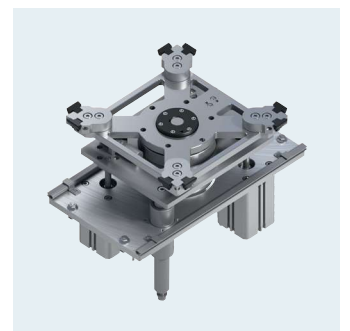
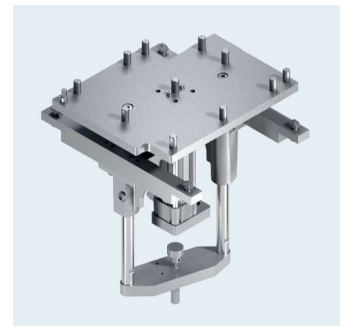
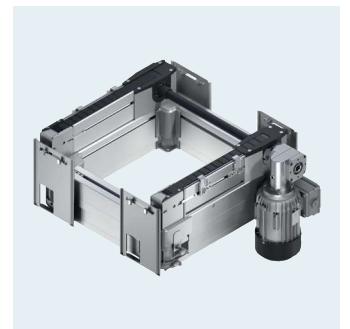
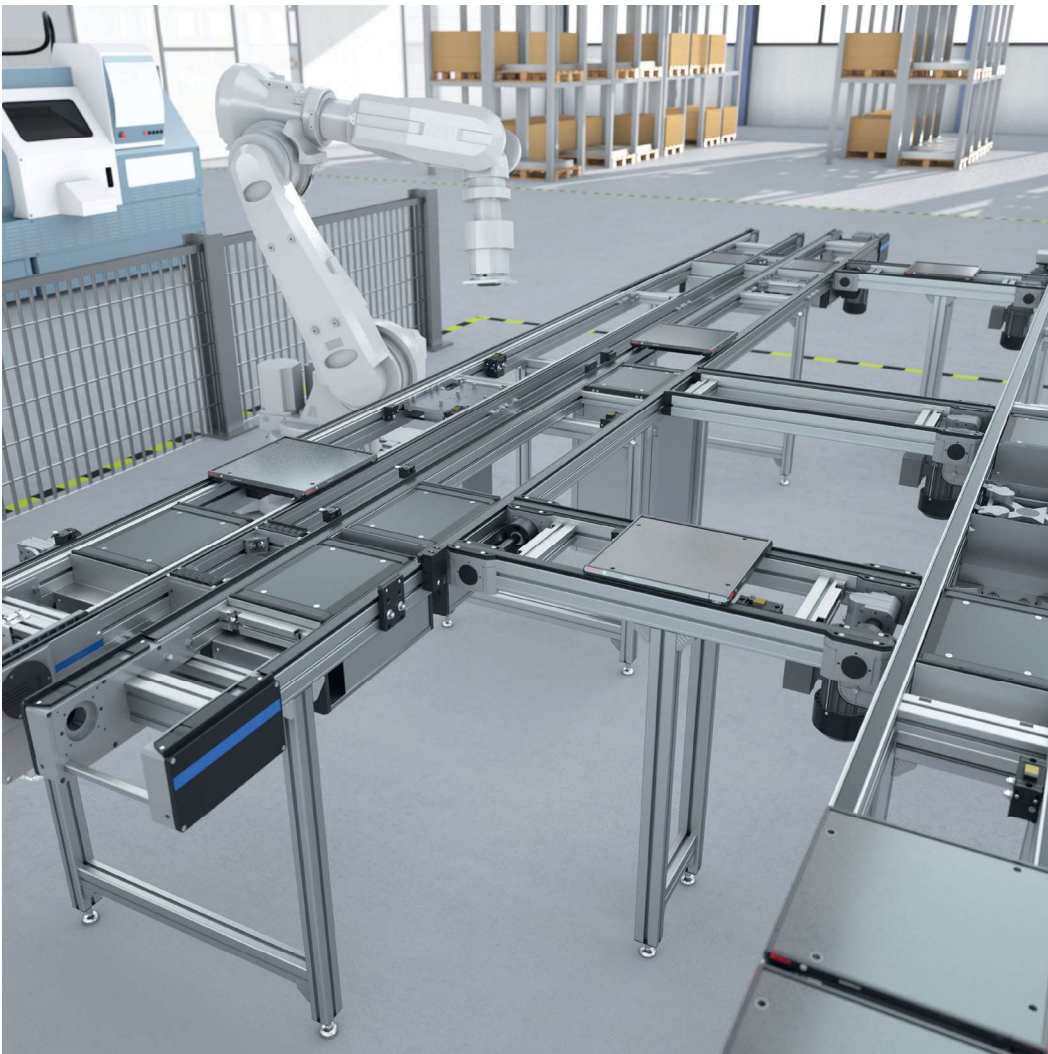
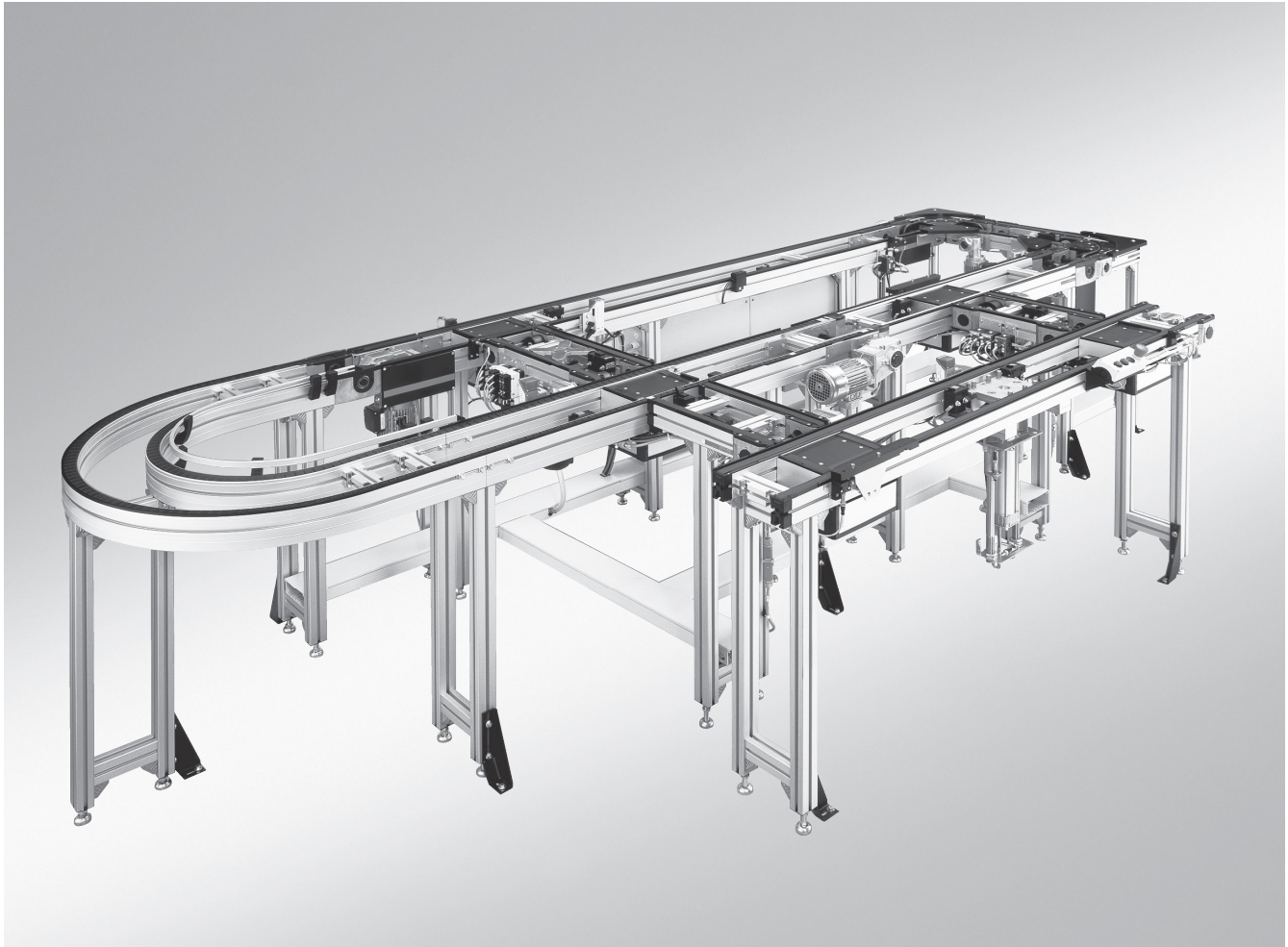


