

Swivel wheel comfort

Application / Challenges

Wheel holders are part of the carriers that are used in parcel sortation and baggage handling systems. Due to the kinematic effects generated during cornering, the running wheels on the carriers need to be fitted in such a way that they can swivel. Conventional wheel holders are usually made from steel or aluminium. They have to bear the weight of the carrier and the load, while also withstanding shocks and centrifugal forces when taking corners.

Even when the wheel holders are carrying significant loads, deformation has to be kept to an absolute minimum to stop the carrier from sinking. The pivot bearing needs to be play-free and silent, and to work reliably during their long service life.

Another key requirement is acoustic decoupling of the wheel and the carrier, in order to minimise the transfer of vibrations and noise.



Solution / Material

The wheel holder for the Swivel Wheel comfort comprises just four parts – three of which are standard components.

The weight of the holder is only a fraction of that of comparable steel and aluminium solutions, which helps to cut the sortation system's drive energy requirements.

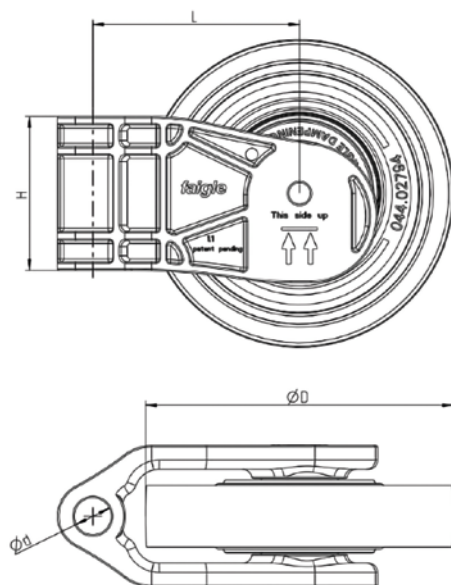
Thanks to its high-strength design featuring highly rigid, impact-resistant, carbon-fibre-reinforced polyamide, the wheel fork is ideally suited to handling heavy loads. The fork's design is based on a platform that can be scaled according to the customer's specific geometric requirements.

The plastic wheel shaft is so stable that it significantly exceeds the load-bearing capacity of the ball bearing. Fitted in damping bushings, the wheel shaft is securely attached by inserting it into the fork from the underside. This can be done by hand, with no tools required.

The damping bushings ensure low-noise, low-vibration operation and, because they do not rotate, they do not cause additional running resistance.

The material used for the wheel fork has the specific task of bearing the wheel fork for the swivel motion. With this function in mind, the material has optimised tribological properties and does not require any lubrication during the service life of the wheel holder.

The wheel holder has an antistatic design as standard. Ready to install, the faigle Swivel wheel comfort model is supplied with a fully assembled running wheel.



Customer Benefits

- ✓ Lightweight design helps to cut drive energy requirements
- ✓ Cost-effective production and short lead times thanks to injection moulding technology
- ✓ Highly effective vibration damping reduces operating noise
- ✓ Low running resistance with similar noise level in combination with faigle's SE wheel
- ✓ Ready-to-install module reduces assembly time
- ✓ Excellent load-bearing capacity and rigidity thanks to high-performance plastics and optimised design
- ✓ Quick-change system for rapid, tool-free wheel replacement
- ✓ Fast and efficient wheel fork design suited to virtually any installation set-up thanks to flexible design platform
- ✓ Use of standard faigle parts and master mould concept translates into low investment costs and short lead times for setting up volume production



Specifications

Wheel diameter (D)	Ø40 – Ø120mm
Swivel axis – diameter (d)	~ Ø8 – Ø25mm
Centre distance (L)	~ 50 – 120mm
Height (H)	~ 20 – 80mm
Ball bearing	Standard 6204 Other bearings available on request