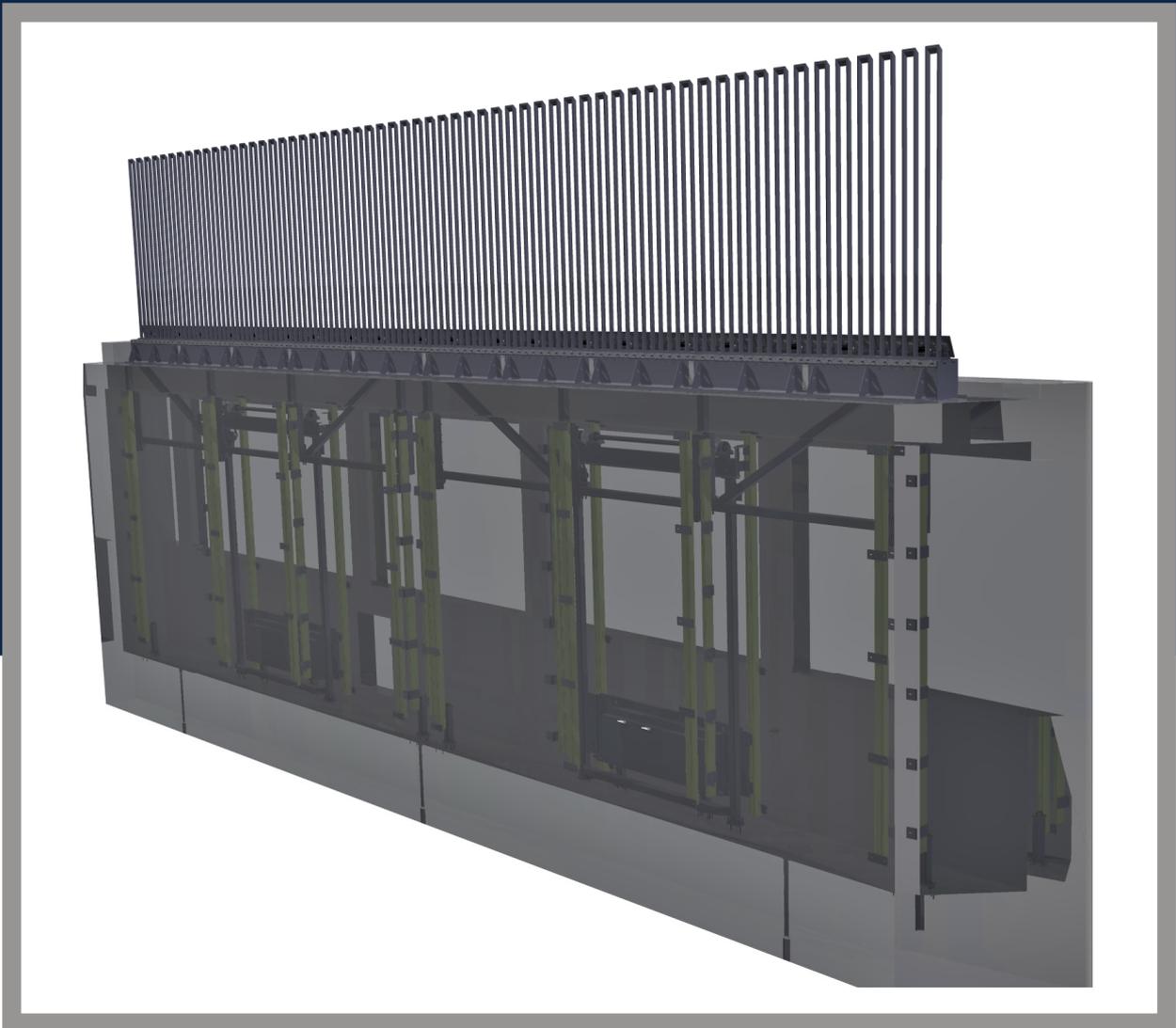


RISING GATE- SELF-SUPPORTING SF-165



for clear widths 6 to 9 m

RISING GATE- SELF-SUPPORTING SF-165

Self-supporting rising gates are a complex special solution for securing representative access areas in real estate, where no spatial swivel or lateral sliding areas are available or desired. The vertical lifting or lowering of the gate body does not restrict the passage area. The self-supporting rising gate has no above-ground guide devices or posts that impair the view. Within 2–3 seconds, access for cars and people is effectively blocked across the entire entrance area. The gate leave is guided underground and can be designed freely. The gate can be adapted to the representative fencing system and, for example, consist only of freestanding stakes without upper beam. This significantly increases protection against climbing over. The gate systems can be designed with several leaves next to each other and open or close entire property areas selectively or completely. The gate can be supplied either manually operated for low-frequented safety areas or power-operated with deadman or self-holding control. The gates can be controlled with all common access control systems and are a possible solution for critical structural property entrances. The gates cannot be retrofitted. As early as at the planning stage of the building or the entrance, extensive structural requirements must be taken into account.

Attributes:

- reliable securing of outdoor areas with a medium vehicle frequency
- construction without above-ground space requirements (no lateral opening or swivelling)
- due to the self-supporting version no need for above-ground posts or guidance devices
- medium opening and closing times, however, blocking of the passage within 2 to 3 seconds
- clear optics by vandalism proof integration of all power unit components
- power emergency release not exposed but integrated into the drive cubicle and therefore tamper-resistant
- duty cycle: 60%, industrial standard
- various options, for example, enhancement as a lock gate

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
- ministries and embassies
- municipal parks and places
- industrial plants and power plants

RISING GATE- SELF-SUPPORTING SF-165

Versions / Names:

SF-165 Rising Gate – self-supporting

Specifications

SF-165 single-leaf