# TS 2*plus* transfer system

7.0



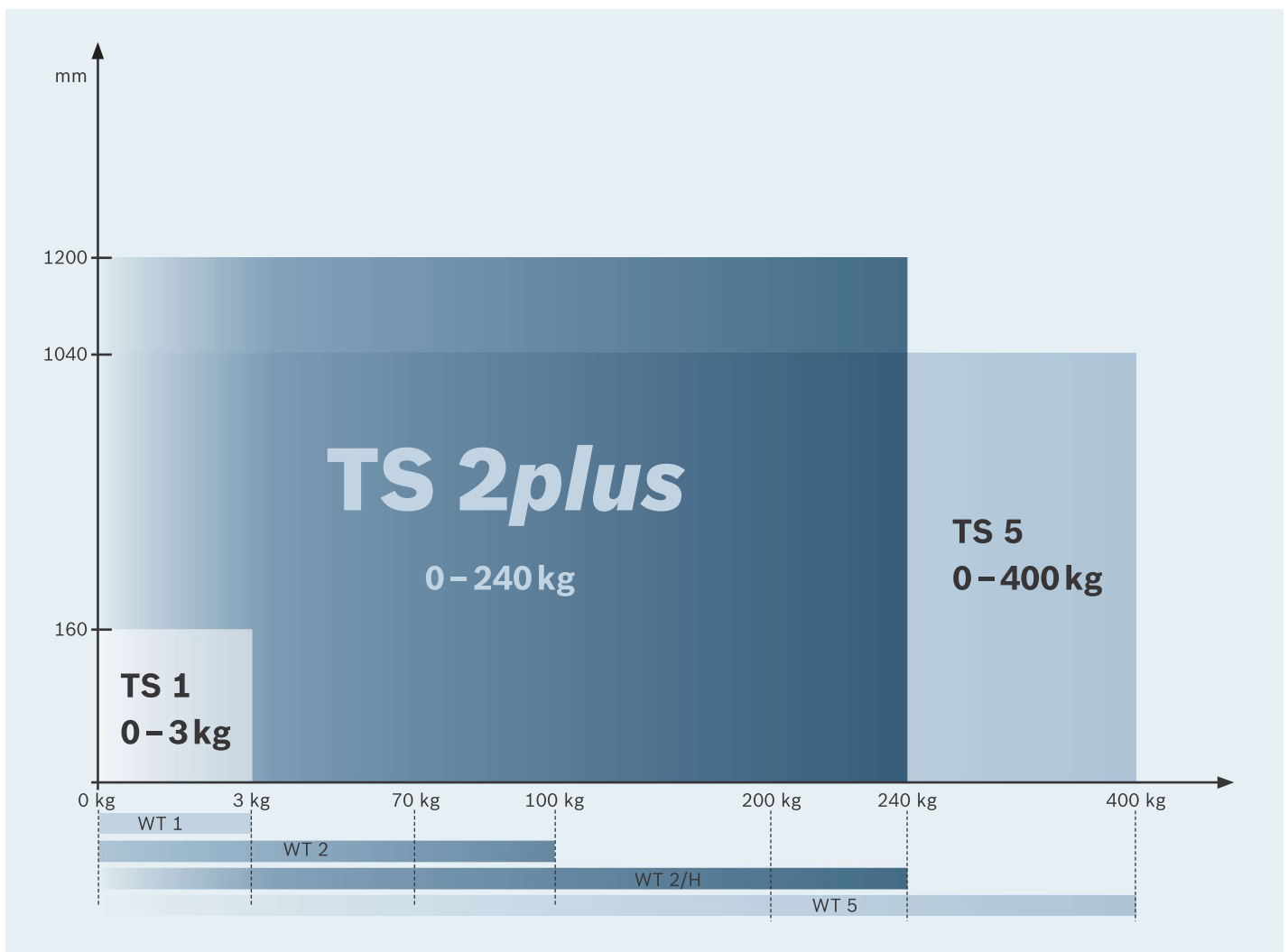


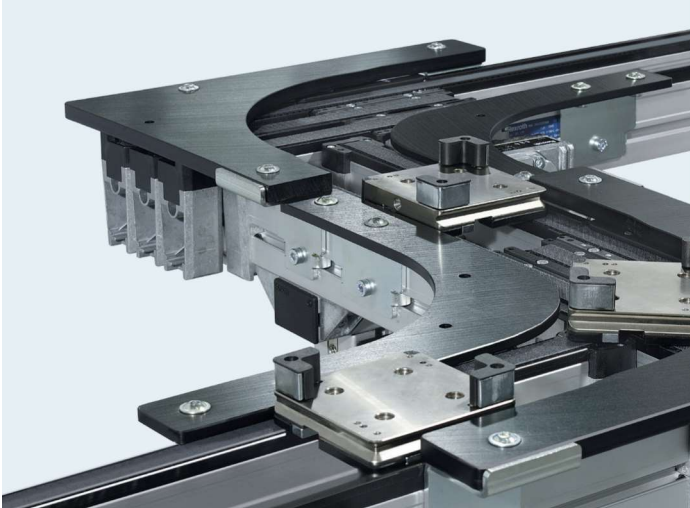
# Operating principle

## 1. Choice of system

To ensure the most economical operation possible, an assembly line requires precise forward planning. Later conversions must be as simple and cost-effective to execute as possible in order to be able to respond to future market requirements. The key factors when selecting a suitable transfer system are the weight and quality of the workpieces to be conveyed as well as the particular production environment.

