

LEMOS

The Modular Modernisation Solution

Modernisation modular – partial or full modernisation.
Rated loads up to 1050 kg with a speeds up to 1 m/s.



System advantages



Flexible degree of modernisation

With LEMoS, you can individually modernise by using single components in your elevator installation or perform a complete modernisation. The limits are fluid.

What is special about this system is that you can also leave parts in your installation for which replacement would not be technically necessary or make economic sense. This flexibility is unique and carves out a distinct place for LEMoS! LEMoS opens the possibility of a dust-free conversion process and shortening of the conversion time. LEMoS can provide all the mechanical components that can be combined with any control systems available on the market.

Optimisation possibilities

The LEMoS elevator system is specially tailored to the high, individual requirements in modernisation.

Regardless of which aspects are important to you during modernisation, with LEMoS you can optimise and combine them with one another unlike with any other system.

We will work together with you to find the optimal solution for your elevator installation, individually tailored to your requirements and wishes.



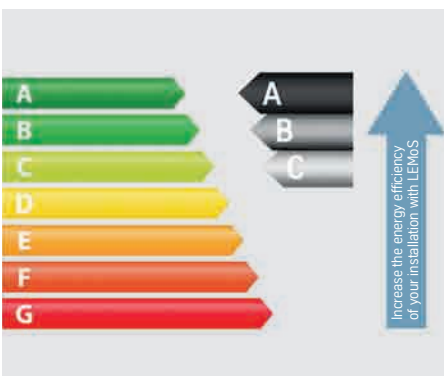
LEMoS with gearless drive



LEMoS with geared drive

Flexibility in the drive solution

At LEMoS we use cutting-edge drive solutions which are matched to the particular requirements in modernisation. The optimum solution for your installation is chosen from a wide range of gearless and geared drives to suit the application.



Energy efficiency

With the flexible LEMoS system, you can – depending on the scope of the modernised components – considerably improve energy efficiency compared to your existing installation.

You can make significant savings for example with the use of standby operation mode or by using frequency inverters with energy recovery capability.

Modern LED lighting also increases your energy savings.

All components used by LEMoS are designed so that your modernised installation achieves high levels of energy efficiency in accordance with VDI 4707.

You can thereby make a considerable contribution to the reduction of ongoing operating and energy costs and the lowering of CO₂ emissions.

System advantages / Elevator car P450SV/P1000SV

System perspective

The existing installation is adapted using state of the art technology to provide the very best technical solution within the framework of a modernisation.

The customers requirements with regard to his installation and compliance with all current regulations are also considered during planning, project implementation.

For a comprehensive modernisation the elevator car component is of central importance. Important aspects here are:

- Safety requirements in acc. with EN81-1
- Requirements from the German regulation for operational safety of machinery
- Requirements in acc. with EN 81-70 regarding access for persons with disabilities
- Energy efficiency in acc. with VDI 4707
- Sound insulation requirements

- Improved comfort and design with of space utilisation
- Reusing as many non-value existing components as possible, such as rails, counterweight and possibly door frame, i. e. dust-free conversion and a reduction of costs to the customer.
- Rapid conversion and short down times

Scope of supply and performance

- Project planning base on the existing shaft dimensions provide the best shaft utilisation thanks to variable elevator car dimensions
- Modular modernisation in various stages as an option
- Drive technology, safety components, elevator car, doors as per customer requirements, shaft equipment (rails, bracket, counterweight)



- Combination with any control systems and operating and elements available on the market

The elevator car, flexible for modernisation

In modernisation there are many constraints that must be taken into consideration in the complex planning of a lift modernisation. From the customer perspective the elevator car is one of the main visible components that must satisfy the requirements with regard to size – disability friendly requirements and design.

With the P450SV and P1000SV elevator car series we offer an elevator car that is flexible and adaptable to modernisation needs. The elevator car is a self-supporting construction with integrated car sling for 1:1 suspension.

The shaft width and depth dimensions can be adapted in millimetre increments to the existing site conditions ensuring all available area is used. Different elevator car heights are available, together with doors of different manufacturers.