STF-165 double-leaf, separately controllable

Opening width	6,000-9,000 mm	9,000-18,000 mm
Lifting height	2,000 to 3,500 mm	2,000 to 3,500 mm
Ground clearance	none	none
Opening space - lower edge area	3,200 to 5,250 mm	10,275 mm
Track profile - lower edge area	LSP 165	LSP 165
Track roller blocks - lower edge area	LRP 165	LRP 165
Frame - lower edge area	minimum RT* 120/100 mm	RT* 120/100 mm
Reinforcement	RT* 120/80 mm	RT* 120/80 mm
Gate structure:		
Version 1	self-supporting palings	self-supporting palings
Version 2	gate frame with infilling bars	gate frame with infilling bars
Version 3	gate frame with sheet metal filling	gate frame with sheet metal filling
Rising gate shaft cover	traversable, bridge capacity 60	traversable, bridge capacity 60
Drive transmission	chain drive with pulley and balanced counterweights as well as fall protection	chain drive with pulley and balanced counterweights as well as fall protection
Motor/gear unit	3x230/400 V, 50 Hz, 1.5 kW, self-locking gear, magnetic brake and frequency converter	3x230/400 V, 50 Hz, 1.5 kW, self-locking gear, magnetic brake and frequency converter
Opening time (sec.)	0.25 to 0.4 m per second	0.25 to 0.4 m per second

RT*= rectangular tube

The **self-supporting rising gate SF-165** is manufactured as an assembly unit consisting of gate leaf, guide frame, shaft top part with opening flaps, running gear, drive unit, control, safety and operating components.

The **guide frame** is welded torsion-resistant and dimensioned according to the static requirements. It ensures the optimal intake of the static load. The **gate leaf** can be designed freely to a great extent, according to the specifications of the data sheet. In the lowering area, the gate leaf is guided by at least four pendulum-bearing support and draw roll systems inside the lower beam. These adjustable roller sets are equipped with ball bearing

RIISING GATE- SELF-SUPPORTING SF-165

mounted and maintenance-free polyamide rollers and ensure the smooth running and the exact adjustment of the gate. The underground sliding area of the gate is self-supporting.

The **gate is guided** by a shaft with pinion and chain drive in redundant design. The gate leaf is balanced with a counterweight in such a way that it can also be operated manually when unlocked. The gate is additionally equipped with an approved guardrail.

