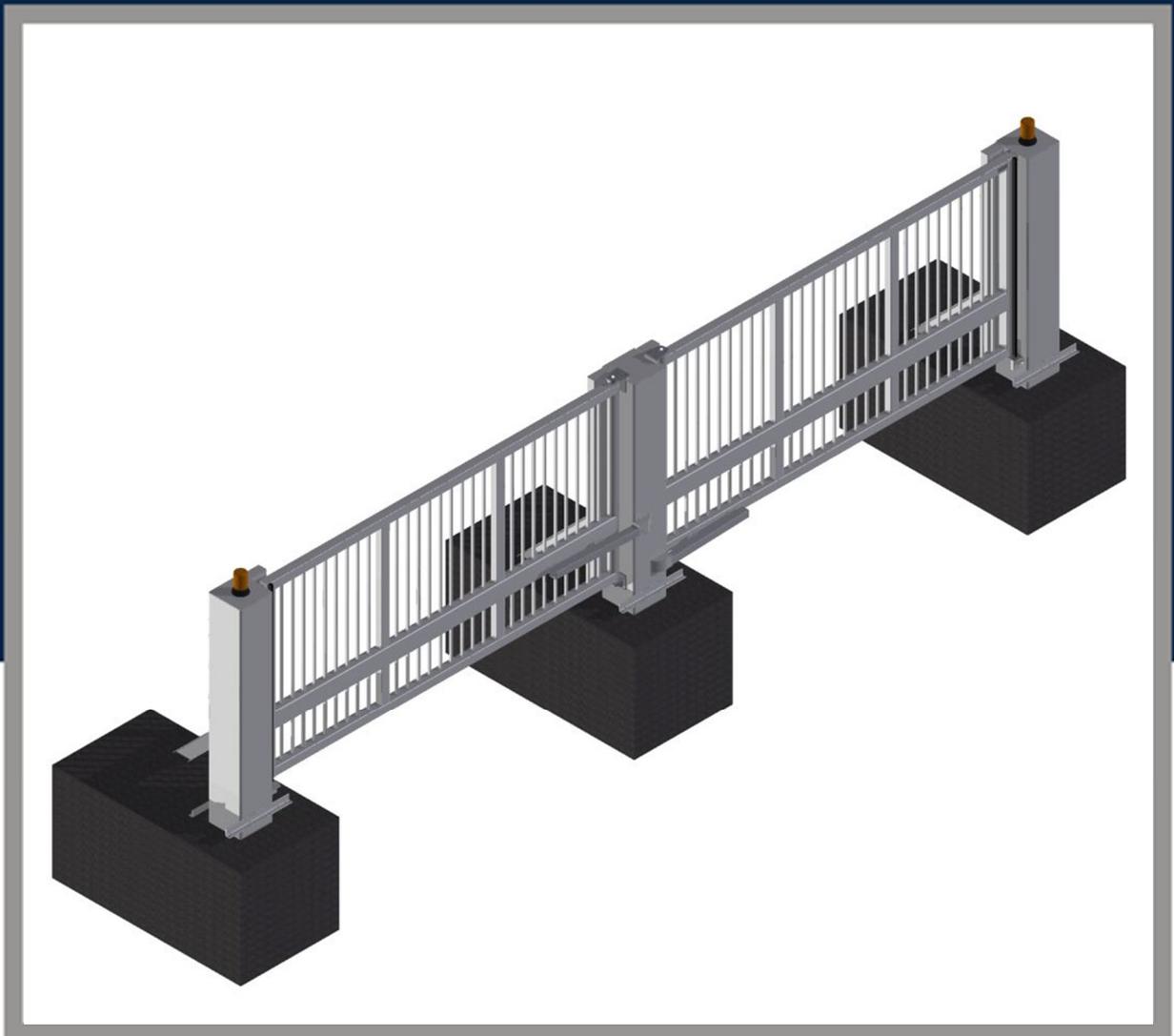


Leaf Swing Gate DFT Garant M30/K4



Breakthrough Resistant 245 kN

Leaf Swing Gate DFT-Garant M30/K4

The **breakthrough resistant leaf swing gates** of the **GARANT Line M30/K4** are a special solution for movable closures of sensitive properties. These form a secure, ordered access to a fenced area, perimeter or terrain with low-frequency gate cycles. The opening of the gate wings requires spatial space on the property area, which must be taken into account in the design of the driveway, especially for road, longitudinal and transverse gradients. These circular swivel areas – the size depends on the wing partition or the passage halving – must always be kept free and used for the management of the property. GARANT M30/K4 leaf swing gates can be easily adjusted to their intended use. The electro-hydraulic swing gate is set in motion by two energy-efficient, tamper-proof and low-maintenance Garant HS drive units – the first choice for the special securing of outdoor and company premises. The two gate leaves, which are usually divided symmetrically, each have a suspension post and a common stop post. This means that when the door system is open, the passage is divided into two parts, that is, for 2 lanes. An asymmetric division can therefore only be carried out to a small extent if the location requires it. Road cross gradients can be adjusted within limits in the design. The centrepiece of the breakthrough resistant swing gate of the GARANT Line M30/K4 is its extremely rigid bumper-height continuous beam combined with reinforced suspension and stop posts, which can absorb the dynamic impact energy of a 5-ton truck travelling at 50 km/h into an appropriately dimensioned foundation. The static equivalent load is 245 kilonewtons. Additional functions such as climb-over protection can be easily integrated as long as they do not unload sideways (conflict fence connection or narrowing clearance profile). For the representative protection of outdoor and company areas, a variety of gate fillings can be integrated to match the facade or fence. The gates can be controlled with all common access control systems and are predestined for factory entrances, barracks, airport entrances and public property entrances with medium vehicle frequency. It should be noted that for functional reasons the opening direction only makes sense in the direction of attack. The modern added value lies in the increased protection for vehicle and person checkpoints. Due to the simple design, existing factory entrances can be retrofitted without great structural effort.

