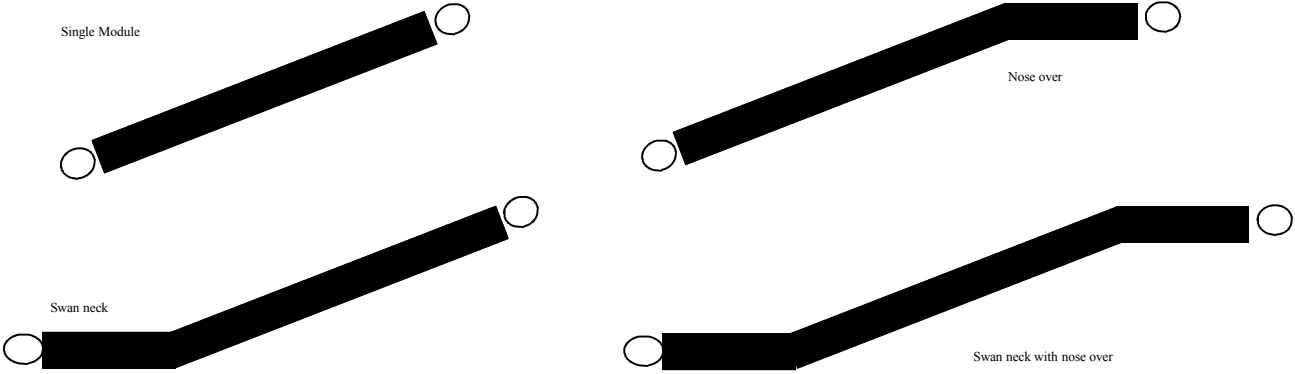
NOTE: Before any work is carried out ensure the equipment is properly secured isolated from the mains. Work should be carried out by competent personnel only

Support sheet - Incline conveyors - Conveyor configurations

Unit loads - unit packed product



Component and loose product inclines



Belt types are dependent on product been conveyed, options are.

- 1) Smooth belt for shallow inclines
- 2) Gripface belt
- 3) Smooth belt fitted with flights