As a result of planning the shaft cross-section we can prepared the offer precisely meeting the customers needs.

Innovation

- Specially developed for modernisation
- Enlarged elevator car thanks to optimum shaft utilisation
- Variable concept with flexible width, depth and height dimensions
- Integrated ventilation slots in the car front wall
- Flexible door mountings
- Fast and simple assembly (thanks to integrated positioning aids)
- Adaptable off-centre suspension during assembly (for subsequent alignment of the installed elevator car in the shaft)

Efficiency

- Self-supporting elevator car without car sling with 1:1 suspension
- Compact and variable elevator car
- Largest possible available car floor area
- Elevator car configurable in millimetre increments

Reliability

- Strict quality inspection ensures high quality of all installed components
- Guarantee of the long term supply of spare parts
- Reduced down times and faults

Variability

- From the basic model (galvanised elevator car) to individual full equipment specification – everything is possible
- Large number of interfaces (e.g. doors of different manufacturers)
- Different materials possible

Environment

- Energy-efficient production with cutting-edge manufacturing technologies
- Use of recyclable materials
- Optimised use of materials
- Energy-saving LED lighting

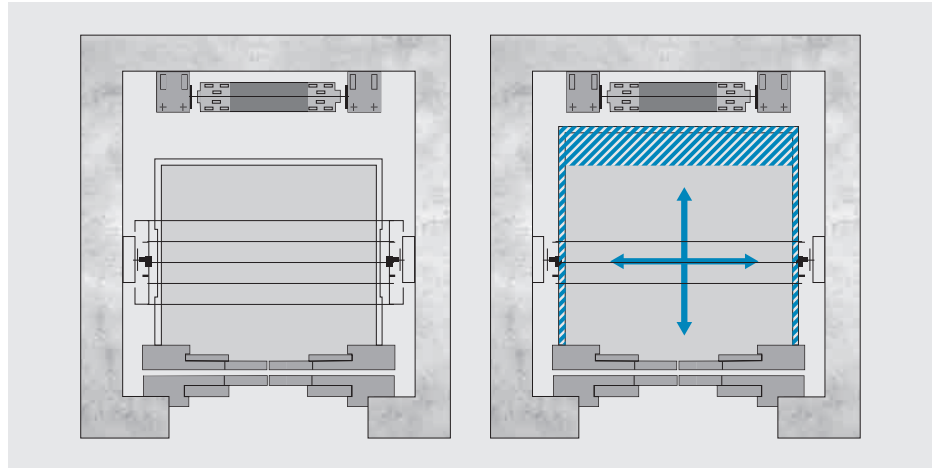
Modernisation – optimised to your requirements

Space optimisation

Older elevator installations frequently have smaller car dimensions which fail to meet today's demands for comfort and legal requirements. In existing buildings you cannot however, change the shaft dimensions.

With the LEMoS system, we offer you the unique possibility to make better use of the existing shaft and use the largest possible elevator car.

The new, self-supporting elevator car has a compact, load-bearing structure and can be adjusted to fit the existing shaft in millimetre increments. In addition, space-optimised shaft equipment and doors with reduced depth can be used.



All measures serve to offer the passengers a more spacious elevator car and to improve the handling capacity of the installation. Older people and people with disabilities will, in particular, be very much appreciate the additional freedom of movement.

