

### General Description

Depending on the area of use and application, wheels, swivel and fixed castors or tires can be used. The castors are usually fastened by means of a screw-on plate or back hole with a fastening screw. Swivel castors can be swiveled around the vertical axis and make machines, equipment, etc. maneuverable. In this case, the fork is connected to the fastening element by means of a slewing ring. In order to be able to swivel the fork easily, the wheel is usually designed with the so-called projection.

The projection (dimension letter A) corresponds to the distance between the axis of the swivel bearing and the wheel axis and results in the overtravel. This enables the caster to be swiveled easily without additional aids. In addition, the caster's overtravel gives it stable straight running. Fixed castors cannot be swiveled and are mounted in the running direction.

### Apparatus Castors, Page N184-N187

Apparatus castors are mainly used indoors on smaller devices and apparatus. They are designed for speeds up to approx. 3 km/h. The load capacities in the range extend up to max. 100 kg. Apparatus castors are characterized by the high mobility of the respective devices as well as by the greatest possible running smoothness with low rolling resistance. Typical applications are display stands, medical equipment, catering equipment or similar.

### Transport Castors, Page N188-N193

Transport castors are mostly used in the industrial environment. These allow travel speeds of approx. 4 km/h and can be used both indoors and outdoors. The load capacities in our portfolio range up to 350 kg. On request, we can offer transport castors with load capacities up to 1,000 kg. In general, transport castors are largely maintenance-free and insensitive to environmental influences. The typical application is machines and equipment of all kinds, but also pallets, working platforms or similar.

### Compact Castors, Page N194-N195

If the height under the object is too low for standard castors, compact castors are used. They are versatile due to the reduced overall height. Each individual roller is capable of transporting loads of 100 kg.

### Lifting Castors, Page N196

Lifting castors are castors with lifting function and adjustable foot. They are used as height-adjustable, rollable and fixable machine feet. They enable flexible relocation of machines and, with their high load-bearing capacity, are often the ideal solution for intralogistics in companies where swivel castors with brakes do not provide enough stability. Production changeovers and changes in work processes can be implemented flexibly. They can also be used for transport units, shelves, work tables or laboratory and test equipment.

### Conveyor Rollers, Page N197-N198

Conveyor rollers can be found in almost every transport process, whether in the warehouse, in production or in shipping. On so-called roller conveyors, they transport containers, boxes, cartons, but also pallets or skeleton containers. Depending on the goods to be conveyed, conveyor rollers can be made of plastic tubing, bare steel tubing or galvanized steel tubing. Plastic is gentle on the material and runs smoothly, while steel tubing offers a higher load-bearing capacity and is the more suitable material for sharp-edged conveyed goods, for example. The load capacities per roller are between 2 - 240 kg. Conveyor rollers either rotate dynamically or are driven, for example, by a single or double chain wheel. We can offer other designs on request. For example, aluminum and stainless steel tubes as well as various axle variants.

### Ball Transfer Units

The range of applications for ball transfer units is extremely diverse. The integrable design enables a very high running performance as well as high mobility and is therefore particularly popular in conveyor and assembly systems. Further advantages are the possible change of direction as well as the fast and force-free positioning of the conveyed goods. Ball transfer units made of plastic, steel or stainless steel are used.

### Load Capacity

The required load capacity of a castor is calculated from the tare weight of the transport device and its load, divided by the number of load-bearing castors. Due to unevenness, only three castors are normally calculated for 4 castors. The result is multiplied by a safety factor depending on the operating conditions.

$$T = \frac{E + Z}{n} \times S$$

T = required load capacity per castor.  
E = own weight of the transport device.  
Z = maximum load capacity.  
n = number of supporting castors.  
S = safety factor.

### Recommendation for safety factor

#### Manual transport indoors:

(Obstacle height < 5 % of wheel Ø):

Safety factor: 1.0 to 1.5

#### Manual transport in the outdoor area:

(Obstacle height > 5 % of wheel Ø):

Safety factor: 1.5 to 2.2

#### Motor-driven transport indoors:

(Obstacle height < 5 % of wheel Ø):

Safety factor: 1.4 to 2.0

#### Motor-driven transport in the outdoor area:

Safety factor: 2.0 to 3.0