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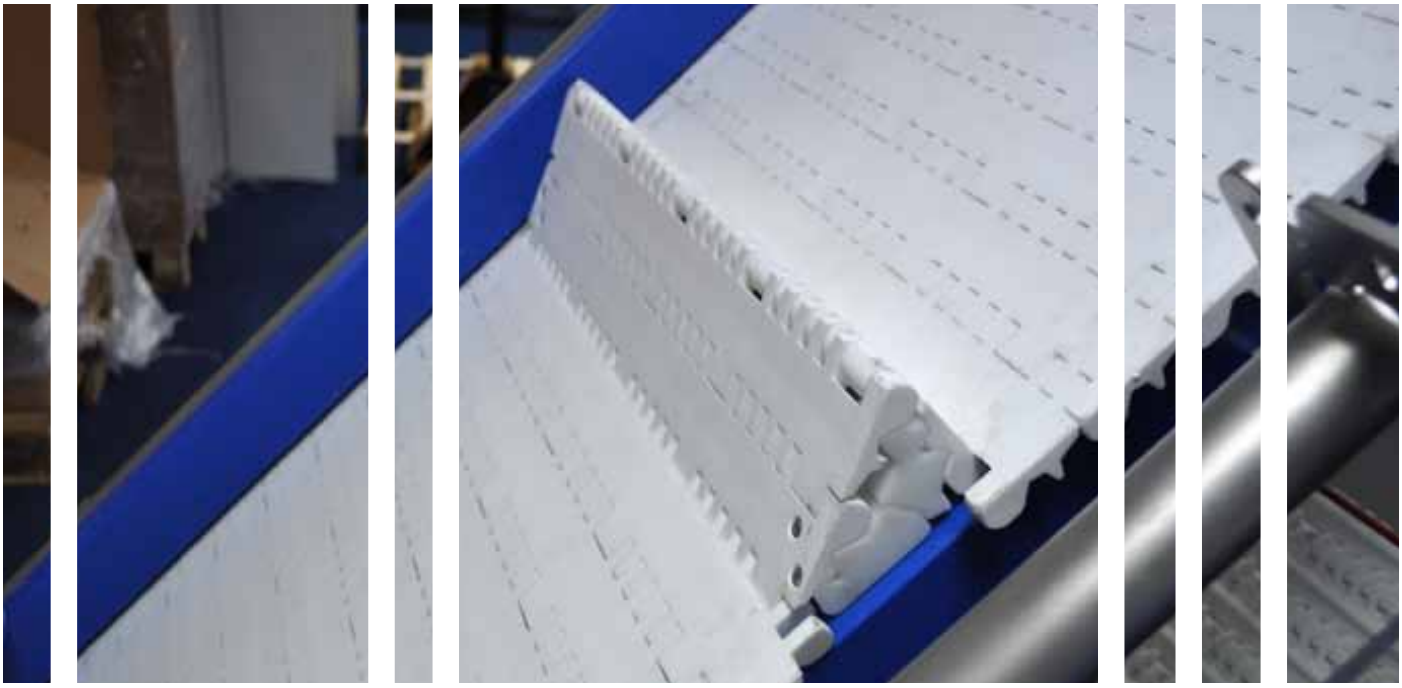