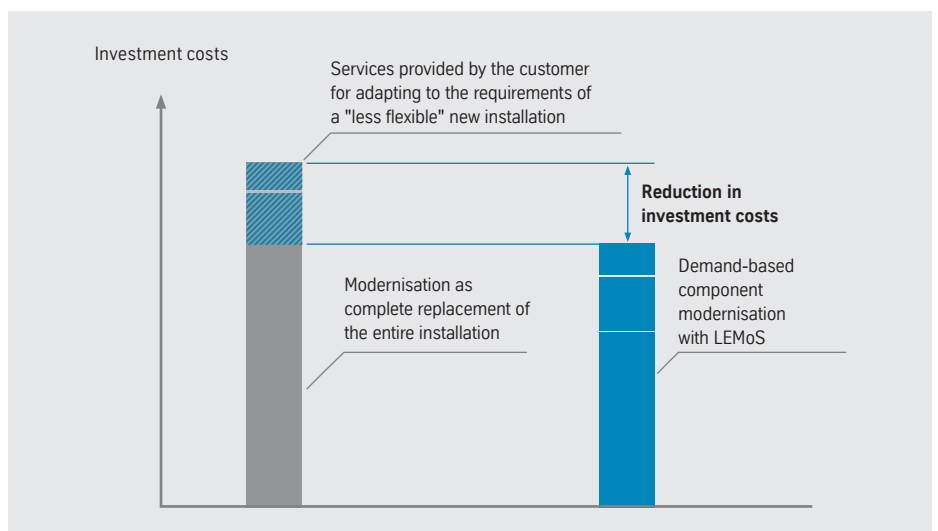
With the flexible LEMoS system you can if you wish naturally use your existing elevator car or retain the car dimensions.

Cost optimisation

In the development of the LEMoS system, we have placed special emphasis on the aspect of economic efficiency in modernisation. This applies both to the investment for the modernisation itself as well as to the ongoing running costs.

The LEMoS components have such flexible interfaces that all parts which are exposed to little wear and do not need to be replaced, such as for example guide rails and counterweights. This reduces the modernisation costs as well as the installation time. Parts of the shaft equipment, landing doors or door frames can frequently be re used.

The LEMoS components represent the latest state of the art equipment and manufacturing techniques. They are optimised for long service life and low power consumption.



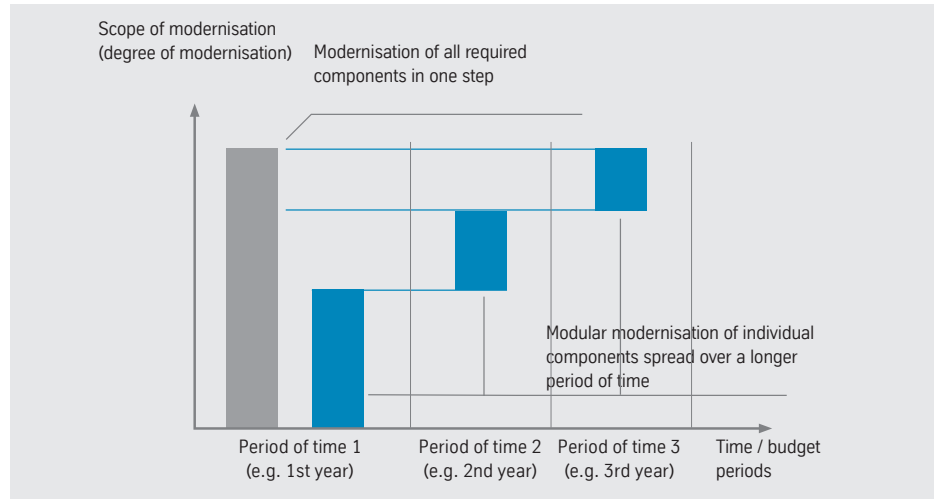
The ongoing operating expenses are significantly reduced.

Modernisation – optimised to your requirements

Budget optimisation 'Step by Step' modernisation

Depending on scope, the modernisation of your elevator installation may represent a larger investment. If you prefer to spread these costs over several budget periods or years, we can prepare a modernisation plan work within your budget. This takes into account both the technical necessities as well as your budget.

The modernisation of individual components then takes place over a longer period of time, spread over several stages. The down time is, of course, kept to a minimum during the work. Between the individual stages of the modernisation, you will always have available a safe and fully functional elevator installation.



