

# TS 5 transfer system

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# TS 5 – the roller conveyor in a class by itself

The TS 5 transfer system transports loads of up to 400 kg and more. Rexroth offers you a comprehensive system of conveyor modules: drive modules, workpiece pallets, roller sections, curves, diverters, lift transverse units, positioning units and components for transportation control. Everything is designed for modular flexibility and pre-assembled and can be combined as needed using a single interface.

## **Driven by high-quality technology: the king shaft**

The TS 5 transfer system with king shaft offers you considerable advantages compared to the usual chain drives:

- ▶ Low maintenance
- ▶ Noise-free operation
- ▶ High energy efficiency through effective performance with low drive force requirements
- ▶ Friction can be adjusted by hand (after removing the protective cover on the king shaft)

## **New possibilities in all directions**

In contrast to a chain-driven conveyor system, the TS 5 with its king shaft installation can be used without any limitations. Its drive concept gives you a great amount of planning freedom. You can, for example, branch the system off to the right or to the left. This is very economical because no additional drive modules are needed in many system layouts.

## **Flexible planning, simple set-up, quick commissioning**

As a system supplier for all areas of automation, we offer you an extensive, industrially manufactured modular product line-up. The new TS 5 transfer system is also based on a flexible system of modular components. As a Rexroth customer, this offers you many advantages, including the fact that you will be operating in a familiar environment right from the start of assembly – with everything proceeding quickly and smoothly. As the components for the TS 5 are included in our MT*pro*-program, the parts list is generated automatically, which considerably simplifies the entire planning process.

## **A choice of transport types**

Different products require different types of conveyor sections. Accordingly, you can choose whether to transport

your goods on a workpiece pallet or directly on a continuous roller conveyor.

## **Advantages at a glance**

- ▶ Fast, cost-effective system planning and expansion: The conveyor section design allows branching in both directions. And because the assembly space required for the drive is lower than the conveyor height, you can choose to have the drive mounted on either side. As always, all components are available in the MT*pro* planning tool.
- ▶ Reliable construction and fast commissioning: Industrially manufactured modular system with standardized components, resulting in short delivery times.
- ▶ High availability of the system thanks to the low-maintenance drive concept of the king shaft. No more need for lubrication and greasing.
- ▶ Sturdy design: Suitable for particularly harsh production environments and heavy loads.
- ▶ Everything from a single source: Easy ordering thanks to compatibility with the entire assembly technology product range.

## New features

### **New assemblies**

With new assemblies, we increase flexibility in terms of individual planning.

These include:

- ▶ AB 5 drive kit (p. 3-20)
- ▶ Three-way diverter DI 5/...-3W (p. 5-18)
- ▶ Lift transverse unit HQ 5 (p. 5-18)
- ▶ PE 5 positioning unit... (p. 8-3)
- ▶ VE 5/...-301 stop gates (p. 9-9)

