



HORTICULTURE DRIVEN BY **DUTCH EXPERIENCE**

Benomic S-line

The new standard
in horticulture

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Why?

Why a new pipe rail trolley lift?

- Because of the stricter supervision of the regulations, we have to make a number of things intrinsically safe. This was not enough for us, we immediately implemented customer wishes in this design, such as:
 - Dual entrance
 - Maintenance-free engine
 - Rounded design
 - USB integration
 - Larger action radius

Were the current pipe rail trolleys not good then?

- These are certainly good but due to the stricter supervision we had to implement some changes. But certainly good and also safe to use!

What happens with my current pipe rail trolleys, I can continue to use them?

- These may be used and are safe. We have seen this in recent years (no accidents due to the trolleys). Most accidents happen due to poor underground, this is of course something that we want to draw attention to.



What is changed?

Status indicator and horn must be present for warnings

All controls must be visible to the controller

Doors must be self closing or checked with sensors

Door must be as low as the low extra rail

Extra rail to prevent falling off (kickrail isn't necessary)

Load sensor to prevent overloading

Analogue tiltsensor for width and length

Lowering valve for last meter

Pipe sensor for different behavior

Two hand service controls





Highlights

- TÜV certified
- Larger action radius
- Complete new range up to 6,6 meters
- Double entrance
- Integration of USB
- Ergonomic design





- Part of the startup sequence
- Everything in line of sight
- Integration of USB charger
- Status led of the trolley
- Battery indicator
- Robust and intuitive design

User interface

TOP



BOTTOM





- Two self closing entrance gates
- Standard toolbox integrated in door
- Spacious entrance gate
- Ergonomic stainless steel foot pedal
- Contactless sensing of start/stop function

Platform





Scissor configuration

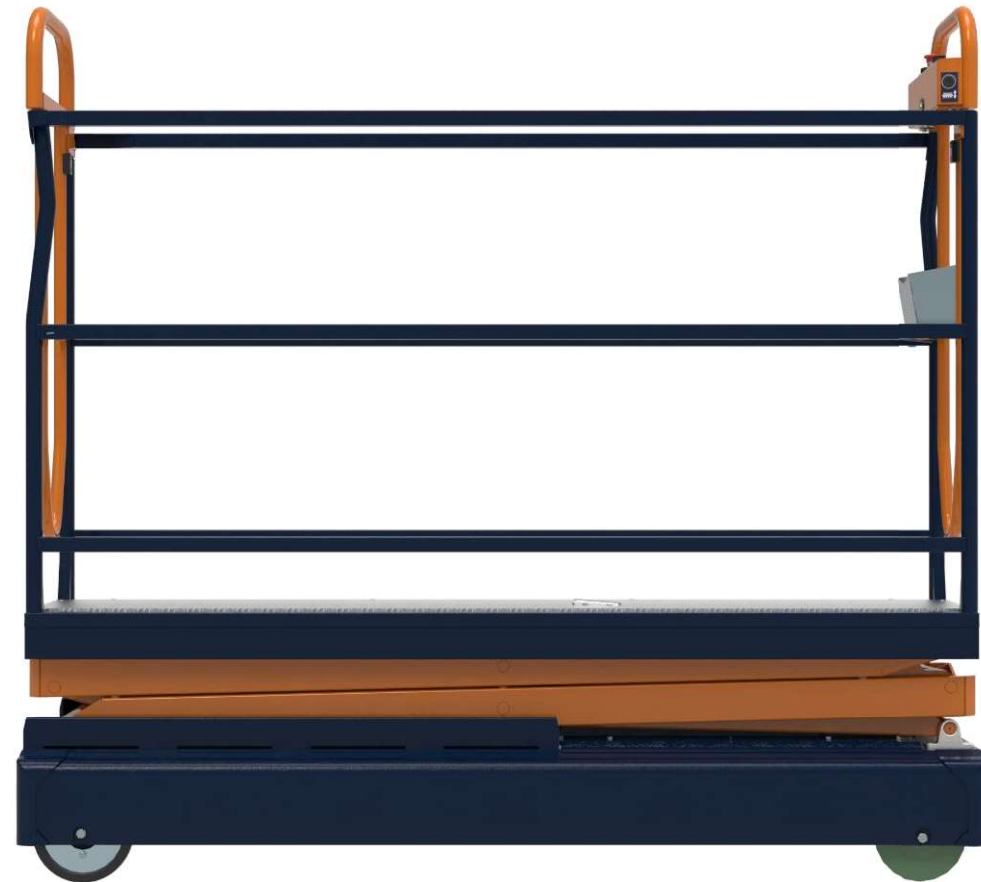
- Standard up to 3,5 meters
- Different force distribution; less wear
- Less spareparts
- Calm stopping of downward movement for ergonomics
- Fast up and down movement for high effectiveness