KleenFlight

Engineering Guidelines

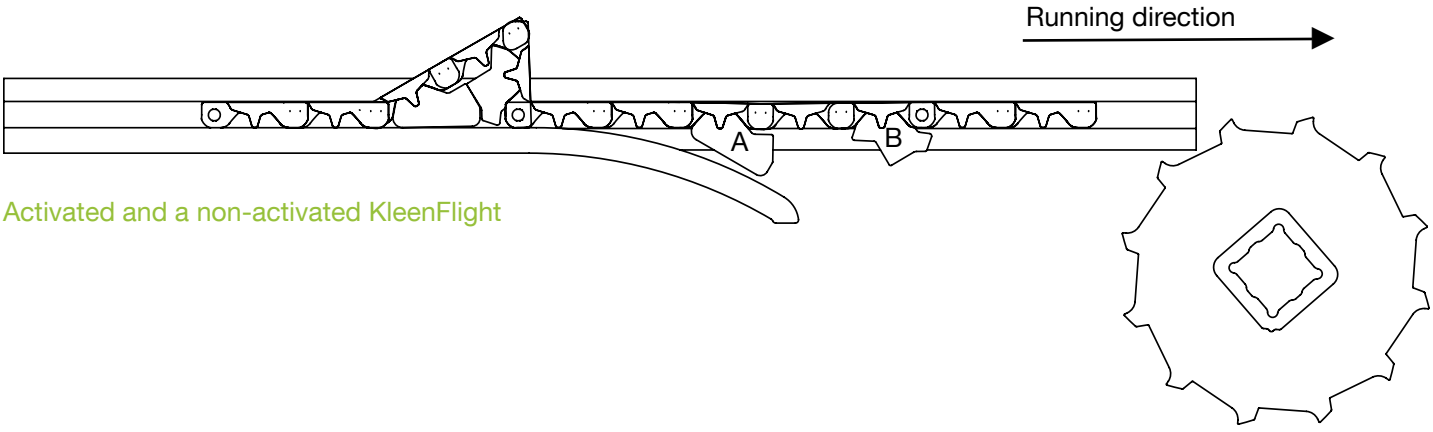
Call us on **0800 845 464**

www.**vikingcoveyor**.co.nz

How does it work?

KleenFlights are flights for inclined transport which are popping up when activated by a support strip to bring the unpacked product up. In the return part the KleenFlights are down again and it is possible to place a scraper to prevent sticking products return with the belt or likely falling down on the floor resulting in a loss.

As long as the cams A and B are supported by the wear strip the KleenFlight will stay activated. When not supported anymore the KleenFlight will stretch-out again to be able to engage with the return sprockets and scraping can take place.



Activated and a non-activated KleenFlight

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On the photo to the right you see an activated Kleen-Flight mounted in a uni ECB belt. This 2 inch pitch belt forms a 2 inch high Flight. The height of the Kleen-Flight is equal to the pitch.

In a belt with KleenFlights we position 2 sets of cams per Flight

The dimension measured over the indents is the net belt width. The indent is needed to allow the belt to fold. The rest of the belt length support the pushing belt and prevents the belt from folding on other locations than the Flight.

The following belt widths are possible:

- ECB 1600 / 1800 or 402/452 mm
- ECB 1800 / 2000 or 452/402 mm
- ECB 2000 / 2400 or 502/603 mm
- ECB 3000 / 3200 or 752/806 mm

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Below you see an example of the building pattern. Max belt width till further notice is 812mm. indent 25.4mm resulting in a net width of 762mm

KleenFlight building pattern

Drive

As mentioned before the belt is driven by two motors (master/slave set-up). The master motor is pushing the belt instead of pulling. This pushing function brings the belt tension in the Flights almost back to zero where the “slave” motor has only the function to pull the belt flat again and at the same time prevent that the return part pulls on the top part. It is of vital importance that the activating and deactivating happens at the same time and that the “slave” motor is not pulling supported / activated KleenFlights.

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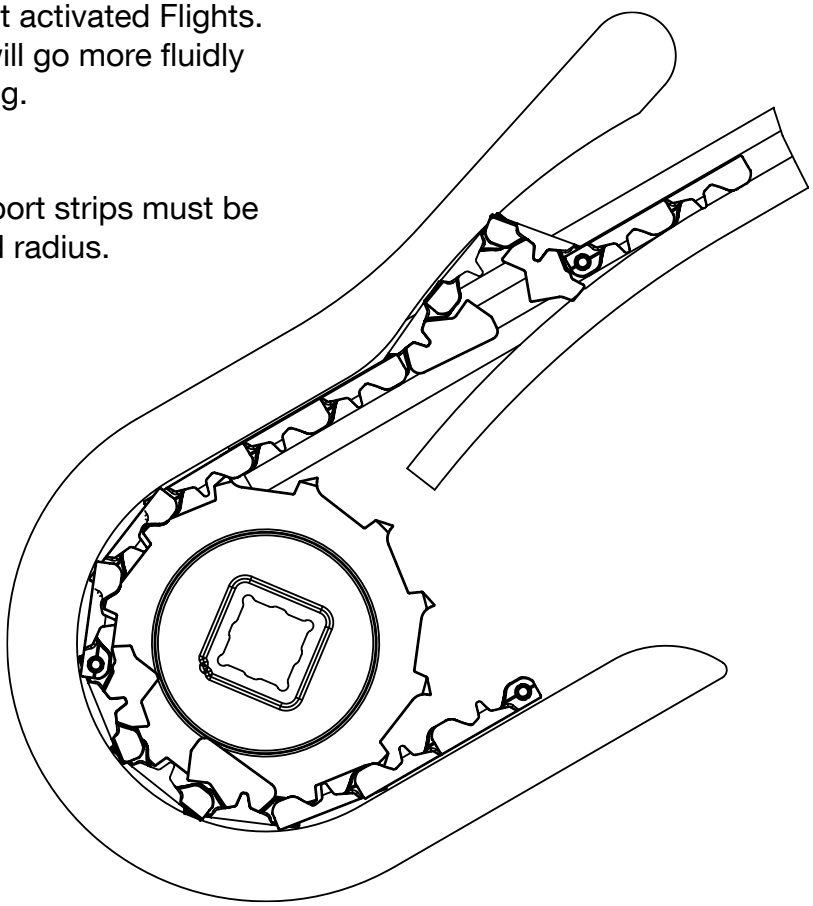
Guiding / Support