Attributes:

- breakthrough-resistant against 5-ton trucks up to 50km/h and 2.5-ton pickup trucks up to 80 km
- reliable securing of outdoor areas and open-air grounds with medium vehicle and visitor frequency
- large space requirement due to projecting leaf swivel range
- encapsulated electro-hydraulic drive version
- hydraulic braking and locking in the end positions
- clear optics due to vandalism-proof integration of all drive components
- emergency drive release not exposed, but integrated in the gate post in a tamper-proof manner

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- 100% duty cycle, industrial standard
- robust construction
- high resistance against environmental influences
- flexible in width and height
- various options, for example adjustment of road gradient, climb over protection, variety of gate fillings

Used for the separation of motor vehicles with simultaneous protection against unauthorised access by persons, especially in areas which are in need of control and protection:

- authority facilities
- industrial plants, supply facilities and power plants
- military facilities
- airports

Versions / Names:

DFT-Garant M30/K4- HS 400:

leaf swing gate, drive type Garant, double-leaf, cylinder stroke 400 mm

Specifications

Specifications	DFT-Garant M30/K4- HS 400:
Opening width	2x 3,500 to 4,000 mm
Variable gate height	1,800 to 3,000 mm
Ground clearance	50 - 120 mm
Overall height	Gate height plus 300 mm lower edge area
Partition	2 symmetrical swing leaves
Frame, lower beam	ST* 100 mm
Impact traverse	RT* 200/100 mm
Drive gate post	ST* 400 mm
Diagonal reinforcements	IPE 140
Cylinder stroke	400 mm
Pump type	Vertical pump unit P6
Drive motor	3x230/400 V, 50 Hz, 0.37 kW
Opening time	approx. 24 seconds (without braking)

* RT = rectangular tube, ST = square tube

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The **swing gate Garant 2** is manufactured as an assembly unit, consisting of the gate leaves, the drive gate post, the stop post and the drive, control, safety and operating components.

