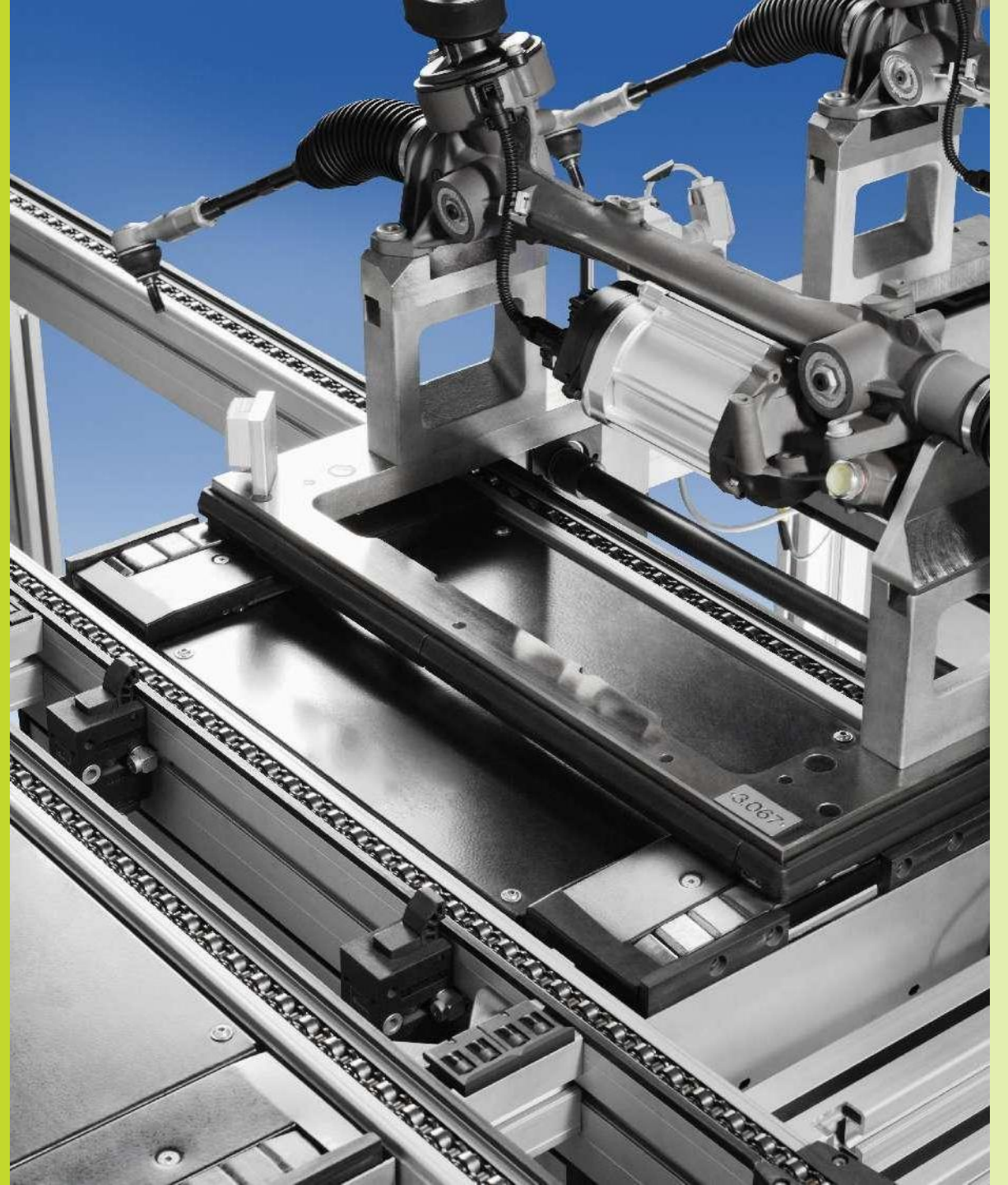


# Vitrans Conveyor System

**Competitive Advantage Comparison**  
Vitrans • Bosch Rexroth

**Vitrans**  
Vitrans Automation



## Overall Advantages of Vitrans

Item	Vitrans	Bosch rexroth
Position accuracy	±0.1mm	±0.1mm
Warranty	1 year	1 year
Annual Throughput	100–150 km	N.A
Service Support	24h standby	Working hours only
Spare Parts	In stock, all available	>12 weeks, partial unavailable
Production lead time	4~5 weeks	12~16 weeks
Maintenance	Every 1000 hours	Every 1000 hours
Design & Installation	Compact, flexible, full series	Traditional, incomplete
Customization	Supported	Not supported
Solution Support	Supported	Not supported
Delivery	Full assembled	Partial assembled