Electrical drive: The three-phase motor (230/400 Volt, 50 Hz) for industrial continuous operation is combined with a maintenance-free, low-noise worm gear which runs in an oil bath. The three-phase current geared motor, which is flange-mounted onto a panel next to the drive shaft, is equipped with a slip clutch. The locking works via the self-locking worm gear and a magnetic brake. A sprocket and an adjustable and spring-loaded draw-bench chain which is attached to the gate leaf provides the driving force. The control (24 V) consists of a microprocessor control, including a proximity limit switch. A key switch **Open/Close** with **Emergency-Stop**-button is attached inside the control cabinet.



Easily accessible components: All components necessary for the operation are accommodated safely in the rising gate shaft respectively in separate control cabinets, which simplifies the assembly, commissioning and maintenance significantly.

Control: Microprocessor control unit and frequency converter

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

Control voltage: 24 V DC

Power consumption: approx. 0.75 kW (without accessories)

Duty cycle: 60 %, class 3

Protection class: IP 44

RISING GATE- SELF-SUPPORTING SF-165

Control functions of the power-operated version:

- gate **Stop** as well as **Open** and **Close** in dead man's mode between the end positions
- gate **Stop** as well as **Open** and **Close** in self-locking mode between the end positions in combination with self-monitoring light grids and laser scanners
- 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.

Power failure/ emergency: By releasing the slip clutch in the profile cylinder locked drive post, manual operation is possible. The flaps of the rising gate shaft need to be opened manually so that the gate leaf can be pulled out.

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- C4 (long protective effect) are met.

First-class haptics due to:

- 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 oversprays

Options:

Colour design/ labelling:

Gate posts and gate leaves are designable in colour tones according to RAL/DB.

RIISING GATE- SELF-SUPPORTING SF-165

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:

- TÜV approved safety device, self-monitoring, according to European gate standards DIN EN 12978 + 12453 for power-operated gates, consisting of laser scanners and reference panels and the electronic analysis unit
- 2 light barriers (optional), consisting of sender and receiver in different heights as additional security device
- 2-channel induction loop detector

Climb over protection and accessories:

- self-supporting palings

Control:

- key switch open-close outside and key switch emergency-stop-close inside flush-mounted or surface-mounted
- radio remote control (optional)
- key switch on/ off (optional)
- code card reader and other communication systems available on demand

Design gate leaves:

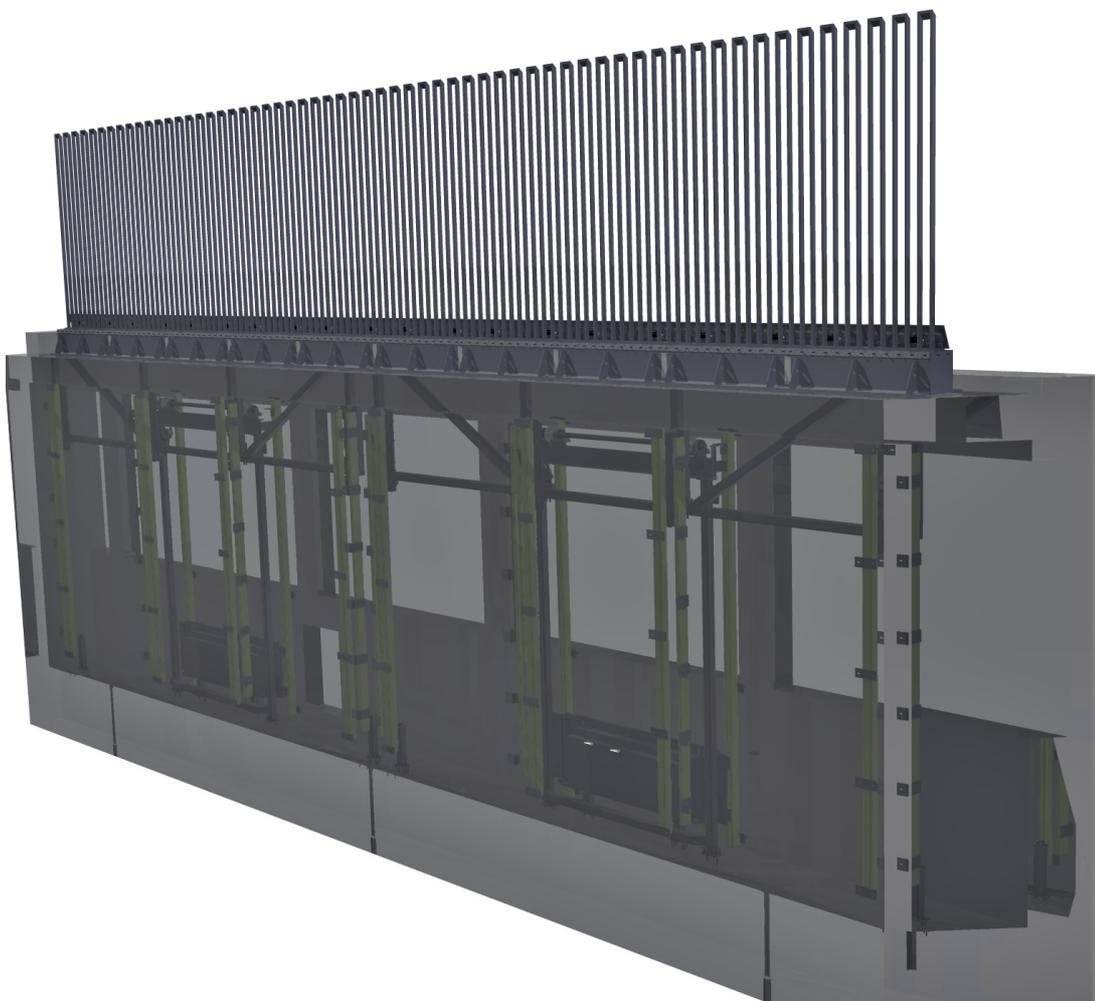
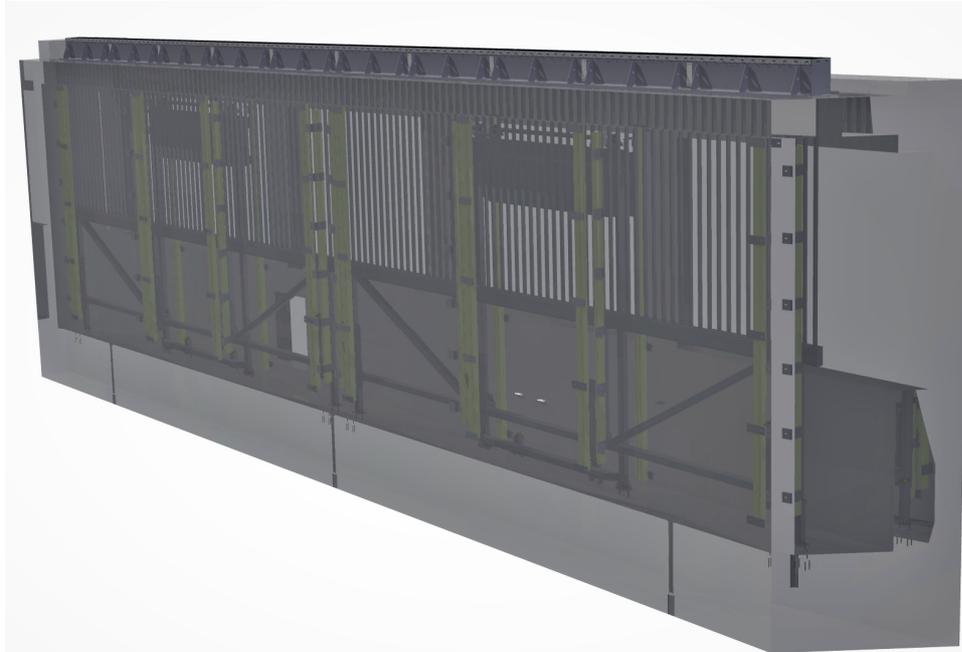
- instead of bar filling, optionally, closed sheet metal filling or perforated steel plate filling or self-supporting palings (with or without crossbars) in a powder-coated version

Torwerk-assembly service:

Every configured rising gate is delivered in pre-assembled units and it is wired internally as far as possible. The assemblers need to erect the system according to the assembly plans, adjusted to the location. Instructed technicians are absolutely required for the assembly and commissioning on-site. A qualified electrician connects the gate to the power supply, to the external control elements, to light barriers as well as to possible induction loops.