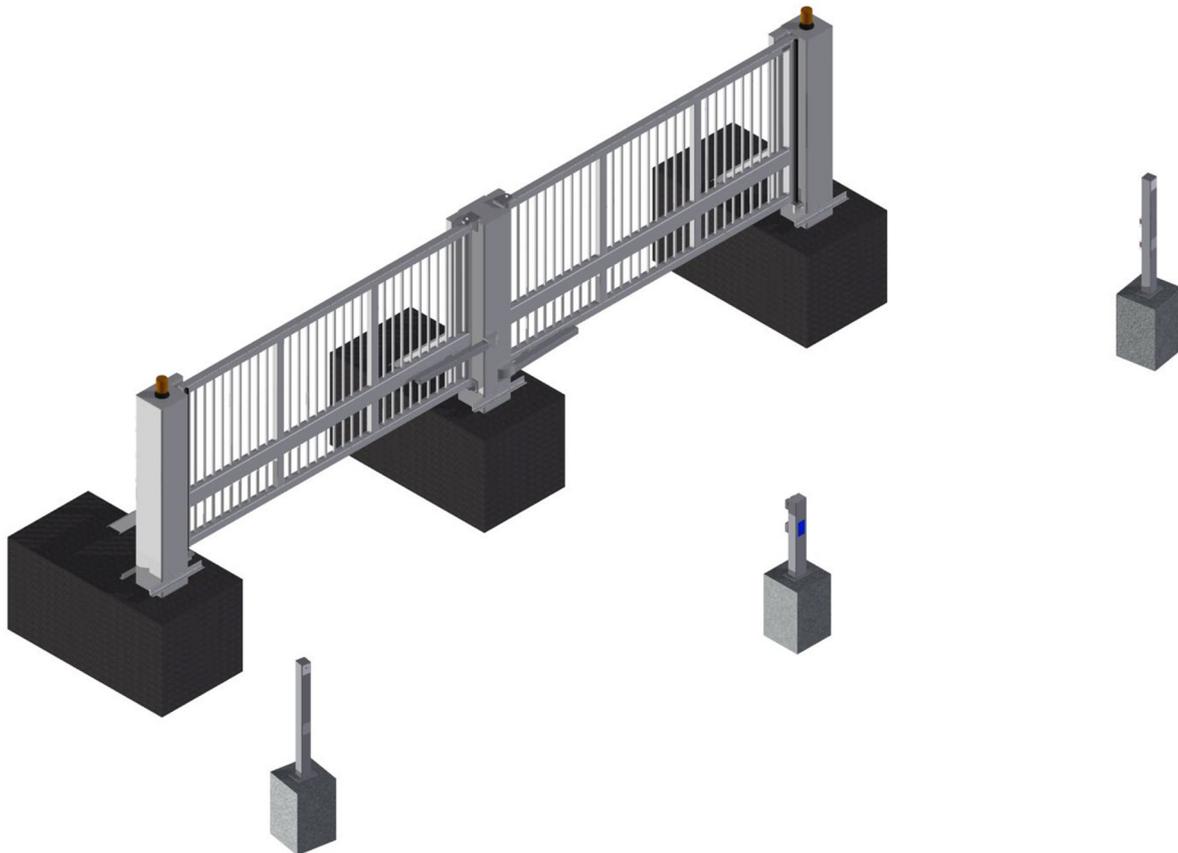
The **swing gate leaves** are welded torsion-resistant and dimensioned according to the static requirements. The gate filling is welded in between the upper and lower bars (bar spacing max. 120 mm). The gate leaves are equipped with a mounting for the encapsulated hydraulic cylinder. Two inductive proximity sensors for the end position adjustment are integrated in the lower beam. The outer lateral beam is made of round tube with upper and lower pins to be mounted on the gate posts.