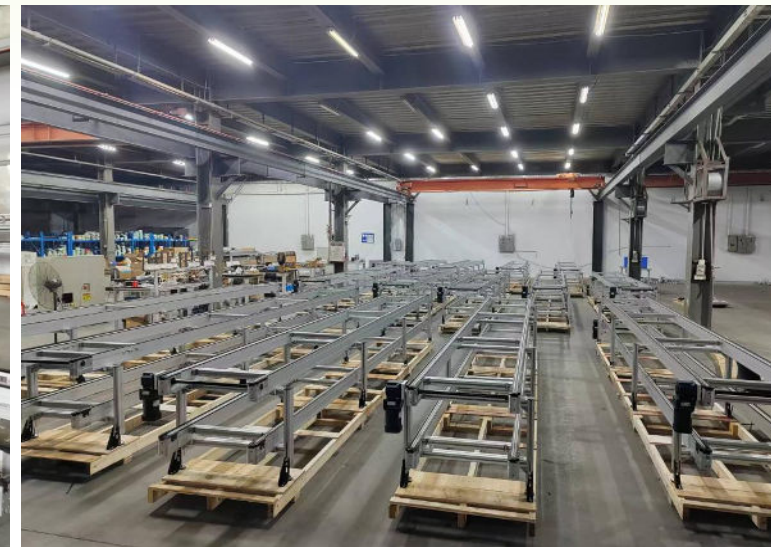
*(Refer to below details)*

# Dongguan Vitrans Automation equipment Co.,Ltd

 **Plant Size** 25000m<sup>2</sup>

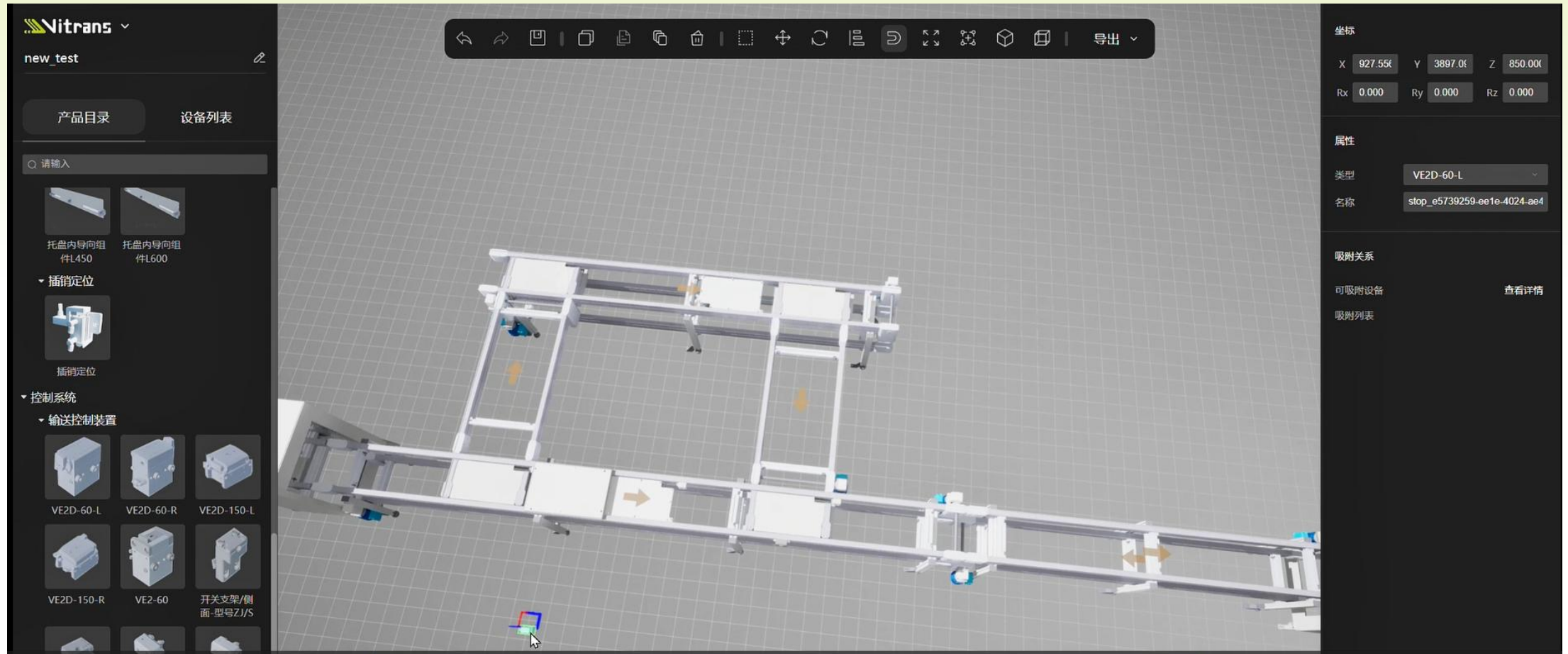
 **Employee** 200+

 **Sales Volume** 40M USD+



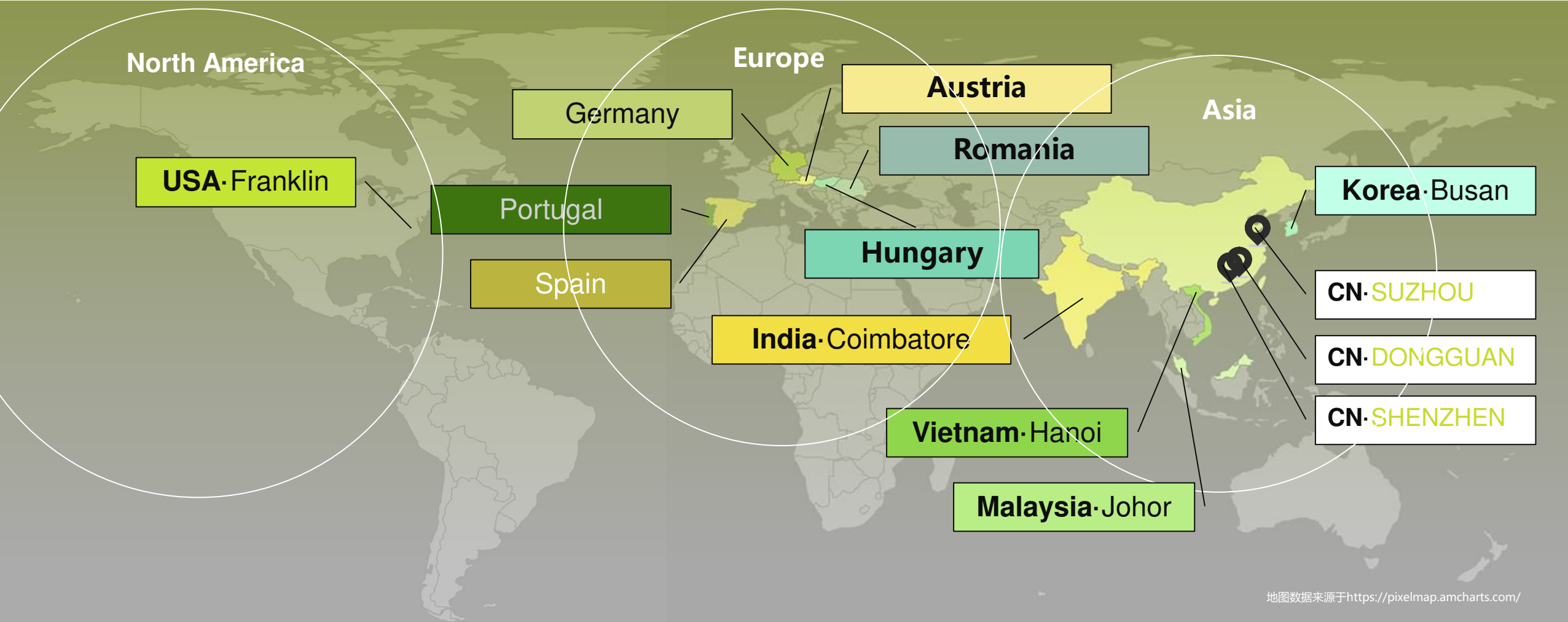


Vitrans has its own testing lab for product life test and design change validation, all the on-sale product design have tested for 1 year at least.

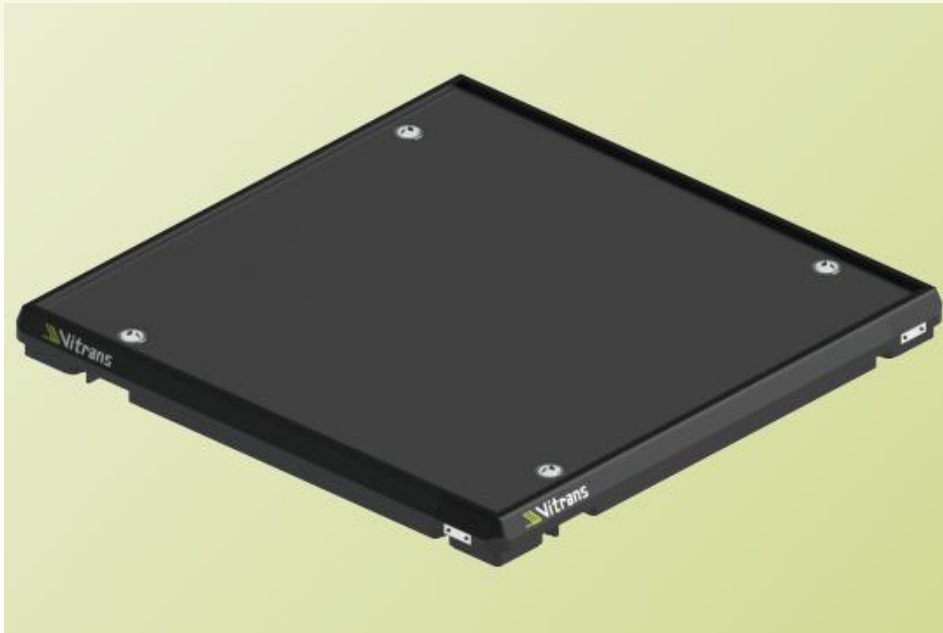


Vitrans layout design software is about to be published in 6 months, it will help customer to design the conveyor system layout with a very short time and simulate the motion during production.

## Sales partner in the world



## Product design and installation advantages of Vitrans

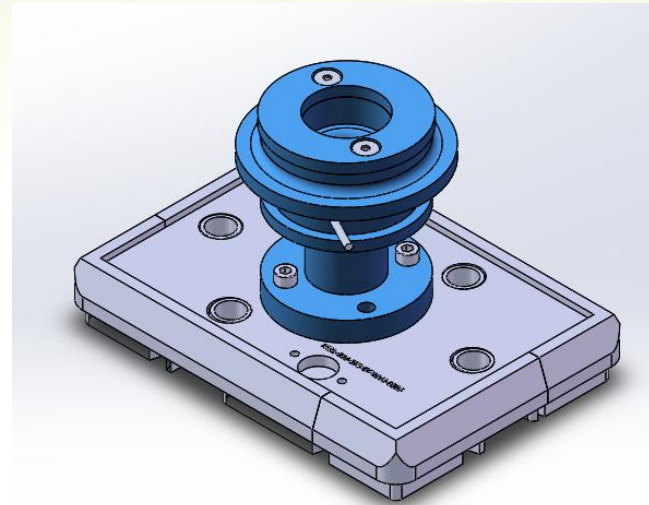
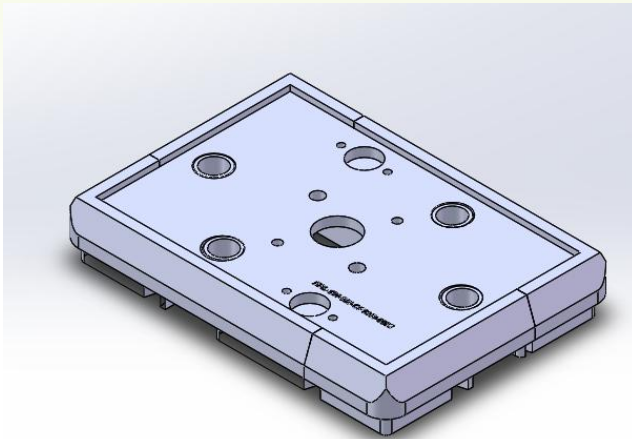


*Workpiece pallet*

Pallet	Vitrans	Bosch rexroth
Type	PA: for belt conveyor PE: for chain conveyor	PA: for belt conveyor PE: for chain conveyor
Load capability	PA: 1kg/cm PE: 2kg/cm	PA: 1kg/cm PE: 2kg/cm
Corner module options	160mm, 240mm, 320mm, 400mm	160mm, 240mm, 320mm, 400mm
Extend module options	60mm, 320mm ( <i>more optional</i> )	320mm
RFID installation	Supported	Supported
☆ Carry plate thickness and material	5mm: Aluminum or Carbon steel 8mm: Aluminum or Carbon steel 12mm: Aluminum or Carbon steel	4.8mm: Carbon steel 8mm: Aluminum 12.7mm: Aluminum
Customize fixture mounting holes for customer	Supported	Not supported

☆: Vitrans has **more options for carry plate**, aluminum plate can be used to reduce pallet mass, and carbon steel can be used for heavy product or work stations which have pressing load.

## Product design and installation advantages of Vitrans



- ☆: Vitrans offers **fixture mounting holes machining service** and surface treatment after machining. Customer can directly install their fixture onto the pallet, no need any additional rework. Bosch only offers standard pallet or carry plate, customer has to drill holes and install the pallet by themselves. When the carry plate material is carbon steel, customer even needs do the surface treatment again to avoid oxidized.

## Product design and installation advantages of Vitrans



*Timing belt conveyor*



*Flat belt conveyor*

Belt conveyor	Vitrans	Bosch rexroth
Load capability	1kg/cm	1kg/cm
Permitted maximum load	Timing belt conveyor: 60kg Flat belt conveyor: 250kg	Timing belt conveyor: 60kg Flat belt conveyor: 250kg
ESD compliance	Yes	Yes
Cleanliness class	10,000	10,000
☆ Motor brand options	SEW, SUMITOMO, Stepper motor or others	Bosch
☆ Spare parts availability and lead time	Has stock for common spare parts, all the spare parts are on sale	Over 12 weeks to deliver, some of the spare parts are NOT on sale
☆ Deliver status	Full assembled	Timing belt conveyor: full assembled Flat belt conveyor: partial assembled

- ☆: Vitrans offers different motor brand for options, customer can purchase the spare motor from Vitrans or local supplier.
- ☆: Vitrans offers all types of spare parts in a reasonable price when Bosch only offer some of the spare parts and the prices are extremely high.
- ☆: Vitrans and its distributor can offer the fully assembled conveyor when Bosch only offer sub-assembly for flat belt conveyor, and customer needs weld the flat belt and install the conveyor by themselves.