The flexible modular TS 2plus transfer system from Rexroth covers a very wide range of requirements: With the wide range of mutually compatible units and macro modules permit a large variety of layouts with manual and automatic processing stations to be created. Solutions for maximum positioning accuracy or for especially heavy workpieces can be implemented easily using standard components. The future-proof TS 2plus transfer systems are designed for high availability, even under the harshest conditions.

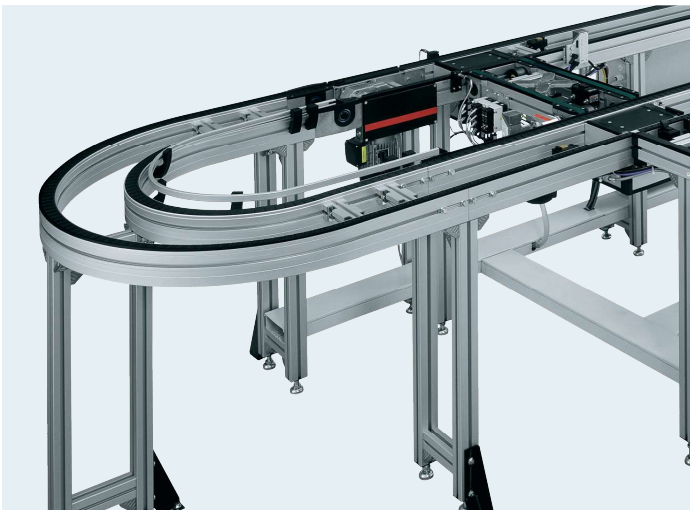




## TS 1

### **TS 1** **0–3kg**

The TS 1 transfer system is specifically tailored to small, lightweight products and assemblies, which require high positioning accuracy and repeatability.



## TS 2*plus*

### **TS 2*plus*** **0–240kg**

In the automotive industry and the electronics industry, household appliances and electronics manufacturing: With their diverse system components, TS 2*plus* assembly lines are suitable for use in a wide range of industries.



## TS 5

### **TS 5** **0–400kg**

The roller conveyor of the TS 5 transfer system conveys loads of up to 400 kg, over long distances where necessary, while its robust construction make it especially suitable for harsh environments.

# Operating principle

## 2. Transported product

### Workpiece pallet (WT)

The workpiece pallet (WT) transports the workpiece from one processing station to the next on the transfer system. Rexroth workpiece pallets are available in several versions for different applications: The complete plastic WT 2/E handles the transportation and positioning of lighter workpieces. The more robust WT 2 and WT 2/H models, with their steel or aluminum carrying plates, are also suitable for medium and heavy loads.

The WT 2 series workpiece pallets can be configured from components for the individual workpieces. A selection of various frame modules and carrying plates is available for this purpose.

Because the workpiece pallets must be loaded as centrally as possible for optimal transportation, it is advisable to choose larger sized carrying plates for heavier workpieces or for those with uneven weight distribution.

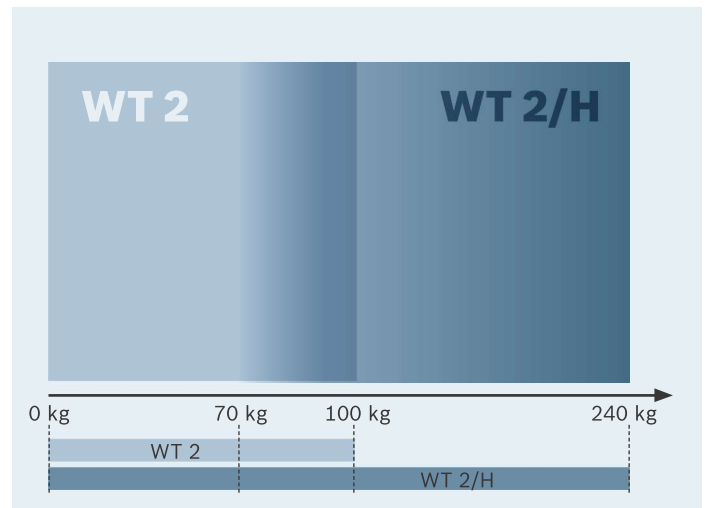
### Permitted weights

The WT total weight is limited for each WT size so that the permitted surface pressure is not exceeded.