The scope and features of the individual modernisation packets can be freely selected and can be adapted to the available budget. The matched LEMoS system

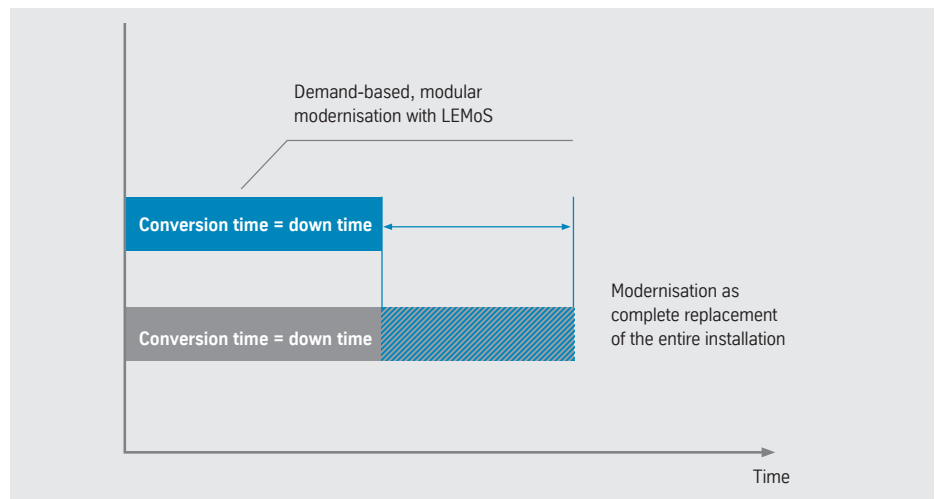
ensures that all components go together perfectly. When all measures have been completed, you get a modernised elevator that represents the latest state of the art equipment.

Optimisation of the conversion time

During extensive modernisation, down times of your elevator installation cannot be completely avoided. With the LEMoS system, we can, however, keep this to a minimum with concern for the passengers.

Parts of the system which are exposed to minimal wear or which would require considerable time to replace, such as the shaft equipment (rails, bracket, counterweight), can be integrated in your modernised elevator and continue to be used due to the high flexibility of the components.

Compared to a complete replacement, this eliminates time-intensive and costly measures. In addition, with the modular LEMoS system, we can prepare a phased modernisation schedule for you in which the modernisation measures are performed during times of low use.



A shortened conversion time and fewer measures performed by the customer also reduce stress for the building tenants caused by noise and dirt. Less additional work is necessary for adapting the doors on the landing.

Modernisation according to individual requirements

Control system

- Our components are tested with all the control systems available on the market
- Energy efficiency options such as standby and sleep mode can be activated in our components

Drive and control

- Very smooth running
- Reduction of operating costs through energy savings
- Increase in safety level
- Maximum efficiency
- Energy recovery optional

Safety technology

- Increase in the safety level to the current state of the art
- Fulfilment of the obligations of the installation operator
- Reliable increase in the availability of the installation

Shaft equipment

- Optimal utilisation of space in the shaft
- Larger dimensions of the elevator car possible
- Flexible components, such as counterweight, rail bracket ...
- Reduction of running noise

Pictured:
- with gearless drive
in the machine room

Modernisation according to individual requirements



Landing and car door

- Reduction of door operating times
- Increase in safety level
- Designed to accommodate disabled passengers by means of light grid
- Increase in installation availability
- Modern, attractive appearance
- Doors with different door mounting dimensions

Elevator car

- Maximization of car dimensions possible
- Increase in the rated load possible
- Modern, attractive design
- Positive effect on image & increase in building value

Lighting

- Design possibilities through light for a relaxing atmosphere
- Energy- and cost-saving LED lighting
- Integrable emergency light function
- Long working life, considerably reduced maintenance expenses