## Product design and installation advantages of Vitrans



AC2 Chain conveyor-300KG



AC2U Chain conveyor-300KG



AC2/L Chain conveyor-700KG



AC2/H Chain conveyor-2200KG

Chain conveyor	Vitrans	Bosch rexroth
Load capability	1.5kg/cm (with plastic glide profile) 2.0kg/cm (with steel glide profile)	1.5kg/cm (with plastic glide profile) 2.0kg/cm (with steel glide profile)
Permitted maximum load	300kg, 700kg, 2200kg	300kg, 700kg, 2200kg
ESD compliance	Yes	Yes
Lubricate type	Manual lubricate or Auto Lubricate	Manual lubricate or Auto Lubricate
Cleanliness class	10,000	10,000
Motor brand options	SEW, SUMITOMO or others	Bosch
Spare parts availability and lead time	Has stock for common spare parts, all the spare parts are on sale	Over 12 weeks to deliver, some of the spare parts are NOT on sale
☆ Conveyor design options	4	3
Deliver status	Full assembled	Partial assembled

☆: Vitrans offer AC2U chain conveyor which has a shorter drive unit save the installing space for some special applications when Bosch doesn't have this kind of design.

## Product design and installation advantages of Vitrans

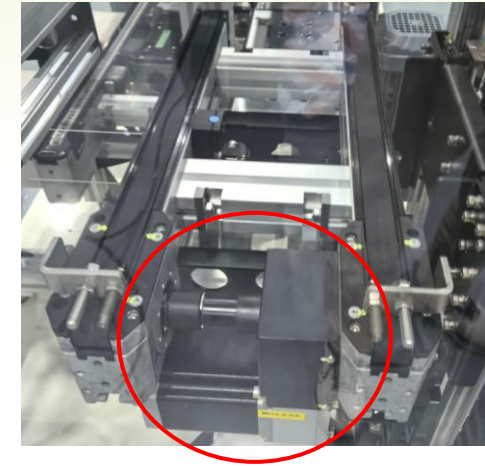
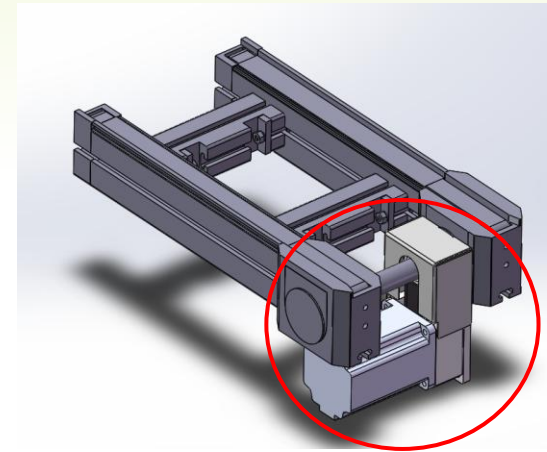
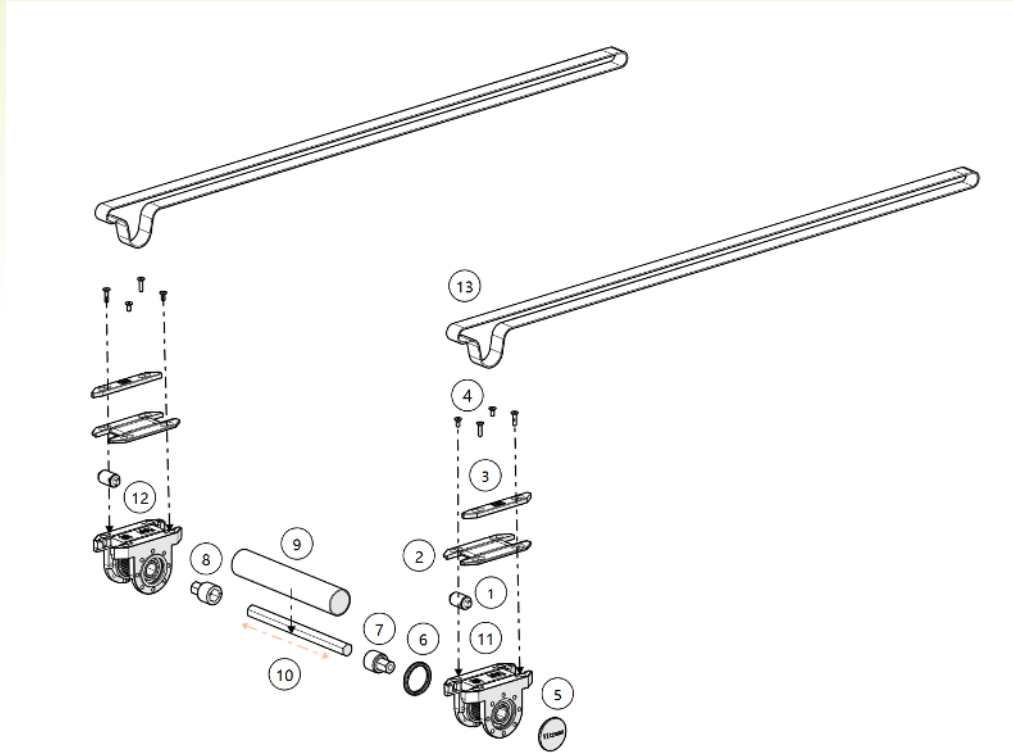


*PC2 Plastic chain conveyor*

Chain conveyor	Vitrans	Bosch rexroth
Load capability	0.5kg/cm	/
Permitted maximum load	300kg, 700kg, 2200kg	/
ESD compliance	Yes	/
Lubricate type	Manual lubricate or Auto Lubricate	/
☆ Cleanliness class	1,000	/
Motor brand options	SEW, SUMITOMO or others	/
Spare parts availability and lead time	Has stock for common spare parts, all the spare parts are on sale	/
Deliver status	Full assembled	/

☆: Vitrans offer PC2 plastic chain conveyor which can be used in high cleanliness application such as EV battery production line when Bosch doesn't have this kind of design.

## Product design and installation advantages of Vitrans

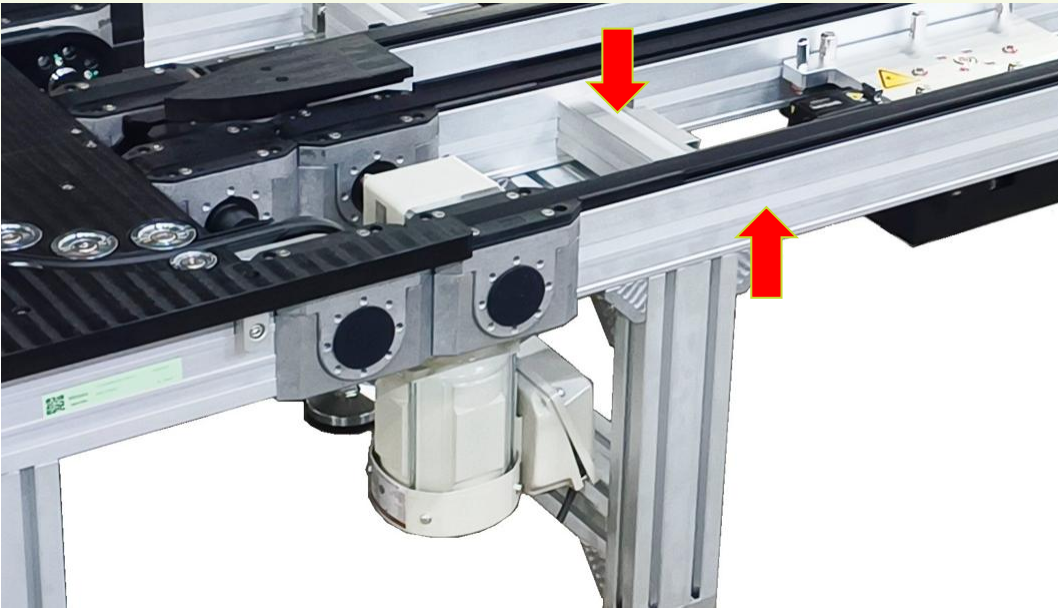


☆: Vitrans offers customized solution according to customer's special requirements or limited production space.

☆: Vitrans offers all the parts when customer needs it.

Bosch normally only offers belt, chain and guide profile. It puts customers into big trouble when they want to buy belt pulley, connector, bearing, covers, shaft, motors...etc, and sometimes the spare part price is near to one set new conveyor.

## Product design and installation advantages of Vitrans

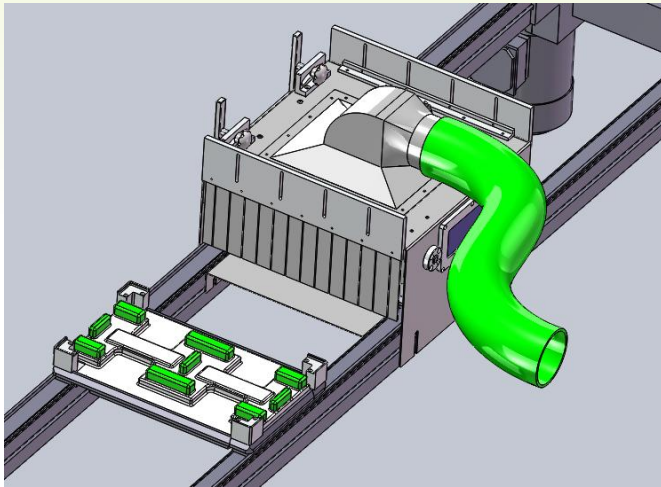


☆: Vitrans offers conveyors and leg set **with cover profile** to avoid dust.

