



WE PROVE SOLUTIONS



SmartFlo

Conveyor belts for maximum efficiency in your greenhouse





Introduction

As a grower you know exactly how to grow your plants. During the cultivation process you are continuously spacing and moving plants. This is time consuming. It requires organization and is a burden on your staff. This is something we can help you with.

We combine a complete range of products, which will automate your pot plant business operations. Practical, efficient and future-oriented, a SmartFlo conveyor belt system consists of several modules that are wirelessly connected. This allows you to tailor the system exactly to your own nursery operational needs. Thanks to the flexibility of the SmartFlo modules you can support your business processes to suit your needs at every stage of cultivation: from potting and spacing up to preparing for orders.

More plants in the same amount of space

In general SmartFlo is a fixed system. Having said this, the belts are strong enough to also be used as a walkway in the bays when not in service, thus not compromising any growing space.

The belts are bi-directional, which allows you to use them with all plant movement processes, like potting and shipping. But don't forget consolidating and spacing. By being able to do these last two more easily and efficiently you can save yourself valuable growing space and grow more plants in the now available greenhouse space.

Improving the working environment

A SmartFlo conveyor belt system moves potted plants and trays more efficiently than humans. You can easily adjust the routes and with the different 'plug ins' you can cross walkways in your nursery or greenhouse. Small plants, big plants or trays: SmartFlo

transports every plant to the right place. This will save you labor costs and leaves you with happier employees, since their working conditions have improved. Once a full SmartFlo system is installed, cart traffic will pretty much been eliminated in the greenhouse. Making it a safer and less noisy workplace. On top of this your best people are not driving carts around, but are actually directly working with other plant handling equipment.

Outdoor applications

A SmartFlo system is suitable for outdoor use. It works in most weather conditions. Transporting potted plants over a larger distance will be more efficient using SmartFlo, because driving up and down with carts or trolleys is a thing of the past. Using several add-ons like wind protection, SmartFlo curves or an outdoor SmartFlo Flexit you can turn your outdoor growing facility into a functional and efficient organization.



SmartFlo Track



SmartFlo system components

| | |
|--------------------|----|
| SmartFlo Track | 2 |
| SmartFlo Drive | 4 |
| SmartFlo Remote | 6 |
| SmartFlo Curves | 7 |
| SmartFlo Count | 9 |
| SmartFlo Flexit | 10 |
| SmartFlo Extension | 11 |
| SmartFlo Crossover | 12 |

SmartFlo Track conveyor belts move potted plants and trays in a safe and reliable way. They come in 2 different models 150mm (5.9 inch) and 300 mm (11.8 inch) wide, making them an efficient way to transport both pots and trays. The robust conveyor belts are designed so they can be walked upon when not in operation. Thus having a double function as an aisle way in your greenhouse bays.

Plant quantities

SmartFlo conveyor belts carry a certain number of plants per meter depending on the pot size. The table below shows the numbers of plants per meter of conveyor belt for the most common pot sizes used by pot plant growers.

| Pot size (cm) | Plants per meter |
|---------------|------------------|
| 8 | 12 |
| 9 | 11 |
| 10 | 10 |
| 10.5 | 9 |
| 12 | 8 |
| 13 | 7 |





SmartFlo Drive



Belt height

The height of the SmartFlo Track can be selected to suit your needs, starting from a minimum of 300 mm (11.8 inches). Depending on the height you require, the drive motor is located underneath or alongside the conveyor belts. It is placed underneath the belts wherever possible in order to maximise the growing space on the greenhouse floor. The height of the conveyor belts is set in advance and cannot be changed during the logistics process.

Direction of travel

SmartFlo conveyor belts are bi-directional. This means that the direction can be changed as and when required using the SmartFlo Drive.

Speed

The standard speed of the SmartFlo Track conveyor belt can be set to between 12 and 15 meters per minute. The speed is adjusted using the SmartFlo Drive. If you require the belt to run at speeds outside this range, this can be arranged on request.

Curves

SmartFlo Curves create reliable, safe corner transitions along your route. Different corner sections can be used in different situations to ensure a perfect fit and to guarantee optimum reliability and safety at every turn.