Undercarriage

- Maintenance free motor
- Best battery in the market 159Ah
- Small outer dimensions; 191cm long
- Rounded frame for less dirt build-up
- Self-cleaning guidance
- Length or side movement possible
- Proven PLC controls





Adjustments focused on safety with influence on (whether or not combined):

- Location of the Benomic (pipe or concrete path)
- Tilt on the tube
- Weight on the platform
- Speed of driving

Benomic S-line (safety functions)





Benomic S-line (safety functions)

Location of the Benomic

- Contactless detection
- Benomic detects whether it is running on the pipe or on the concrete path

Riding on concrete path

- Only in transport position
- Tilt signal / measurement → not active
- Weight measurement → not active
- Max speed → 85 m/min (5 km/h)



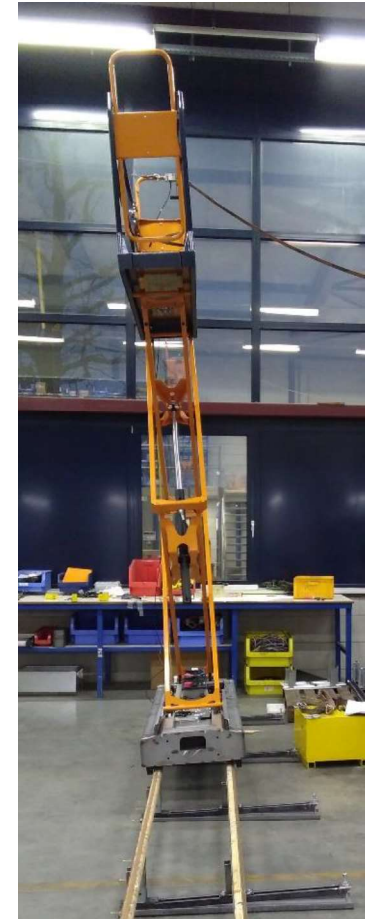


Benomic S-line (safety functions)

Skew on the tube

Tilt report in 3 phases

- $\geq 0.8^\circ$ degrees
 - $\geq 1.2^\circ$ degrees
 - $\geq 1.5^\circ$ degrees
- speed reduction to 25 m/min + LED
 - LED + first warning
 - alarm, controlled STOP
 - driving in transport mode possible





Benomic S-line (safety functions)