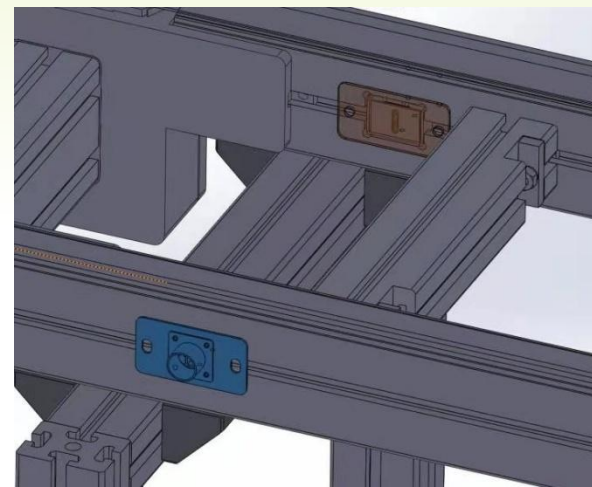


☆: Bosch conveyors and leg sets don't have cover profile, customers have to purchase and install it by themselves.

## Product design and installation advantages of Vitrans

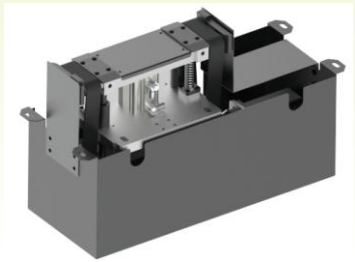


☆: Vitrans offers pallet cleaning solution for applications which require high cleanliness production conditions. (Customization)

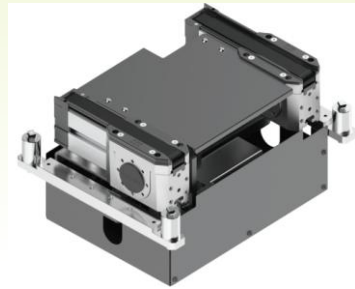


☆: Vitrans offers belt cleaning solution for applications which require high cleanliness production conditions. (Customization)

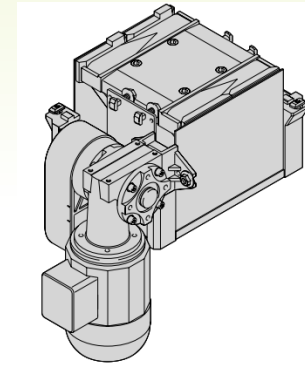
## Product design and installation advantages of Vitrans



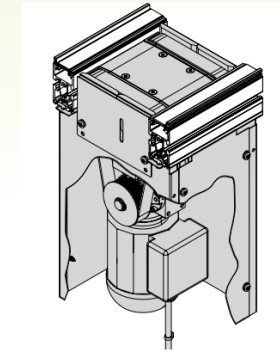
*Vitrans ET2/S Belt type- Lift & transfer unit*



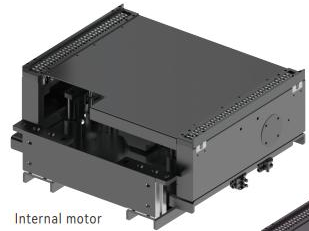
*Vitrans ET2/B Belt type- Lift & transfer unit*



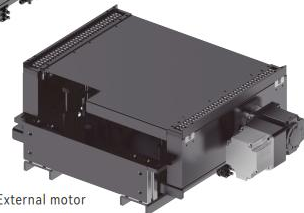
*Bosch HQ2/S Belt type- Lift & transfer unit*



*Bosch HQ2/U Belt type- Lift & transfer unit*

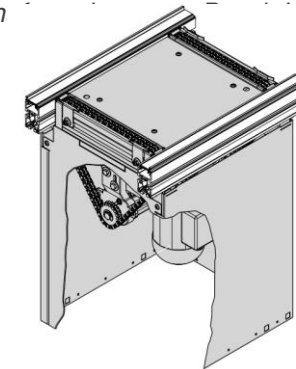
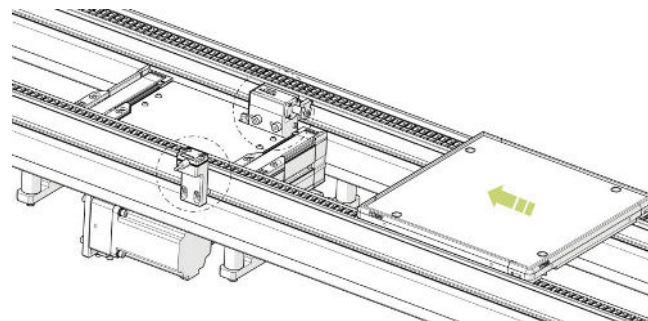


Internal motor



External motor

*Vitrans ET2/C Chain type- Lift & transfer unit*



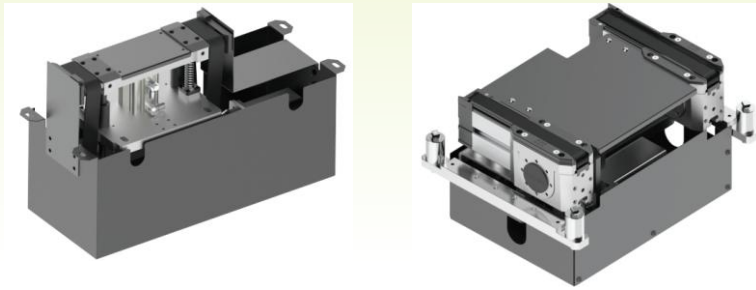
*Bosch HQ2/C-H Belt type- Lift & transfer unit*

## Product design and installation advantages of Vitrans

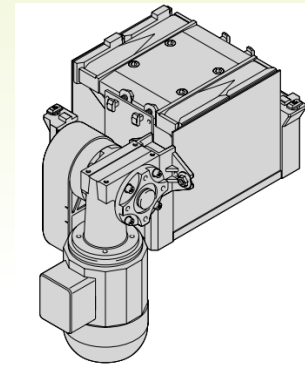
Lift & transfer unit	Vitrans	Bosch rexroth
Load capability	ET2/S: 1kg/cm ET2/B: 1kg/cm ET2/C: 2kg/cm	HQ2/S: 1kg/cm HQ2/U: 1kg/cm HQ2/C-H: 1kg/cm
Permitted maximum load	ET2/S: 30kg ET2/B: 30kg ~ 50kg ET2/C: 120kg ~ 240kg	HQ2/S: 30kg HQ2/U: 30kg HQ2/C-H: 128kg
ESD compliance	Yes	Yes
Transfer medium	ET2/S: Timing belt ET2/B: Timing belt ET2/C: Chain	HQ2/S: Timing belt HQ2/U: Timing belt HQ2/C-H: Chain
Motor position	ET2/S: Inside ET2/B: Inside ET2/C: Inside or outside	HQ2/S: Outside HQ2/U: Inside HQ2/C-H: Inside or outside
Sensor	Including cylinder and magnetic switches for position detection	Only has cylinder(made by molding, not able to be changed. Need additional bracket and proximity sensors for position detection.
Product height	220mm ~ 270mm	HQ2/S: 180mm HQ2/U: 540mm HQ2/C-H: 310mm
Protect shield	Included	Need to purchase it additionally
Support customized size when customer has its own pallet	Yes	No

- ☆: For system control, Vitrans lift & transfer unit uses stepper motor with drive or brushless motor with drive, **no need VFD**. Bosch lift & transfer unit need to be adjusted with VFD which gain the control system cost.
- ☆: Vitrans uses **standard cylinder brand and magnetic switches are included**. Customer can purchase the spare part easily. Bosch uses the molding cylinder for lift & transfer unit, it makes the customer have to use proximity sensor instead of magnetic switches, not because proximity sensor is better. And once the cylinder is failure, customer has to scrape the entire unit.
- ☆: Bosch ET2 series use one 3P motor for multiple lift & transfer units and conveyor, It makes the unit become difficult to be maintained, and lower down the load capability.

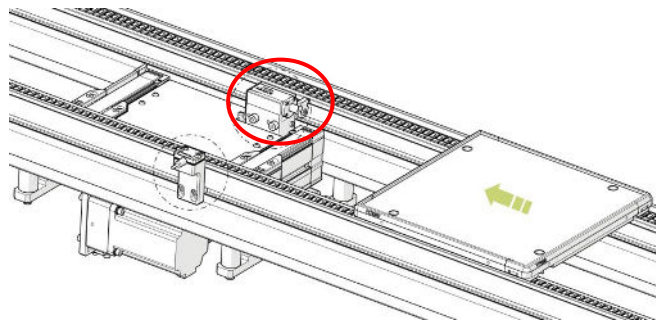
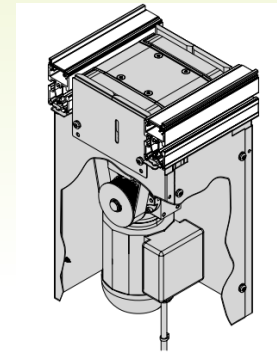
## Product design and installation advantages of Vitrans



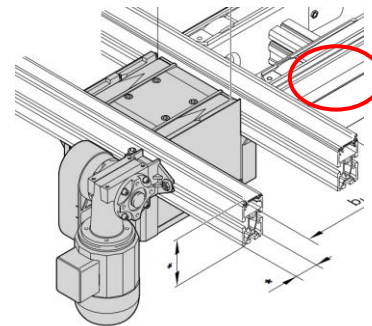
☆ : Vitrans belt type lift & transfer unit support **wider pallet size range:**  
**160X160 to 800X800**



☆ : Bosch belt type lift & transfer unit only support pallet size range:  
**160X160 to 480X320**

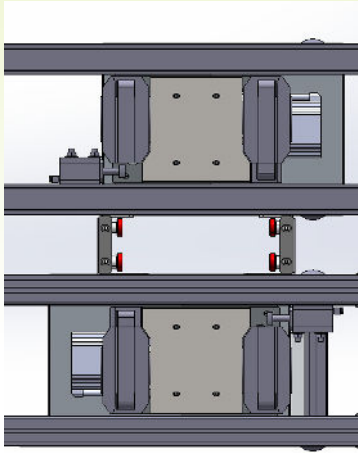


☆ : Vitrans lift & transfer unit use dampened stopper to stop pallet to **avoid**  
**pallet return.**

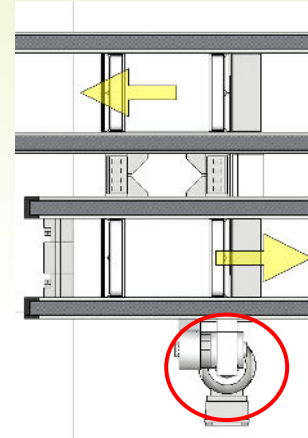


☆ : Bosch lift & transfer unit use the edge to stop pallet, pallet return cannot be  
avoided, and it affects cycle time.