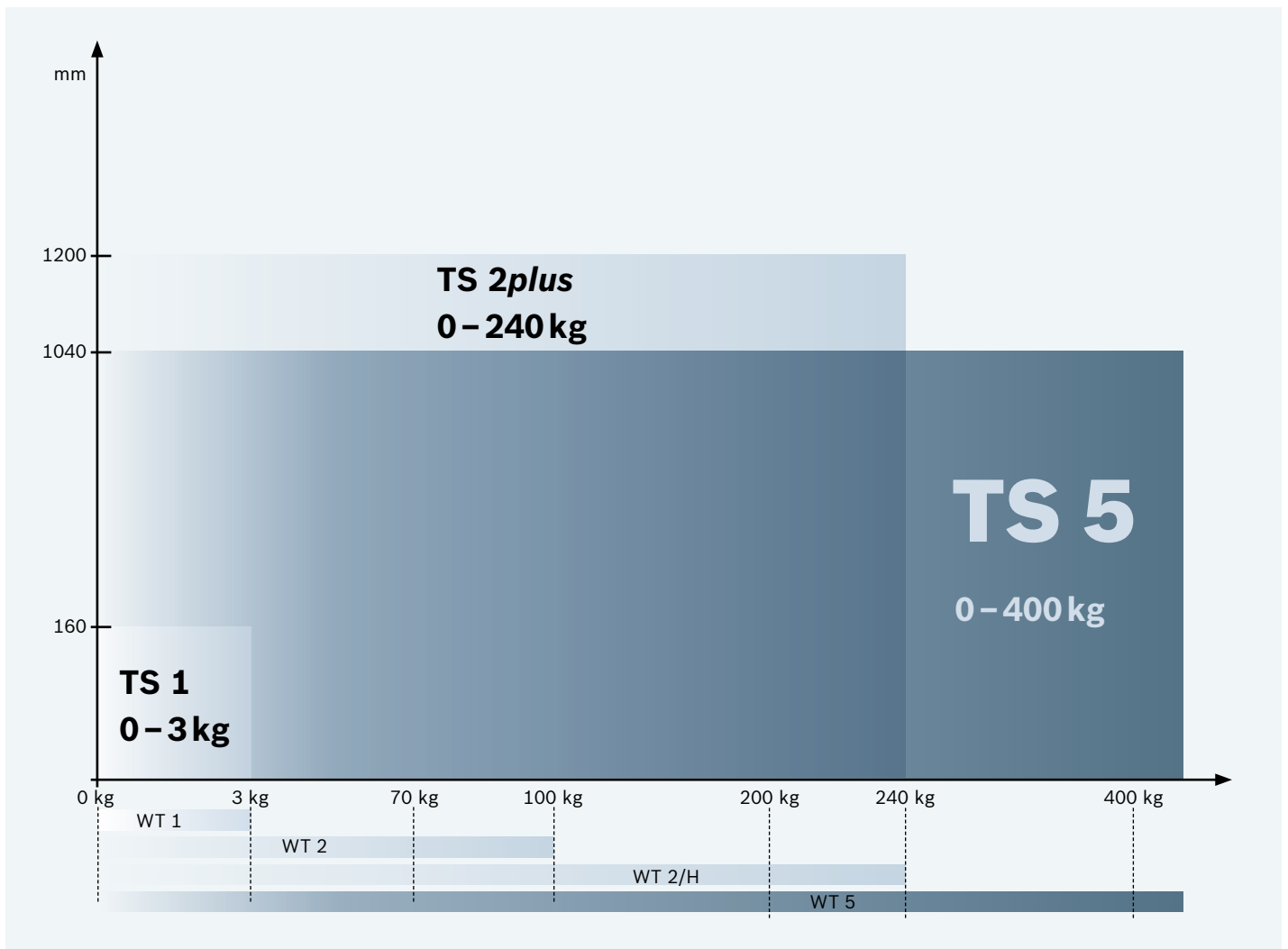
# Operating principle

## 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 5 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 5 transfer systems are designed for high availability, even under the harshest conditions.





## TS 5

### **TS 5** **0 – 400 kg**

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.



## TS 2plus

### **TS 2plus** **0 – 240 kg**

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



## TS 1

### **TS 1** **0 – 3 kg**

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

# TS 5 features

## Selection data



### **Available workpiece pallet (WT) dimensions**

Workpiece pallets with system widths of 455 ... 1 040 mm allow adjustment to the respective workpiece geometry as needed. If necessary, a number of workpieces can be accommodated on a single workpiece pallet (WT).

### **Permissible workpiece pallet (WT) masses**

To ensure that the permissible surface pressure between the WT and conveyor medium is not exceeded, the WT total mass is limited for each WT size.

The WT total mass results from:

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

For workpiece pallets that are not square, please note that the permissible WT total mass may be different for longitudinal conveyors and transverse conveyors.



# Ambient conditions

## Materials used, resistance to media

Rexroth transfer systems are manufactured with high-quality materials to ensure continuous use. They are resistant to lubricating and cleansing agents that are common in an industrial environment. However, we cannot guarantee that the products contained in this catalog are resistant to all combinations of testing liquids, gases, or solvents. Please contact your Rexroth representative if you have any doubts.



## Environmental conditions – climatic

The transfer systems have been designed for stationary use in a location that is protected from the elements.

### Operating temperature

+5 ... +40 °C  
-5 ... +60 °C at 20%  
less load

### Storage temperature

-25 °C ... +70 °C

### Relative humidity

5 ... 85%, non-condensing  
1 ... 2% (dry room) on request

### Air pressure

> 84 kPa as appropriate  
Installation altitude < 1400 m above mean sea level.  
Load values are reduced by 15% when the system is set up at a location that is over 1,400 m above sea level.

## Environmental conditions – biological

Avoid molds, fungi, rodents, and other vermin.

## Environmental conditions – chemical

Do not set up near industrial systems with chemical emissions.

## Environmental conditions – physical

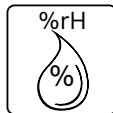
Do not set up in areas that are regularly jarred by high forces caused by e.g. presses, heavy machinery, etc.





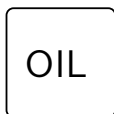
### **Suitability for electrostatically sensitive areas**

Almost all of the components and parts in Rexroth transfer systems are ESD-compatible or available in ESD-compatible design. They can thus principally be used in EPA (ESD protected areas). We do, however, recommend that you contact your Rexroth representative.