Operating and indicator elements

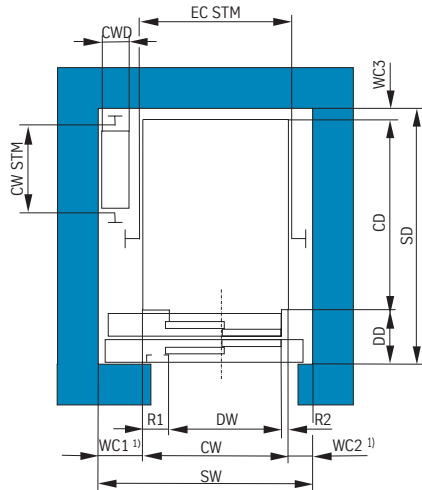
- The choice can be made with all the elements combinable for the selected control system
- Elderly- and disabled-friendly design in acc. with EN 81-70

Pictured:
- with geared drive
in the machine room

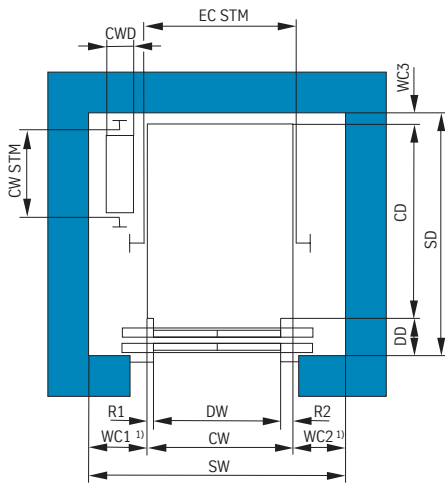
Project planning and performance data (side counterweight)

Rated load $320 \text{ kg} \leq Q \leq 550 \text{ kg}$

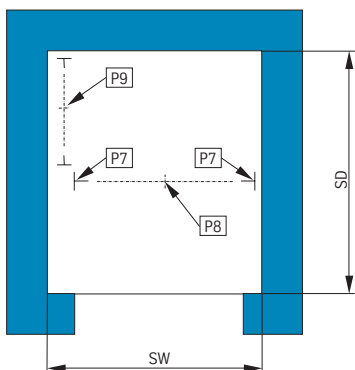
Shaft layout with side-opening door



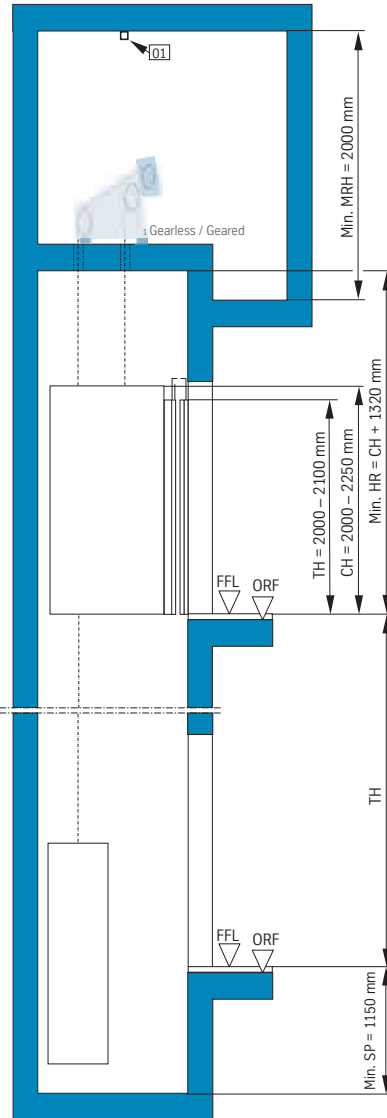
Shaft layout with centre-opening door



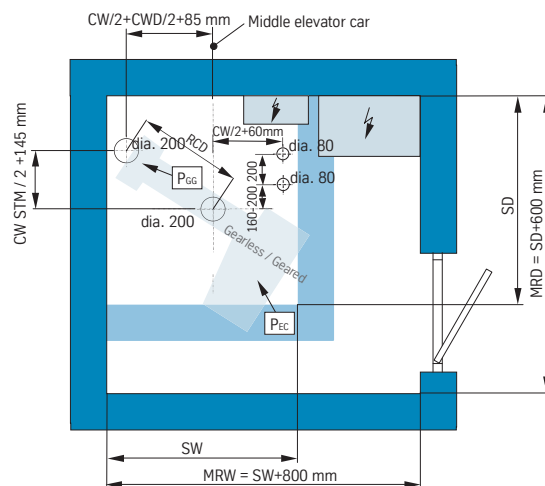
Shaft pit



R1 - door recess, left
 R2 - door recess, right
¹⁾ The larger value is valid.
 For the values C1 and C2
 see table on Pages 17/18.
 Pictured load points in the machine
 room for gearless drive.