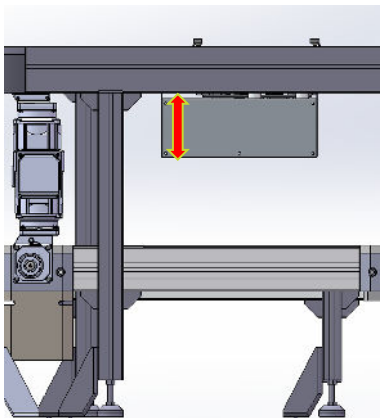
## Product design and installation advantages of Vitrans



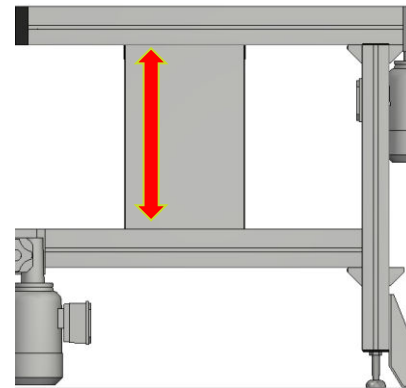
☆ : Vitrans belt type lift & transfer unit uses stepper motor inside to **save space**.



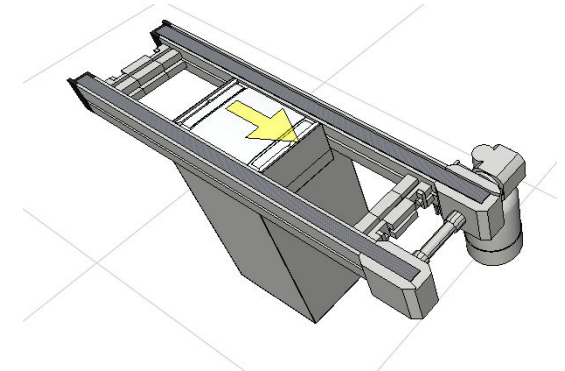
☆ : Bosch belt type lift & transfer unit uses 3P motor and it has to be put outside. it is easy to interfere with other unit.



☆ : Vitrans all types of lift & transfer unit is **much more compact**, it can be used in top and bottom conveyor system.



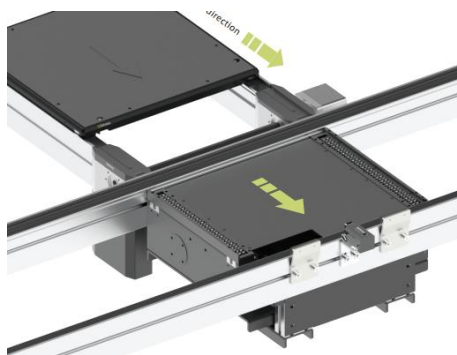
☆ : Bosch lift & transfer unit with build-in motor is too high. It cannot be used in top and bottom conveyor system.



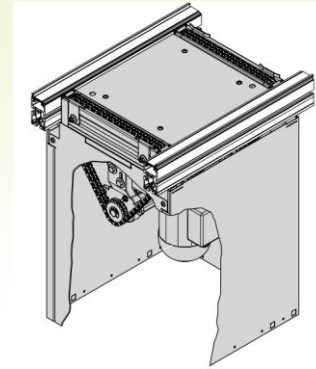
## Product design and installation advantages of Vitrans



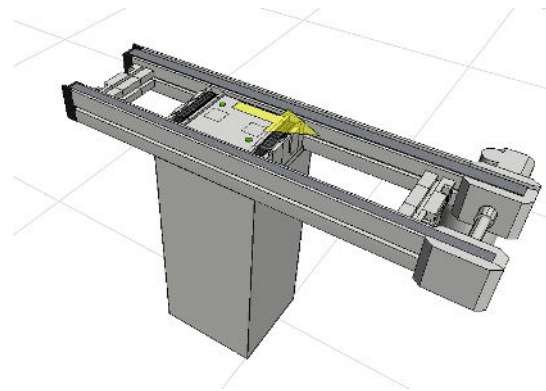
☆ : Vitrans chain type lift & transfer unit support **wider pallet size range:**  
**240X240 to 1200X1200**



☆ : Vitrans all types of lift & transfer unit is **much more compact**, it can be used in top and bottom conveyor system.

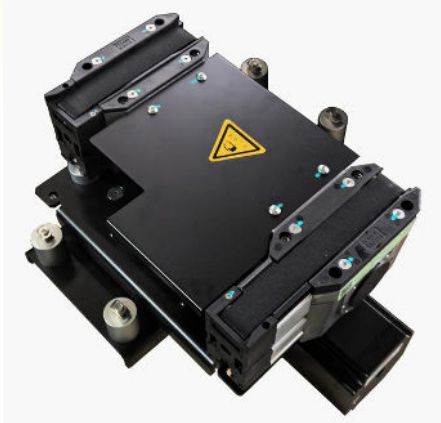


☆ : Bosch chain type lift & transfer unit only support pallet size range:  
**240X240 to 640X640**



☆ : Bosch lift & transfer unit with build-in motor is too high. It cannot be used in top and bottom conveyor system.

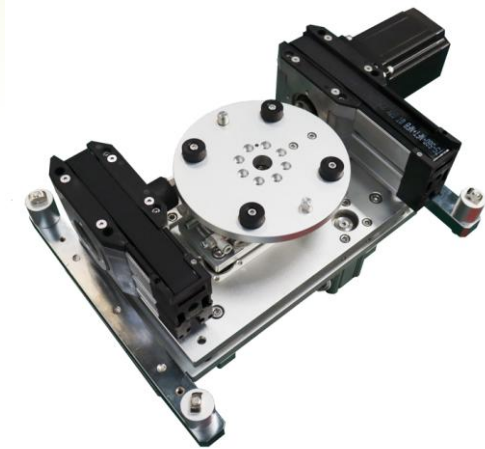
## Product design and installation advantages of Vitrans



*Vitrans Lift & transfer unit*



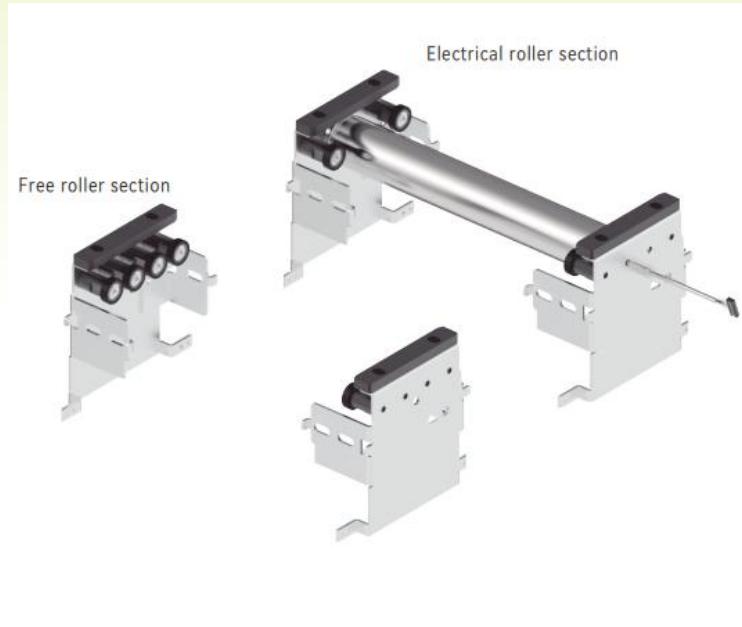
*Vitrans Lift & rotate unit*



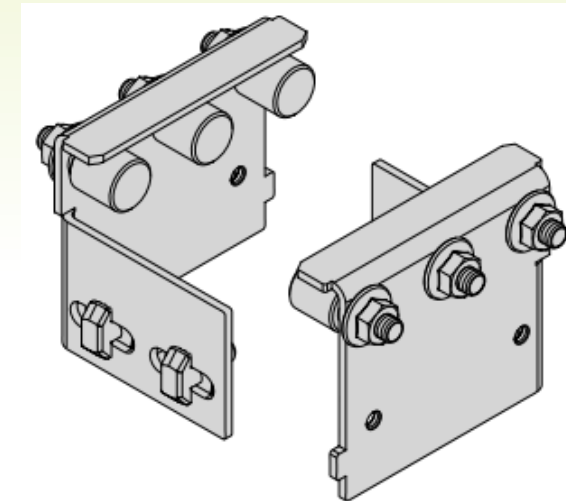
*Vitrans Lift rotate and transfer unit*

☆: Vitrans support customize and combine different functions into one unit.