The **drive gate post** consists of square tube profiles according to the static dimensioning, with lower and upper adjustable bracket, with foot and neck bearings to accommodate the gate leaves, welded head covers and mounting aid for sleeve foundations. The gate columns have a spacious cut-out of approx. 330 x 1,600 mm on the inside, which is closed with a one-piece service door, suspended on 3 hinges, locked with 2 profile cylinder lockable lever locks. On the inside of the door there is the document compartment for the circuit diagrams and the gate test book. The motor/pump unit is mounted on a base inside the door column and the terminal strips and/or the control box are mounted on a separate mounting plate in the upper area. The gate posts are provided with further cut-outs to accommodate the lifting cylinders and various operating elements.

The compact **hydraulic unit "Garant 700/80 Vertical"** consists of a three-phase electric motor, a P6 gear pump operating in both directions of rotation, and a 3.5 dm³ hydraulic reservoir. The unit is placed on silent blocks vibration-free. The flow rate is 2.6 litres, the average/maximum operating pressure is 2/4 MPa. The hydraulic medium is biodegradable (**Note:** Each vehicle passing through has 10 times the amount of oils for safe operation).

The **hydraulic cylinder Garant-400** (the number stands for the piston stroke in mm) is completely cased. The front ball joint head, the rear fork suspension and all media lines are not visible, but protected against manipulation. The slim cylinder casing accommodates the mounting brackets for the switching lugs of the end-position adjustment as well as an accident prevention contact profile. The thrust force of the cylinder is 7,000 N. The opening angle is 95°.

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Easily accessible components: All components required for operation are accommodated safely inside the drive gate post. This simplifies assembly, commissioning and maintenance considerably.

Control: Microprocessor control unit

Mains connection: three-phase 3x230/400 V, 50 Hz

Control voltage: 24 VDC

Power consumption: approx. 575 W (without accessories)

Duty cycle: 100 %

Class of protection: IP 54

The control functions are:

- gate **Stop** as well as **Open** and **Close** in self-locking mode between the end positions
- closing leaf delay
- remote controllability is ensured via potential-free contacts
- standard transfer of alarm signals for gate states **gate open**, **gate closed**, **collective fault**
- that all gate typical components can be connected and controlled in different logics.

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Behaviour in case of power failure / average: The gate system is hydraulically blocked in the respective position. Unlocking is achieved by opening a ball valve which is securely located on the hydraulic unit in the profile cylinder-locked drive post. If optional electric bolt bars are installed, these are also locked or unlocked by means of a profile cylinder lock. The optional integration of an approved fire brigade safe also makes it possible to unlock the door from the outside. This means that the fire brigade's requirement for separate access is no longer necessary.

Foundation plate as standard:

- 200 mm upper edge area with spacious cable entry
- pairwise arrangement of dowel holes and levelling screws for an optimal perpendicular and flush assembly

TORWERK – long-lasting corrosion protection in 4 steps:



The coating thickness is 260 µm, all requirements on corrosion protection stresses according to DIN EN 12944-2 of the category C4 (long protective effect) are met.

First-class surface haptics through:

- hermetically welded construction
- a surface free of zinc cavities
- no protrusion of flat ground weld seams (mitre corners) after zinc coating
- no warping caused by zinc blowholes in the surface

Environmentally friendly procedure:

- no use of solvents
- recycling of the overspray

Options:

Colour design / labelling:

Gate posts and gate leaves can be designed in different RAL/DB colours.