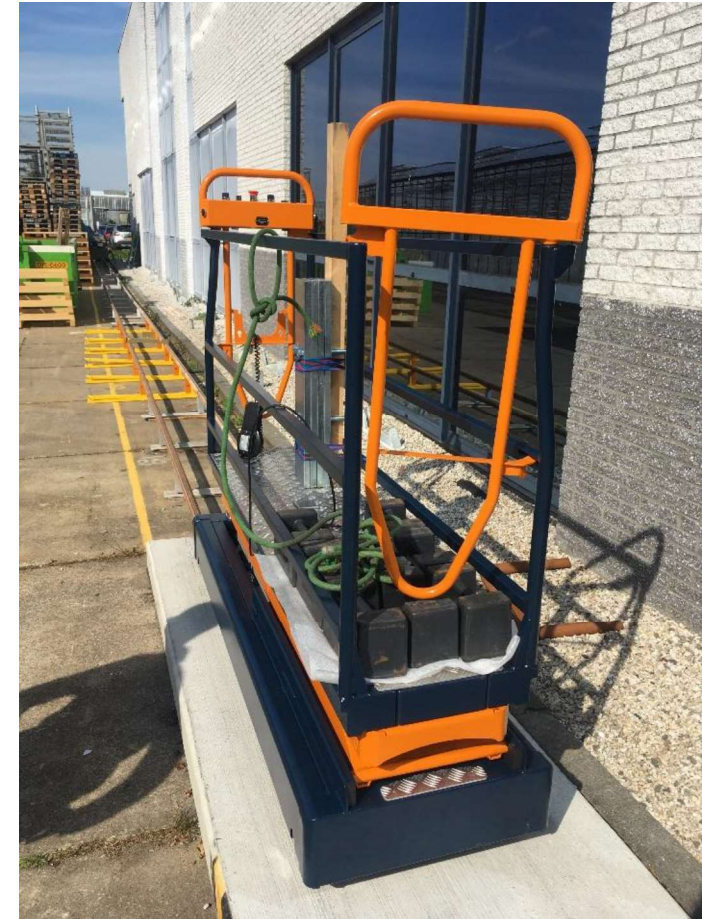
Weight on the plateau

Overload protection; if too much weight

≥ 250 kg → controlled STOP

Scissors must go to transport position to be able to drive

Scissor height $> 2,5$ m and > 150 kg,
driving not possible → rising is



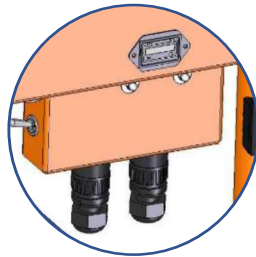


Benomic S-line (safety functions)

Other (safety and incorrect use)

- Lifter → Does not work on the pipe rail
- Operation → Only the buttons on the platform work
→ Service button is deactivated (except for descending)
- Descending → A sound signal is given when scissors reaches the last meter

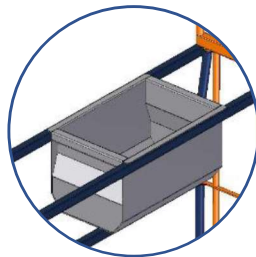




12 and 24V connection



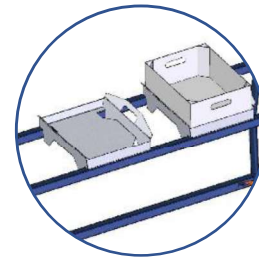
Cooling fan



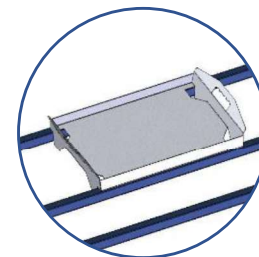
Leaf bin



Options



Box tray



Crate tray



Technical specs

Benomic S-line		S350	S500	S660
Length	[cm]	191		
Width	[cm]	CtC + 18,6		
Platform length	[cm]	190		
Platform width	[cm]	43		
Min. height	[cm]	53	62	70
Max. height	[cm]	350	500*	660*
Carrying capacity	[kg]	250	150	150
Weight	[kg]	415	445	507
Max. speed	[m/min]	60		
Traction battery	[V/Ah]	24/120 (5h) 24/159 (20h)		
Rail widths	[cm]	42 - 80		

* When using outriggers





Bennefits

- Brushless motor combined with new battery pack gives a **two** times bigger action radius
- Flexibility in use trough **double** entrance gates
- Ready for tomorrow because of **TÜV** certification and USB integration
- Improved **stability** trough out the range
- **Smaller** outer dimensions for easy use on concrete path
- Easy maintenance through **accessibility** of components