## Product design and installation advantages of Vitrans



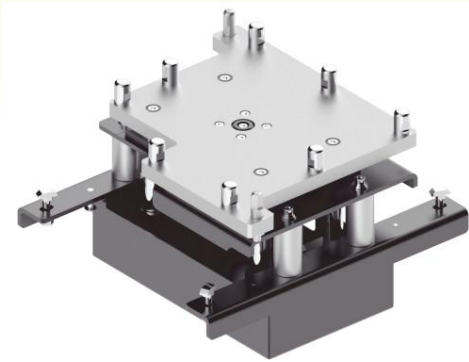
*Vitrans free roller section and electric roller section*  
**Transfer distance: No limitation**



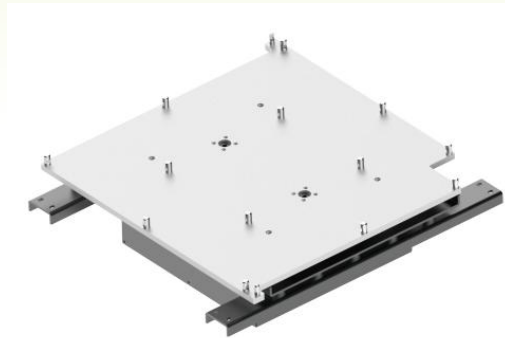
*Bosch free roller section*  
*Transfer distance: Cannot exceed 1/3 pallet length.*

- ☆: Vitrans offers **free roller section and electrical roller section** for options when Bosch only has free roller section. If customer want to increase the distance of the side by side conveyors, and to ensure the power for pallet transporting, a electrical roller section need to be used.

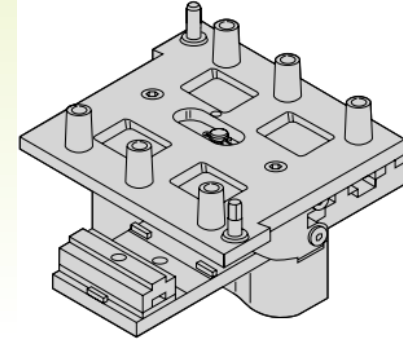
## Product design and installation advantages of Vitrans



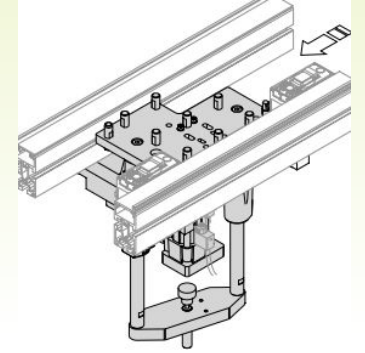
*Vitrans PU- positioning unit*



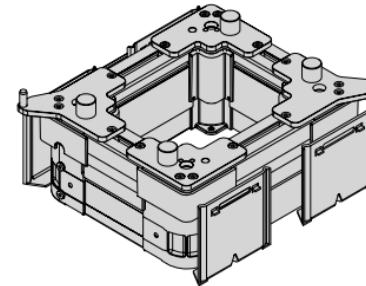
*Vitrans PU/L- positioning unit*



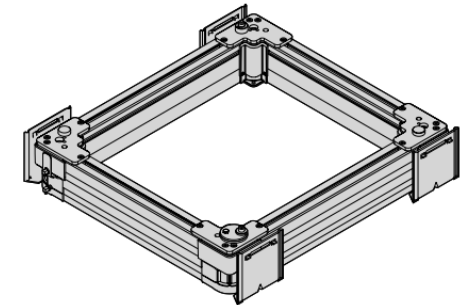
*Bosch PE2- positioning unit*



*Bosch HP2- positioning unit*



*Bosch PE2/X- positioning unit*



*Bosch PE2/H- positioning unit*

## Product design and installation advantages of Vitrans

☆: Vitrans PU and PU/L support customization for payload from 30kg to 240kg, Lifting height from 0 to 240mm.

Bosch has 4 types of positioning unit, but each type has its limitations.  
 PE2 is only suitable for pallet size within 400X400mm, cannot customize higher payload or bigger lifting height.  
 HP2/L support higher lifting height, but it cannot customize higher payload and it can only used for pallet size within 320X320mm.  
 PE2/X support higher payload, but it is only 100kg and sometimes it is not enough. And it can only used for pallet size over 480X480mm. Lifting height customization is not possible.  
 PE2/H support higher payload up to 240kg. But it can only used for pallet size over 480X480mm. Lifting height customization is not possible.

☆: Vitrans uses standard cylinder brand and magnetic switches are included.

Customer can purchase the spare part easily.  
 Bosch uses the molding cylinder for positioning unit, it makes the customer have to use proximity sensor instead of magnetic switches, not because proximity sensor is better. And once the cylinder is failure, customer has to scrape the entire unit.

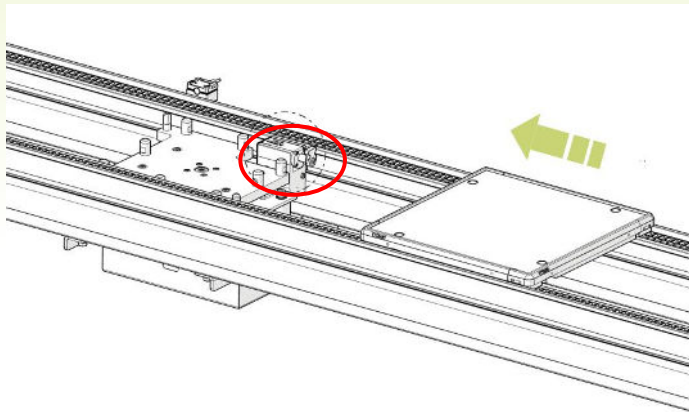
**For below application, Vitrans positioning unit can handle them, but Bosch doesn't have solution for them:**

- 1) When pallet size is over 320X320mm, customer want to lifting the pallet up to over 10mm.
- 2) When pallet size is under 480X480mm, and the payload is over 40kg.

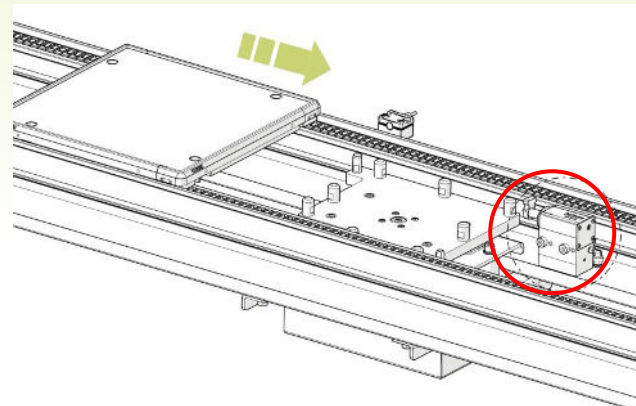
Actually, above 2 conditions are very common. The limitation of Bosch is obviously.

Positioning unit	Vitrans	Bosch rexroth
Position accuracy	±0.05mm or ±0.1mm	±0.05mm or ±0.1mm
Lifting height / stroke	Normal: 0 ~ 5mm Customize : 0 ~ 240mm	PE2: 2.5mm HP2/L: 0 ~ 240mm PE2/X: 9mm PE2/H: 16mm
Permitted maximum load	30kg ~ 240kg	PE2: 30kg HP2/L: 40kg PE2/X: 100kg PE2/H: 240kg
Support pallet size	PU: 160X160 to 640X640 PU/L: 640X640 to 1200X1200	PE2: 160X160 to 400X400 HP2/L: 160X160 to 320X320 PE2/X: 480X480 to 1200X1200 PE2/H: 480X480 to 1200X1200
Slot for stopper installing	Yes	No
Sensor	Including cylinder and magnetic switches for position detection	Only has cylinder(made by molding, not able to be changed. Need additional bracket and proximity sensors for position detection.
Protect shield	Include	No
Support customized size when customer has its own pallet	Yes	No

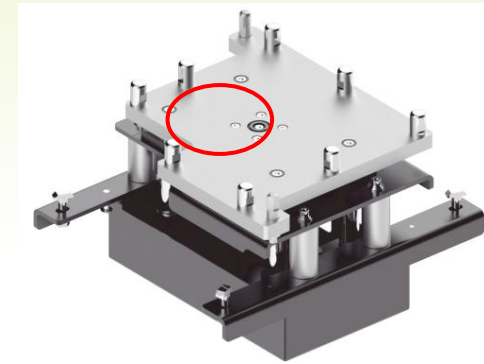
## Product design and installation advantages of Vitrans



*Install stopper in the slot of positioning unit*

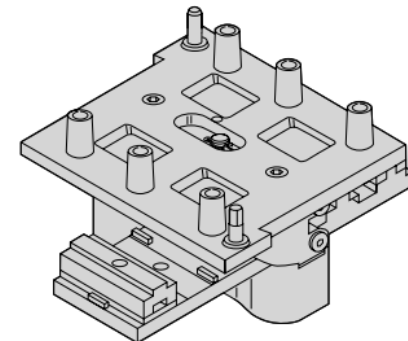


*Install stopper in front of positioning unit*



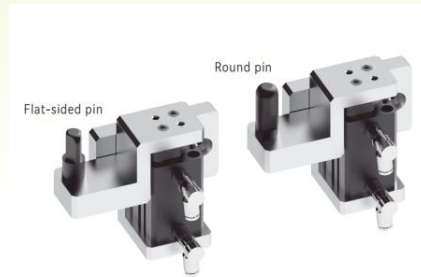
*Vitrans positioning has slot for stopper installation*

- ☆: Vitrans positioning unit allow install stopper in the slot(stop pallet inner edge) or in front of the positioning unit(stop pallet outer edge).  
When installing stopper in the slot of positioning unit, **customer can put 2 stations close as he want to save space.**  
Customer has to install stopper in front of the positioning unit when it comes from Bosch.