Machine room



Project planning and performance data (side counterweight)

Rated load $320 \text{ kg} \leq Q \leq 550 \text{ kg}$

Performance data and principal dimensions with side counterweight without dual entrance (rope suspension 1:1)

| Rated load ¹ | Q | [kg] | 320 | 350 | 375 | 400 | 425 | 450 | 500 | 550 |
|---|-----------------------|--------------|--|------|------|------|------|------|------|------|
| Speed | v | [m/s] | 1.0 | | | | | | | |
| Max. travel height | TH | [m] | 40 | | | | | | | |
| Dual entrance | | | No | | | | | | | |
| Number of passengers | | | 4 | | 5 | | | 6 | | 7 |
| Car width | (in 1 mm steps) | Min. CW [mm] | 800 | | | | | | | |
| | | Max. CW [mm] | 850 | 900 | 950 | 1000 | 1100 | 1150 | 1250 | 1350 |
| Car depth | (in 1 mm steps) | Min. CD [mm] | 1050 | | | | | | | |
| | | Max. CD [mm] | 1100 | 1200 | 1300 | 1350 | 1450 | 1500 | 1550 | 1650 |
| Car height | CH | [mm] | 2000 – 2250 (min. CH = DH; max. CH = DH + 150 mm) | | | | | | | |
| Side wall clearance, side GG | WC1 | [mm] | 225 (for counterweight depth 100 mm) | | | | | | | |
| | WC2 | [mm] | 140 – 300 | | | | | | | |
| Shaft width | Min. SW ² | [mm] | 1165 | | | | | | | |
| | Max. SW ² | [mm] | 1375 | 1425 | 1475 | 1525 | 1625 | 1675 | 1775 | 1875 |
| Rear wall clearance | Min. WC3 ³ | [mm] | 70 | | | | | | | |
| Door packet thickness | DD | [mm] | 155 – 295 (depending on door model and door type, see Pages 17/18) | | | | | | | |
| Shaft depth | Min. SD | [mm] | 1300 | | | | | | | |
| | Max. SD | [mm] | 1490 | 1590 | 1690 | 1740 | 1840 | 1890 | 1940 | 2040 |
| Headroom height | Min. HR | [mm] | 3320 – 3570 (Min. HR = CH + 1320 mm) | | | | | | | |
| Pit depth | Min. SP | [mm] | 1150 / 1550 ⁴ | | | | | | | |
| Clearance - rail bracket | Max. l | [mm] | 2500 | 2450 | 2400 | 2200 | 2150 | 2100 | 2000 | 2000 |
| Distance between elevator car guide rails | EC STM | [mm] | CW + 40 | | | | | | | |
| Rope clearance dimension | RCD | [mm] | variable | | | | | | | |
| Load point in machine room | P _{GG} | [kN] | 35.7 | 36.8 | 37.5 | 38.5 | 39.9 | 40.9 | 43.0 | 48.4 |
| Load point in machine room | P _{EC} | [kN] | 19.2 | 19.9 | 20.3 | 20.8 | 21.5 | 22.1 | 23.2 | 26.1 |
| Installation eye in machine room | E1 | [kN] | 5.0 | | | | | | | |
| Load point in the shaft pit | P7 | [kN] | 13.1 | 13.6 | 13.9 | 14.3 | 13.7 | 14.1 | 16.0 | 17.4 |
| Load point in the shaft pit | P8 | [kN] | 40.5 | 42.2 | 43.8 | 45.3 | 43.1 | 44.8 | 52.3 | 58.7 |
| Load point in the shaft pit | P9 | [kN] | 32.3 | 33.4 | 34.1 | 34.9 | 36.4 | 36.9 | 39.4 | 44.1 |