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Signaller:

- LED rotating beacon (standard)
- LED light red/ green (optional)
- Reflexite contour markings from microprismatic foils with high reflection value, visibility even from an acute angle, on the inside and outside of the lower gate beam

Safety:

- Safety device TÜV tested, self-monitoring, according to the European gate standards DIN EN 12978 + 12453 for power-operated gates, consisting of double-chamber pressure strips at the main and secondary closing edges and the electronic evaluation unit
- 2 light barriers, consisting of transmitter and receiver in different heights outside between the gate posts as additional safety device
- optional a light barrier, consisting of transmitter and receiver to protect the swivelling area, separately elevated
- 2-channel induction loop detector

Controls:

- key switch open-close outside and key switch emergency-stop-close inside (standard)
- radio remote control (optional)
- key switch on/off (optional)
- time switch (optional)
- code card reader and other communication systems possible on request

Design of the gate leaves:

- instead of bar filling, optional filling in the manner of a fence
- closed sheet filling or perforated sheet filling in powder-coated design

Torwerk assembly service:

Each leaf of every configured **leaf swing gate system Garant** is completely pre-assembled at the factory and internally wired and as far as possible connected before it is delivered. In each case, the assemblers only need to unload the drive post with the mounted gate leaves onto the foundation prefabricated by the customer, adjust it, level it using the adjusting screws and anchor it with the provided dowels. A qualified gate technician needs to fill the unit on-site, if necessary, adjust the leaf mechanism and the end position switch-off. A qualified electrician connects the gate to the power supply, to the external control elements,

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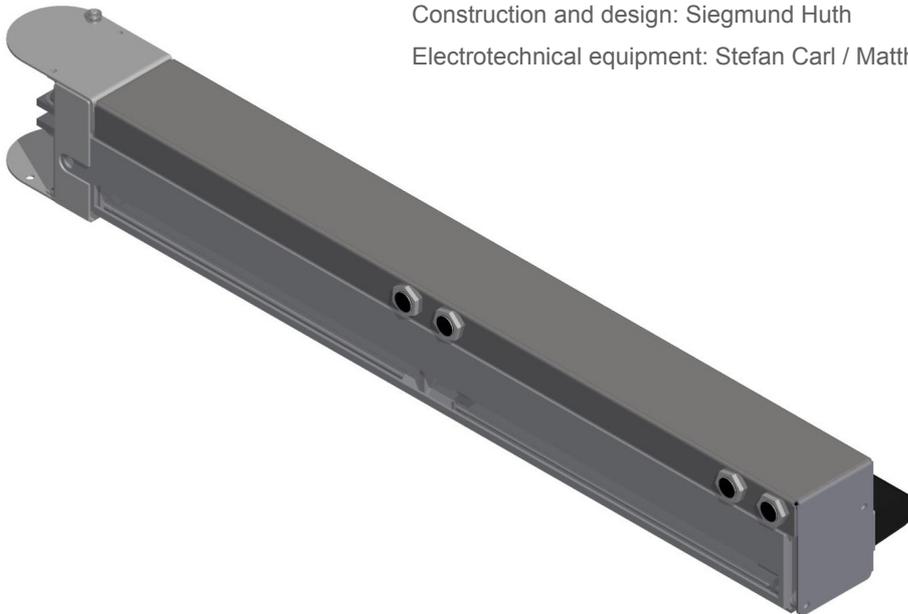
to light barriers as well as to possible induction loops. The **leaf swing gate Garant** is ready for operation. The time-consuming reading of manuals and sorting of components and fasteners are reduced to a minimum.

Hydraulic cylinder with sensor attachment



Construction and design: Siegmund Huth

Electrotechnical equipment: Stefan Carl / Matthias Martius



Hydraulic cylinder suspension with adjustable switching lugs for the end positions OPEN and CLOSE

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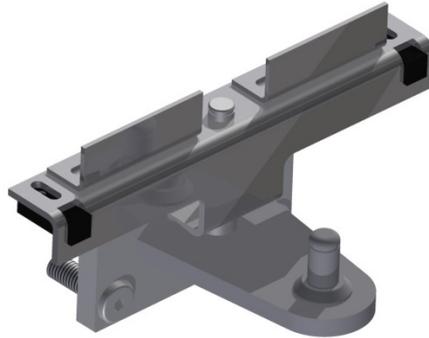