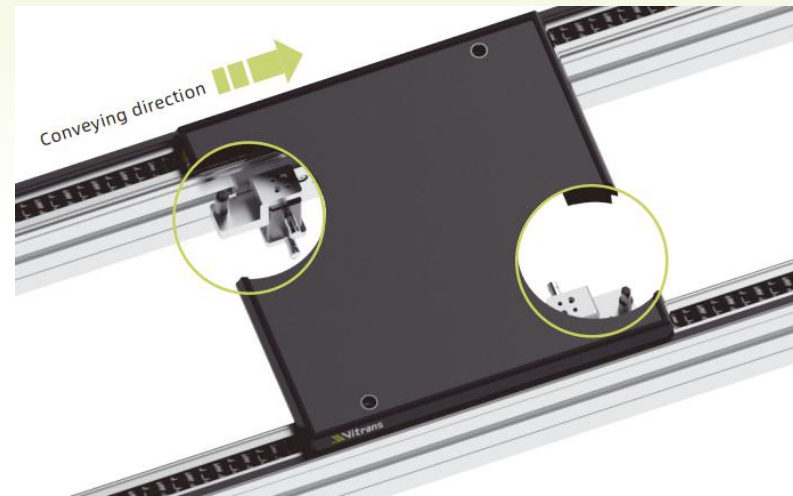


*Bosch positioning **doesn't have** slot for stopper installation*

## Product design and installation advantages of Vitrans



*Vitrans PX- positioning unit*



*Application*

- ☆: Vitrans offers PX positioning unit which Bosch doesn't have. PX positioning unit can **commonly used for different size of pallet**. It also can be installed inside the lifter to locate the pallet for product loading and unloading.

## Product design and installation advantages of Vitrans



*Vitrans Lift gate*



*Vitrans Pull gate*

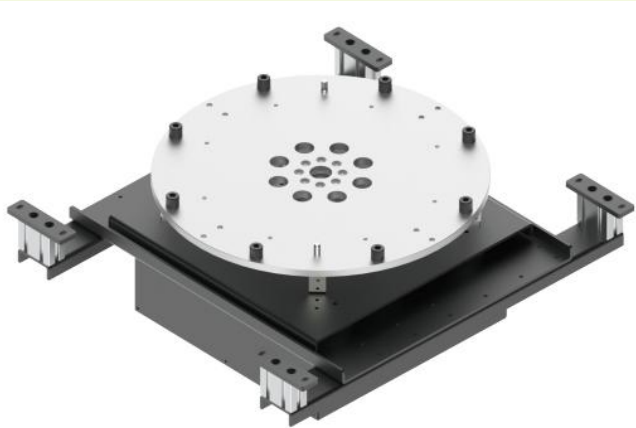
- ☆: Vitrans offers gate solution for human or production material transportation.  
Lift gate for one layer conveyor system.  
Pull gate for two layer conveyor system.

Bosch only has lift gate solution.

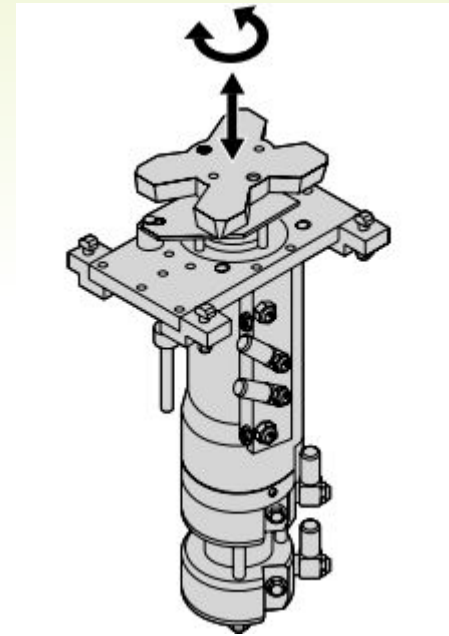
## Product design and installation advantages of Vitrans



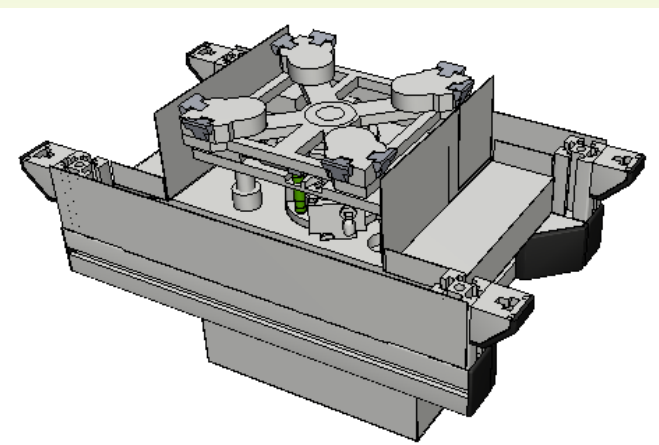
*Vitrans PR- Lift and rotate unit*



*Vitrans PR/L- Lift and rotate unit*



*Bosch HD2- Lift and rotate unit*



*Bosch HD2H- Lift and rotate unit*

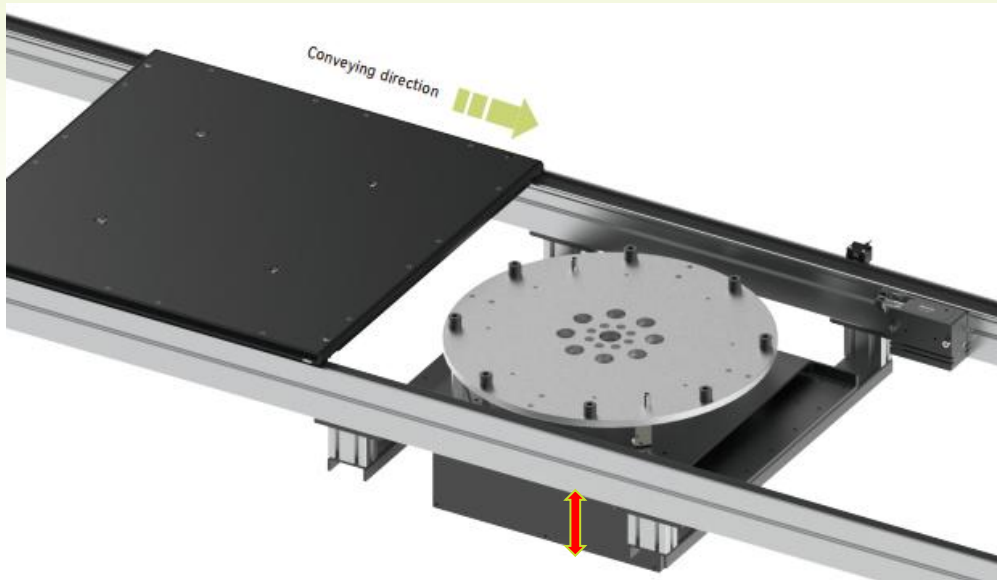
## Product design and installation advantages of Vitrans

☆: Vitrans PR lift & rotate unit has pneumatic type and servo type. Servo type lift & rotate unit support **flexible rotate angle** for assembly process. Bosch only offer pneumatic type.

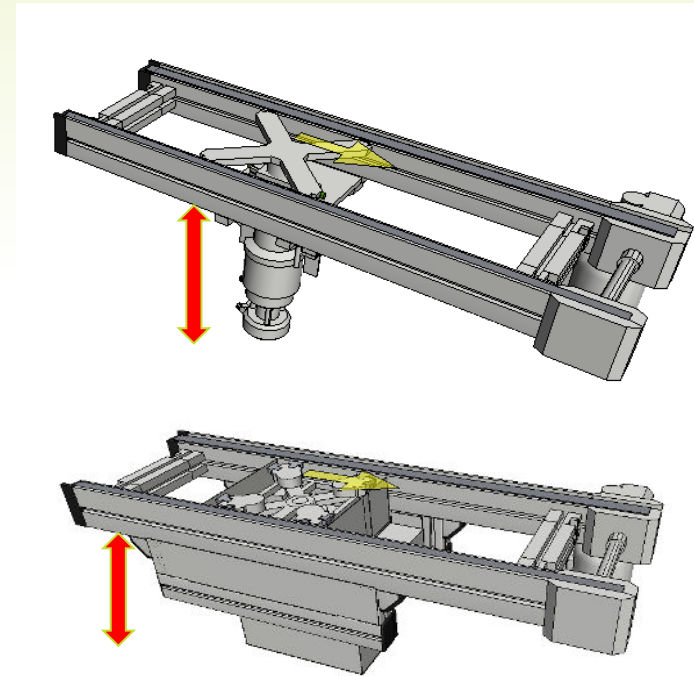
☆: Vitrans uses **standard cylinder brand and magnetic switches are included**. Customer can purchase the spare part easily. Bosch uses the molding cylinder for positioning unit, it makes the customer have to use proximity sensor instead of magnetic switches, not because proximity sensor is better. And once the cylinder is failure, customer has to scrape the entire unit.