¹⁾ The rated load depends on the car dimensions and on the installed car door. To determine the actual rated load, see table "Rated load depending on car width and car depth" on Page 15. ²⁾ The values for the lateral wall clearances WC1/WC2 and the resulting shaft widths have unrestricted validity only if the existing doors are retained. As soon as new doors are installed, the permissible values for the shaft width must be determined depending on the door model, the door type and the door width. See table "Dimensions of the landing doors for project planning" on Pages 17/18. ³⁾ The horizontal, free clearance between outer edge of the elevator car and shaft rear wall must be at least 50 mm (including installation tolerances). The specified dimension also contains the installation depth of the wall panels of 20 mm, because it is referred to the car inner side. ⁴⁾ The minimum pit depth is 1550 mm for CW x CD = 800 x 1100 - 1200 mm and for CW x CD = 850 x 1150 - 1200 mm.

Determination of the maximum possible car dimensions with side counterweight (rope suspension 1:1)

| | | | | | | |
|------------------|---|-------------|---|---------------------------|---|---------------------------|
| Car width | = | Shaft width | - | Wall clearance, left | - | Wall clearance, right |
| CW | = | SW | - | WC1 | - | WC2 |
| CW | = | SW | - | (C1 - R1 + IT + "air") | - | (C2 - R2 + IT + "air") |
| CW | = | SW | - | (C1 - R1 + 25 mm + 10 mm) | - | (C2 - R2 + 25 mm + 10 mm) |
| Max. CW | = | SW | - | 225 mm | - | 140 mm |

| | | | | |
|------------------|---|-------------------------|---|--|
| Car width | = | Car gauge between rails | - | 2 x distance from elevator car to rail |
| CW | = | CGBR | - | 2 x 20 mm |

Without dual entrance

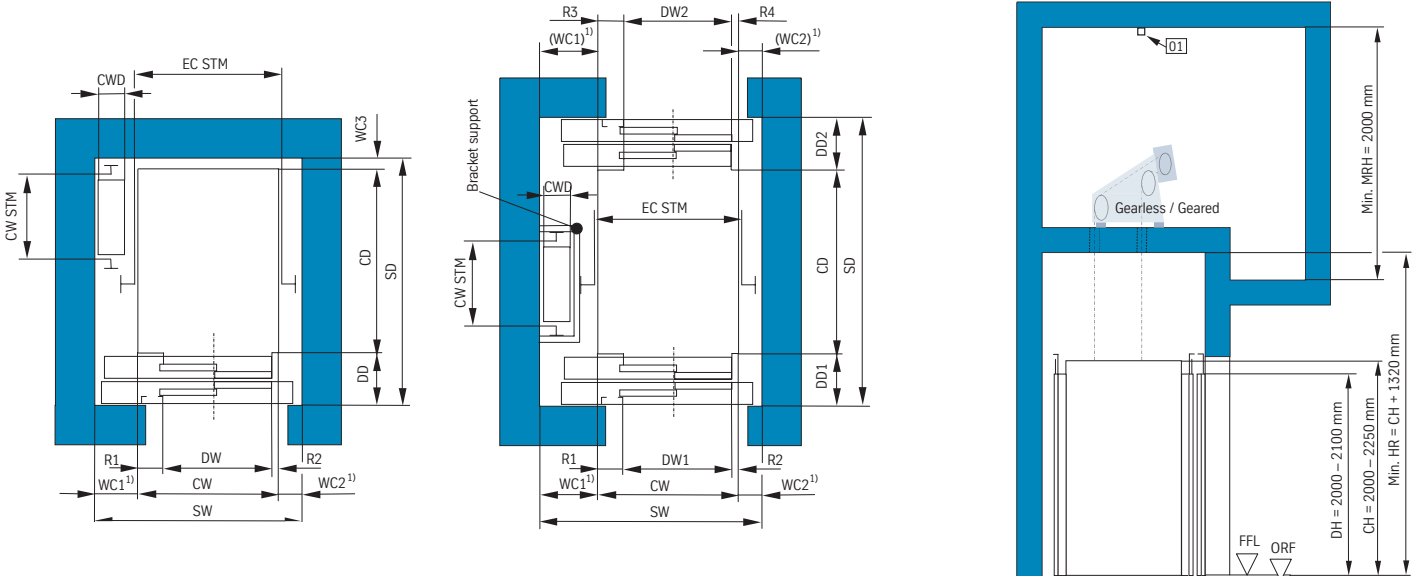
| | | | | | | | | |
|------------------|---|-------------|---|-----------------------|---|---------------------|---|-----------------------------------|
| Car depth | = | Shaft depth | - | Door packet thickness | - | Rear wall clearance | - | Installation tolerance, door side |
| CD | = | SD | - | DD | - | WC3 | - | IT |
| CD | = | SD | - | (155 to 295 mm) | - | 70 mm | - | 25 mm |
| Max. CD | = | SD | - | 155 mm | - | 70 mm | - | 25 mm |