Low maintenance

The high quality conveyor belts used in SmartFlo Tracks mean that the system requires very little maintenance. The possible labor saving is one of the many benefits of the SmartFlo conveyor belts as well as many of its other features.

The SmartFlo system comes with a fully configurable wireless communication network based on the SmartFlo Drive. This enables you to assign any of the conveyors in your system to a particular route and task.

Routes

A SmartFlo Drive unit can be connected to any of the SmartFlo conveyor belts. It features a range of settings for configuring belt operation, enabling you to set routes through the greenhouse to suit your needs. On the SmartFlo Drive you can select a route number which then connects to a SmartFlo Remote control unit.

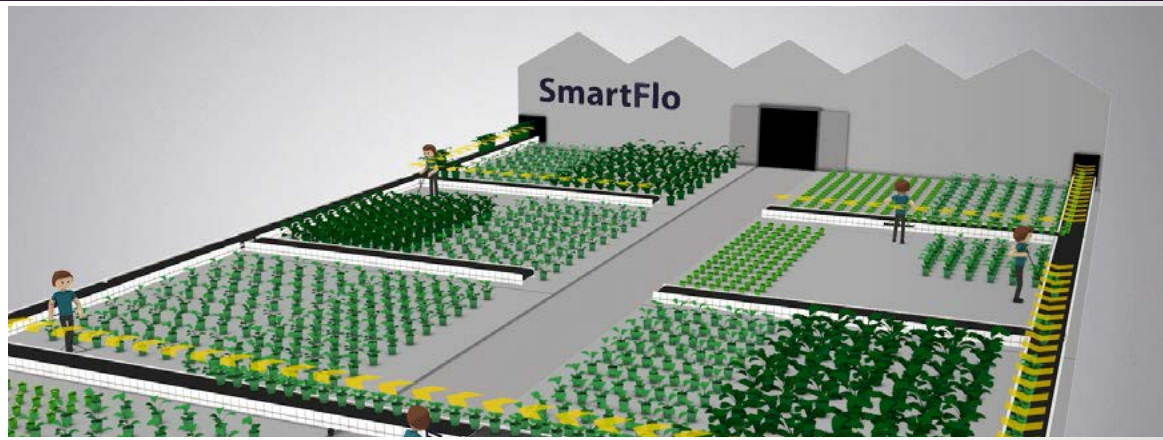
Direction of travel

The direction of the SmartFlo conveyor belts is set with the SmartFlo Drive. The ability to choose the direction increases the number of possible routes and boosts the flexibility of your logistical conveyor system.

Extra connection

A SmartFlo Drive also has a connection that can send an on and off signal to other machines, such as a potting machine, a trimming machine or a motorised curve section. This SmartFlo connection can also be used to receive an on and off signal from other machines within the system.





Standalone use

The SmartFlo Drive does not necessarily have to be used as part of a SmartFlo system. It can also be connected to an individual belt as a standalone device to control forward or reverse belt direction.

Connecting to other systems

The SmartFlo Drive enables you to combine your SmartFlo system with conveyor belts from other manufacturers. Therefore SmartFlo can be used as a highly efficient, cost-effective enhancement of your current conveyor system.

Examples of routes

The illustration above gives you an idea of some of the route configurations that can be created with SmartFlo. The big advantage of the SmartFlo Drive is that you can create any route you want and connect it to any of the available channels on the remote control to ensure optimum flexibility.

▶ SmartFlo Remote



SmartFlo Remote

A SmartFlo Remote can be used to start or stop individual routes in conjunction with the SmartFlo Drive. Every SmartFlo Remote has a dial in the battery compartment to set it to any one of the 15 possible routes controlled by the SmartFlo Drive. This way, the SmartFlo Remote can be used to activate route 1 without impacting on route 2, for example.



SmartFlo Curves



WPS produces a wide range of corner guides, ranging from simple mechanical guides to motorised versions, so you can choose precisely the right curve section to guarantee reliability and stability in any situation.

Summary of SmartFlo Curves:

1. SmartFlo Curve – a corner section with a single steel guide on the outside of the bend and a static wheel on the inside.
2. SmartFlo Curve – a corner section with a motorised cord on the outside of the bend and a static or motorised wheel on the inside.