Lift and rotate unit	Vitrans	Bosch rexroth
Permitted maximum load	30kg ~ 240kg	30kg ~ 240kg
Rotate angle	<b>Pneumatic type: 90° or 180°</b> <b>Servo type: 0 ~ 360°</b>	90° or 180°
Permitted maximum load	PR30kg ~ 240kg	30kg ~ 240kg
Support pallet size	160X160 to 1200X1200	160X160 to 1200X1200
Clamping method	<b>Use pins to fit pallet bushings for clamping</b>	Use board or jaw to hold pallet inner edges for clamping
Sensor	<b>Including cylinder and magnetic switches for position detection</b>	Only has cylinder(made by molding, not able to be changed. Need additional bracket and proximity sensors for position detection.
Protect shield	<b>Include</b>	No
Support customized size when customer has its own pallet	<b>Yes</b>	No

## Product design and installation advantages of Vitrans

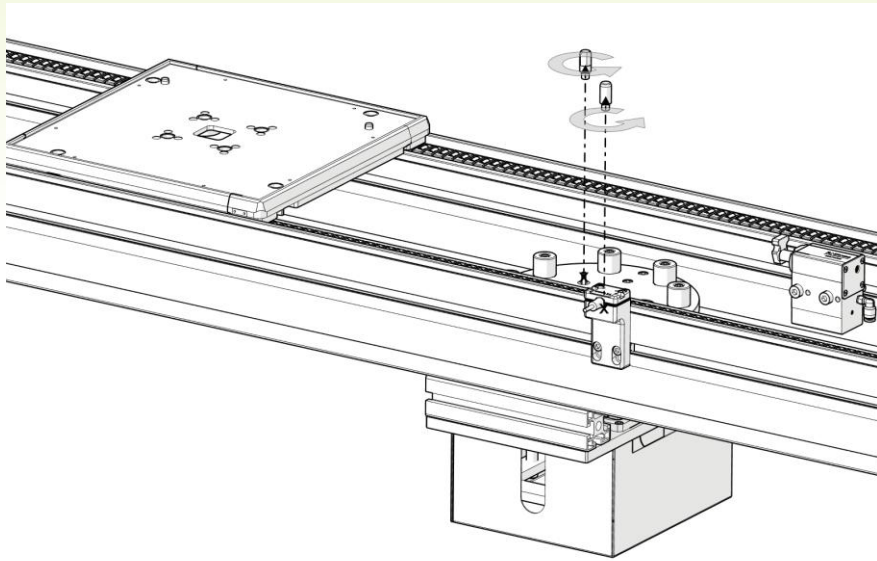


☆ : Vitrans lift & rotate unit is **much more compact**, it can be used in top and bottom conveyor system.

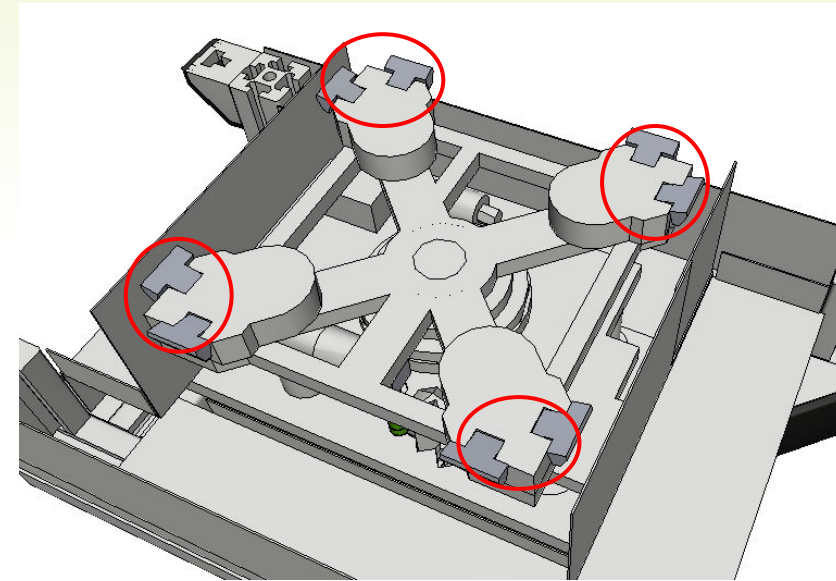


☆ : Bosch lift & rotate unit is much higher, it takes too much space when designing a top and bottom conveyor system.

## Product design and installation advantages of Vitrans

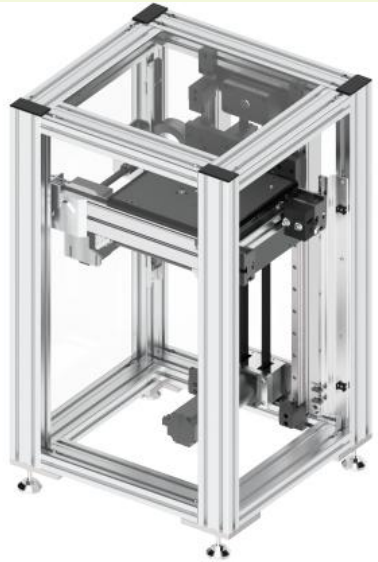


☆ : Vitrans lift & rotate unit uses pins to fit the bushings of pallet (similar to positioning unit). The clamping method is **more reliable and it has good durability.**

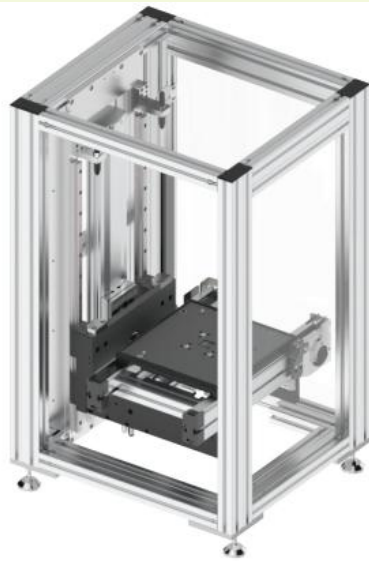


☆ : Bosch lift & rotate unit use jaws to clamp pallet inner edges. But the clamping force of the jaws are generated by spring, the durability is bad. Spare parts are not available when the jaws become loose. And sometimes it damage the pallet frames.

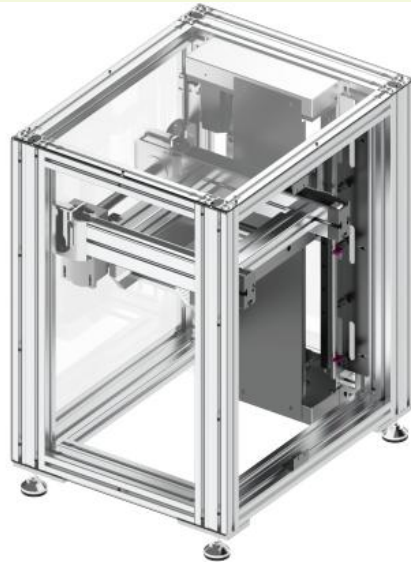
## Product design and installation advantages of Vitrans



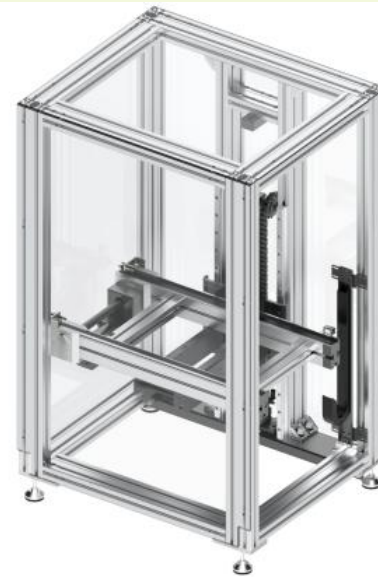
*Vitran LP/B belt type servo lifter*



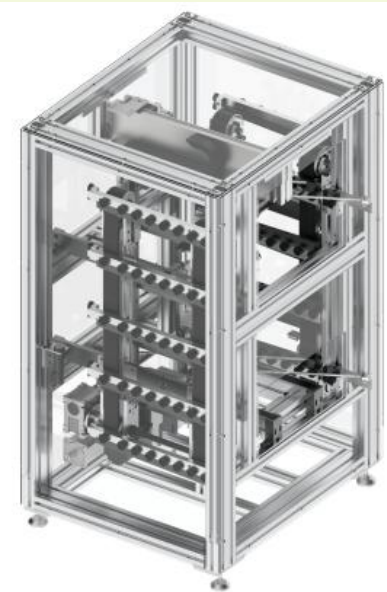
*Vitran LP/P pneumatic lifter*



*Vitran LP/S ball screw type servo lifter*



*Vitran LP/C pneumatic lifter*



*Vitran LP/X stepping lifter*

☆ : Vitrans offers various types of lifter for different payload, cycle time and applications. When Bosch doesn't have them.

## Product design and installation advantages of Vitrans

Lifter	Characters
LP/P pneumatic lifter	Economic type, suitable for 30~50kg common payload and common stroke double layer conveyor system
LP/C pneumatic lifter	Upgrade version of pneumatic lifter, suitable for 100kg payload and long stroke double layer conveyor system
LP/B servo lifter	Economic type, suitable for 30~50kg common payload multiple layer conveyor system
LP/S servo lifter	Upgrade version of servo lifter, suitable for 100kg or above payload multiple layer conveyor system
LP/X stepping lifter	Suitable for tight cycles time double layer conveyor system



☆ : Vitrans also offers long stroke lifter to construct overhead gate.

## Product design and installation advantages of Vitrans



☆ : Vitrans supports customizing **side by side lifters**



☆ : Vitrans supports customizing **open-top lifter** for workpiece loading and unloading

## Product design and installation advantages of Vitrans



☆ : Vitrans offers different types of stopper and damper. The life of stoppers are **over 2 million times ( Over 1 year, 2 shifts per day)**. For the same price, customer can purchase the dampened stopper from Vitrans, but can only purchase non-dampened stopper from Bosch.

Vitrans Automation

**THANK YOU**