Illustration of the main components: Central posts and stop posts

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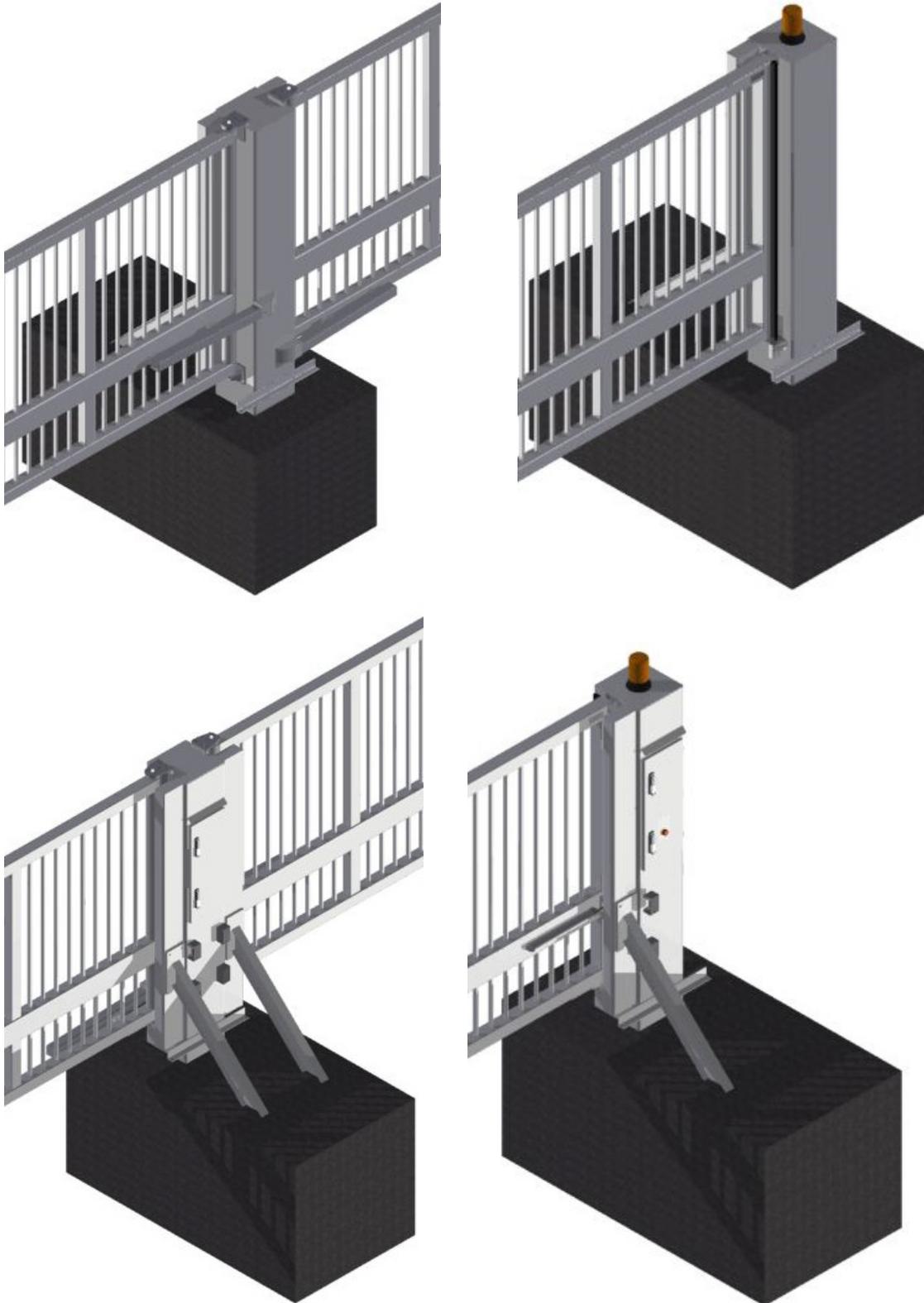