RISING GATE- SELF-SUPPORTING SF-165

Structural Particularities

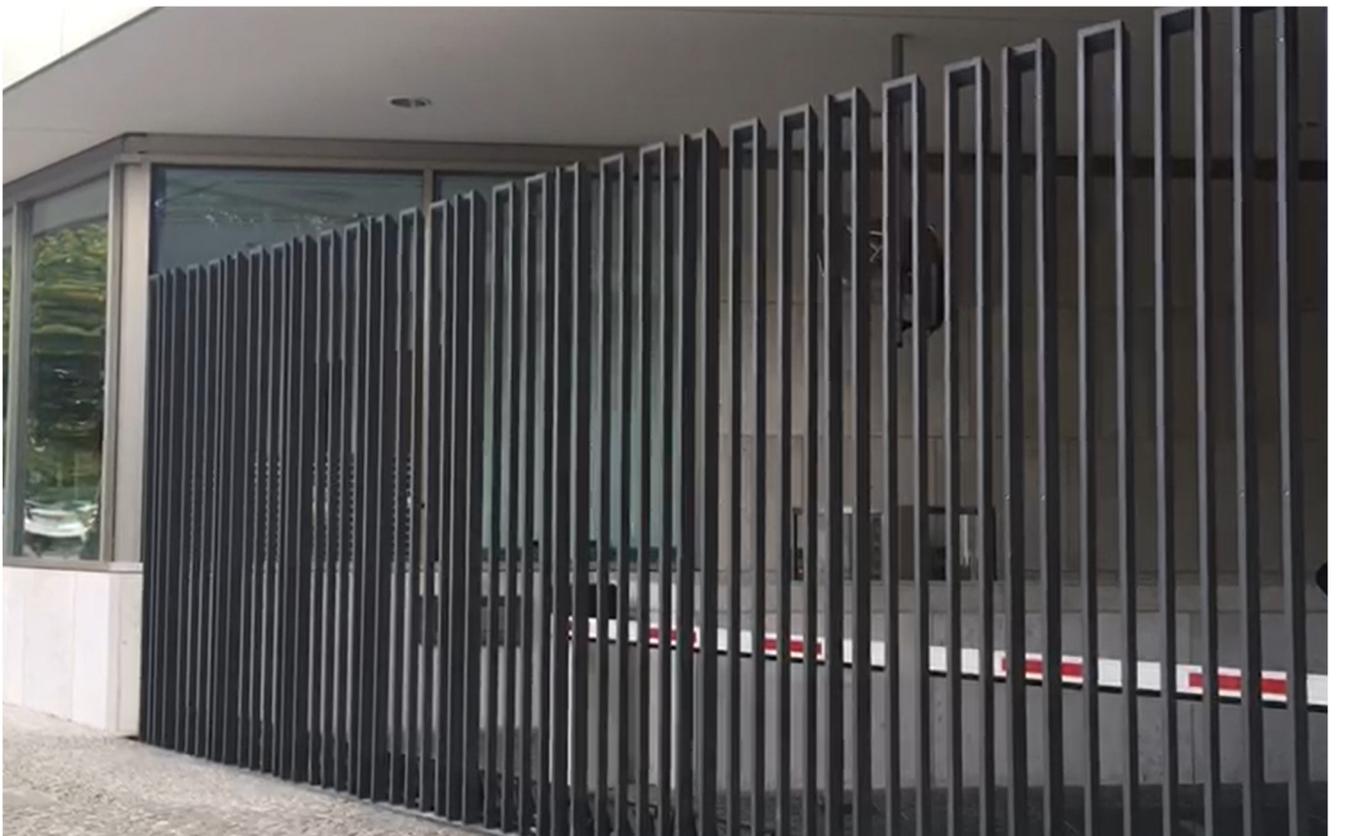


RISING GATE- SELF-SUPPORTING SF-165

Chronology – Rising the Gate



RIISING GATE- SELF-SUPPORTING SF-165



RISING GATE- SELF-SUPPORTING SF-165



Construction: Maik Brunner / Siegmund Huth / Kathrin Krebs
Electrotechnical Equipment: Stefan Carl / Matthias Martius

RISING GATE- SELF-SUPPORTING SF-165

Notes

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