The WT total weight results from the following:

- ▶ Workpiece pallet mass
- ▶ Workpiece pallet load (workpiece, pick-up, etc.)
- ▶ Weight of the special equipment (data storage, etc.)

For workpiece pallets that are not square, please note that the permissible WT total weight ( $m_G$ ) may be different for longitudinal conveyors and transverse conveyors and the shorter side is the determining factor for the maximum WT load.



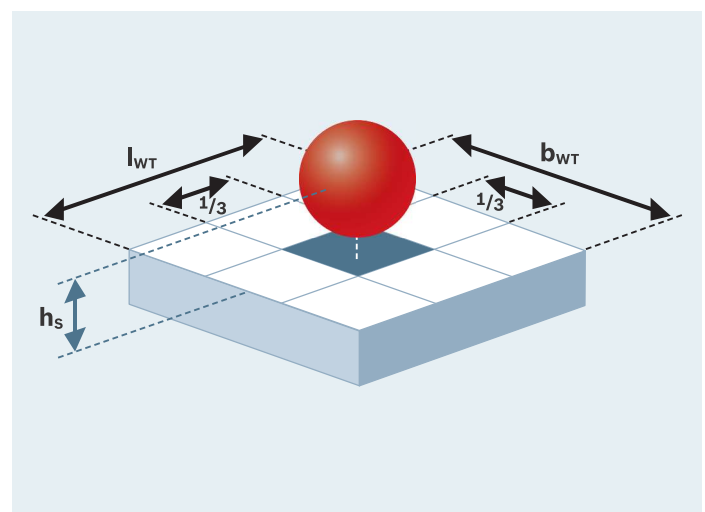
### Permissible gravity center position

When separating pallets or changing directions, it is important to observe the position of the gravity center load on the workpiece pallet to ensure that the acceleration forces can be absorbed without any interferences.

Generally we recommend that:

- ▶ the load should be positioned in the center of the workpiece pallet
- ▶ the center of gravity should not exceed a height  $h_s$  of  $1/2 b_{WT}$  (with  $b_{WT} \leq l_{WT}$ ).

The specified performance data relate to the illustrated gravity center position.



# Operating principle

## 4. Conveyor media

The load carrying capacity of a workpiece pallet results from the

- ▶ combination of conveyor medium, glide profiles, and workpiece pallet wear pad as well as
- ▶ the surface length on the conveyor medium.



Toothed belts, belts, plastic flat top chains, roller chains, duplex chains (from left to right)

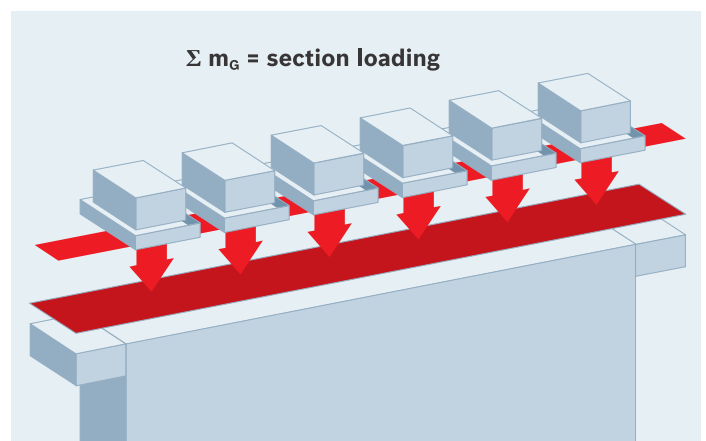
	Standard wear pad				Special wear pad			
	PA				PE	Vplus	St	
Conveyor medium								
Steel glide profile								
Plastic glide profile								

Specific section load/cm = overall workpiece pallet mass / support surface length

### Permitted section loading

When designing the conveyor sections, it is important to ensure that the **sum of the total weights of all workpiece pallets**, which re on the conveyor section in accumulation operation at one time, **is less than the permitted load for the conveyor section.**

The permitted section loading in accumulation is specified on individual drive modules and belt sections. If the permitted section loading for the conveyor section is exceeded, the section must be divided into several individual sections.



Layout example with  
640 x 640 mm workpiece  
pallets, conveyor  
medium: accumulation  
roller chain, flat  
top chain