Stability

With our range of different curves, SmartFlo Curves deliver the stability your plants need. Whether large or small pot sizes or dry or wet plants, SmartFlo Curves guides provide an ideal solution every time.

Corner speed

The speed of travel around curves is the same as the speed of travel of the conveyor belts, providing optimum guidance in conjunction with SmartFlo Tracks.

Direction of travel

Just like our conveyor belts, SmartFlo Curves are bi-directional. The direction can be reversed automatically on non-motorised corner sections and manually on motorised sections.





SmartFlo Count



To track the performance of your logistical system, to be able to check input and output, but also to be able to determine per employee whether they process enough plants: SmartFlo Count measures this.

Workplace information on your mobile phone

If the people working on the conveyor belt need to process a certain number of plants, the SmartFlo Count is an easy-to-use aid. SmartFlo Count can be used in two ways:

1. Adding up: start at zero by pressing the physical reset button. When a plant passes, the Counter is activated and the device starts counting.
2. Count down: you set a certain amount by pressing the buttons +1, +10, +100. You can also switch between the options.

The SmartFlo Count specs

- Counts all passing plants
- Mountable on any SmartFlo Track with a simple magnet
- Physical sensor
- Long life battery



SmartFlo Flexit



The SmartFlo Flexit provides flexible access to the SmartFlo Track. The SmartFlo Flexit consists of a belt with a mobile connection to the SmartFlo Track, giving easy access to the plants being transported, whether you want to set them down on, or pick them up from, the greenhouse floor. This can be communicated to the route concerned using an integrated SmartFlo Drive.

Power supply

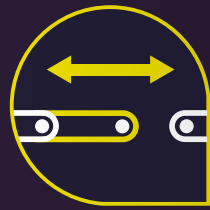
The Flexit needs a separate 230 V power supply, which can be installed in different ways. Battery operation is also an option. When fully charged, the battery will last for approximately 8 hours.

Support

One side of the SmartFlo Flexit rests on the ground or on a heating pipe. On the other side, the Flexit is attached to a SmartFlo Track. Supporting it on a heating pipe makes for greater efficiency as it leaves room for plants to be placed on the greenhouse floor underneath the Flexit.



SmartFlo Extension



The SmartFlo Extension is an extendible section of belt that can be simply pulled out of a SmartFlo Track in order to connect it to a track on the other side of the main access aisle. It makes no difference how far the SmartFlo Extension is pulled out, it works in every situation.

Direction of travel

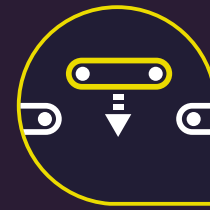
The SmartFlo Extension uses the same belt as the Track to which it is connected, so the direction of travel of the Extension is automatically matched to that of the main belt.

Flexibility

The fully adjustable, extended length of the Extension ensures a high level of flexibility. For example, extending the belt enables you to process an order along the central aisle instead of in the middle of the bay. What's more, conveyor belts can be extended ergonomically with the Extension by just one person.



SmartFlo Crossover



Another option to cross main aisles with the system, is by using a SmartFlo Crossover. To connect two opposite SmartFlo Tracks this unit can be inserted between both tracks to bridge the main aisle.

Speed

The SmartFlo Crossover is equipped with its own speed control unit and can be controlled by connecting it to the switch contact unit of the nearest SmartFlo Drive. Or just have it being controlled wirelessly.

Flexibility

The SmartFlo Crossover is equipped with its own carriage frame, which allows you to easily move it from one position to the next. It can be moved by one person in a short period of time, making sure the system pause needed to move the Crossover is kept to a minimum.

In contrary to the SmartFlo Extension unit the Crossover has a fixed length. This length is determined at order and can be between: 3 meter and 5 meter (9.8 ft and 16.4 ft)





More information

www.wps.eu

info@wps.eu

+31 174 671 371

For the USA or Canada:

Edwin Dijkshoorn

Director of Business development North America

+1 (207) 406 0234

Edwin.dijkshoorn@wps.eu