### **Use in dry rooms**

TS 5 has been tested and approved with all conveyor media for use in dry rooms with a relative humidity of 1 ... 2%, e.g. for the production of Li-Ion battery cells. Your Rexroth representative will be pleased to advise you about this.



### **Use in oily environments**

Almost all of the TS 5 components are suitable for use in oily environments. The transfer system has a high resistance to many oils commonly found in manufacturing. In case of doubt regarding resistance to test oils and doped oils, we recommend you contact your Rexroth specialist.



### **Use in clean rooms**

Almost all the components have been approved by the IPA<sup>\*)</sup> for use in clean rooms and for clean room class 8 according to DIN EN ISO 14644-1. Please note that some clean room-compatible components have been specially modified. Please contact your Rexroth representative if you require clean room components.

<sup>\*)</sup> Fraunhofer Institute for Manufacturing Engineering and Automation, Stuttgart, Germany

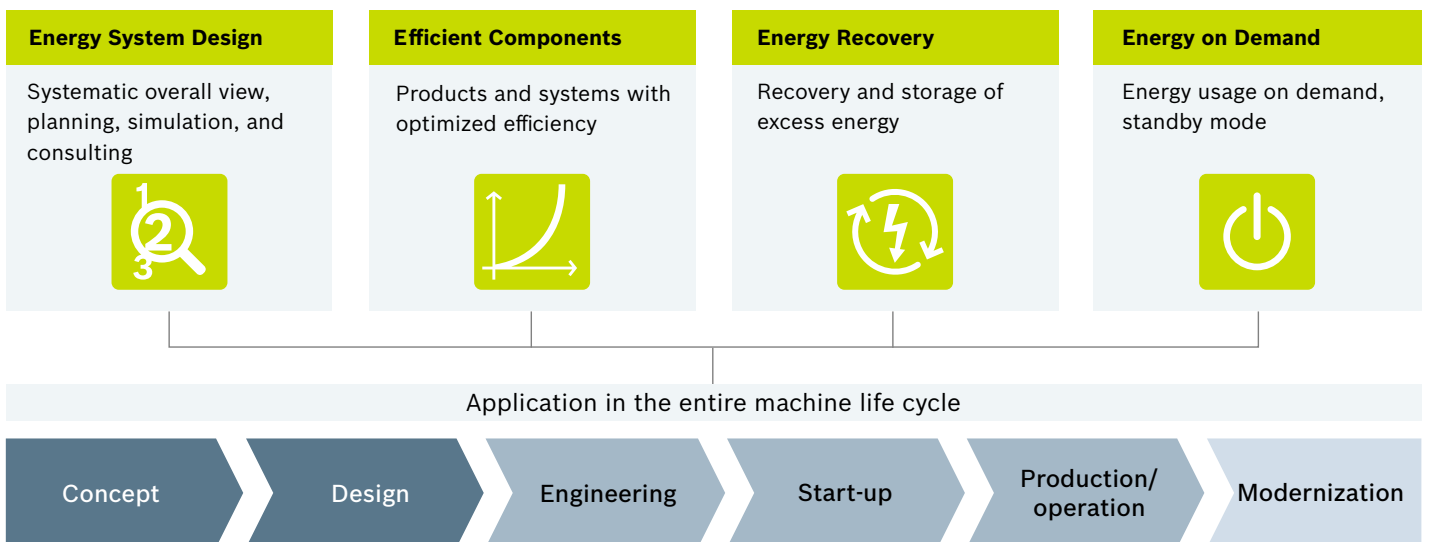


# Energy efficiency – Rexroth 4EE

## Energy efficiency – a key factor for corporate success

From an economic point of view, energy efficiency and reduced emissions lower operating costs and offer a competitive edge in the fiercely competitive global market. In addition, they help support compliance with environmental standards.

All potentials for optimization are used effectively when not only the details of a system but the system as a whole is optimized. The 4EE system features four levers:



**Efficient system layout**

To achieve high energy efficiency, the system must be examined as a whole as early as in the planning phase. The TS 5 modular system offers numerous modules, all of which enable you to implement a transfer system tailored precisely to the particular application. This effectively prevents over-dimensioning and high energy losses from the outset.

**Energy-efficient modules**

The TS 5 modules are equipped with particularly energy-efficient drives. The efficiency of most of the motors already exceed future requirements. The interplay of friction-optimized materials, e.g. on slide rails, friction-minimizing gear oils and numerous further design details ensures perfect coordination in the overall system.

**Energy use on demand**

Minimal energy consumption requires the ability to be able to switch off system components on demand. The majority of motors in the TS 5 system are designed for start-stop operation and frequency converter operation.

**Worldwide approval**

For international use, most of the motors feature CE, cURus and CCC approvals.