The following guiding is needed:

- Place wear strips around the belt (outside) on the sprocket location to ensure that the belt and sprockets are constant engaged.
- Standard support strips under the belt starting between the sprockets
- Support strips on top of the belt allowing the KleenFlight to pup-up but keeping the rest of the belt flat
- It is advised to support the flight with two shoes on the carrying side as well. This results that the KleenFlight rise slowly otherwise the belt will run with abrupt start/stop. The belt will stand still for a short period (motor still running) this due to the difference in length of the belt with or without activated Flights. By using shoes this popping-up will go more fluidly and the belt speed is less pulsating.
- Return part is standard support

All leading edges of the carrying support strips must be chamfered or have a slight downward radius.



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Sprockets

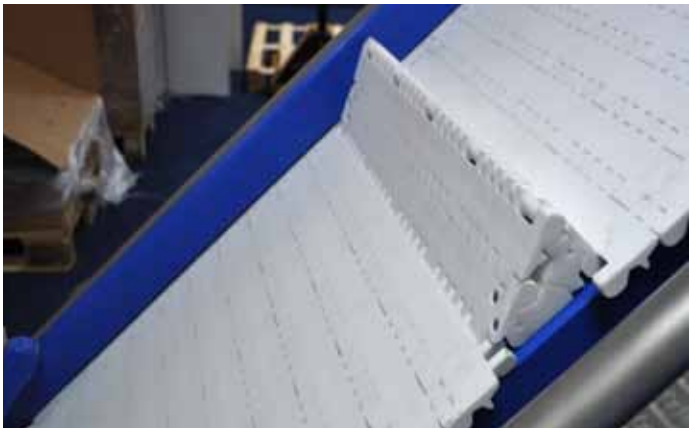
Sprocket size < 12 teeth for a 2 inch pitch belt to allow the cams to rotate around the shaft.

Belt length

Be aware that during popping-up of the flight the belt becomes more than 1 module pitch shorter for each KleenFlight that is activated. It is important to select the pitch between the KleenFlights in combination with conveyor length.
The distance from popping-up and going down must be a multiplier of the pitch, when one KleenFlight pops-up the belt theoetically comes to a standing still, during this “stand still” the second motor is pulling the Flight, which is not supported any more, down. In other words the belt length is ... times the pitch of the Kleen-Flights.

General

Of course you need to take care that the cams are able to pass the conveyor construction on all locations and that the belt has on all locations clearance of 3 mm



After the inclined section the belt runs via a radius horizontal where the Flight is de-activated and the belt becomes flat again.

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Scraper

After the return sprockets it is possible to scrape the belt in the return part when the belt is flat again.

Catenary

After the second drive (slave) we need a catenary to accommodate belt changes in belt length due to tension and temperature.

Belt selection

Till further notice we use only the ECB belt is suitable, the main reason for selecting this belt is the back flexing of 90 degree, when using.

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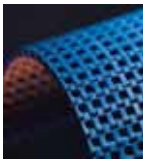
Conveyor Belts

Seamless Belts

Modular Belts



Timing Belts

Transmission Belts

Fabricated product

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