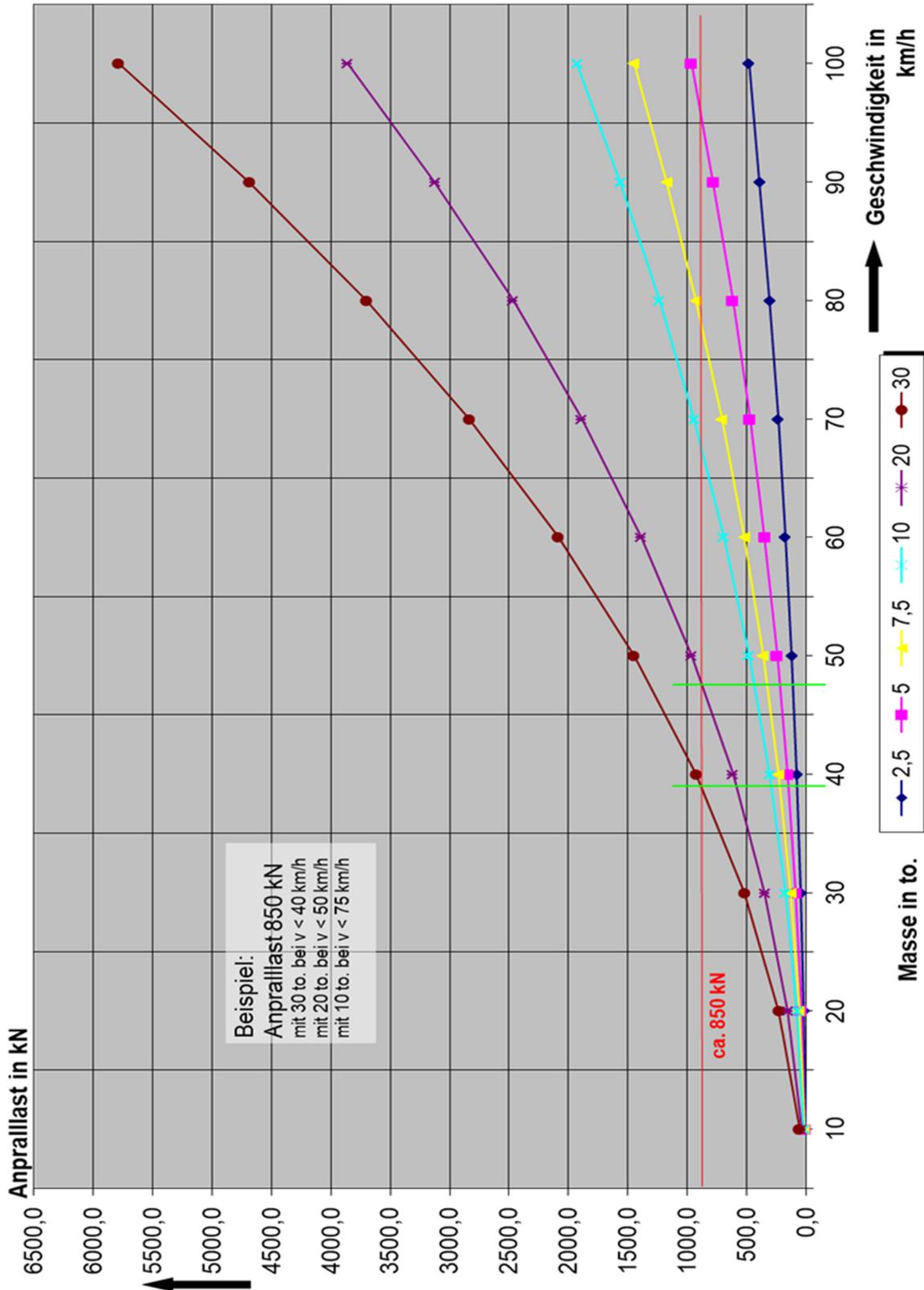


Illustration of the main components: Inside view

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