IT – installation tolerance ($\pm 25 \text{ mm}$); C1 / C2 – door dimensions, space requirements of the door panels in shaft width; R1 – door recess, left; R2 – door recess, right; installation tolerances of $\pm 25 \text{ mm}$ each are included in wall clearance dimensions WC1, WC2 and WC3.

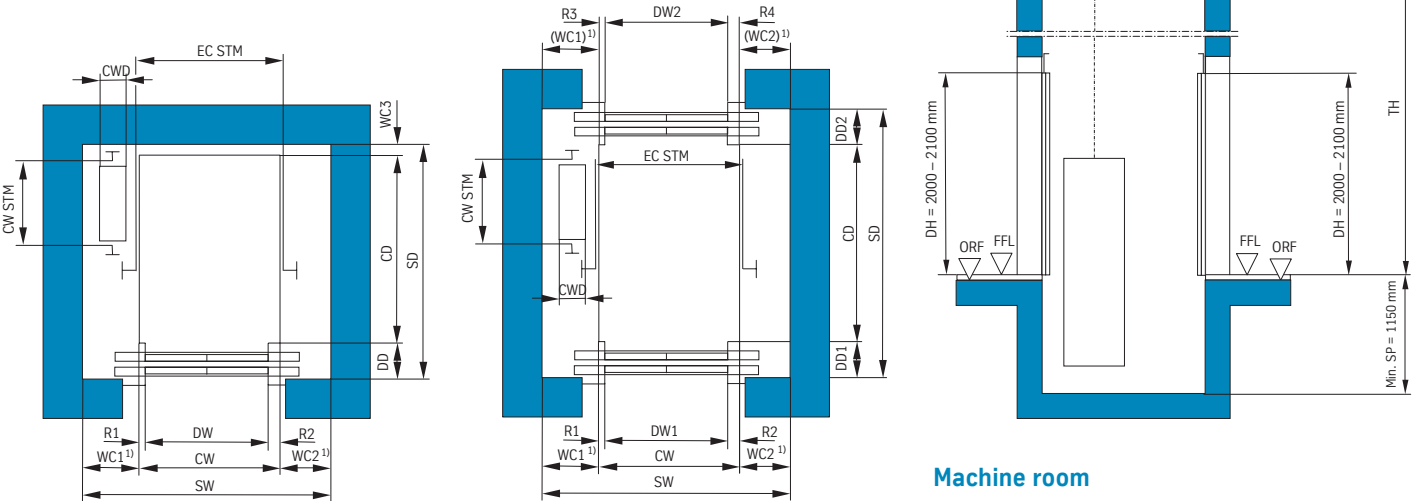
Project planning and performance data (side counterweight)

Rated load $630 \text{ kg} \leq Q \leq 1050 \text{ kg}$

Shaft layout with side-opening door

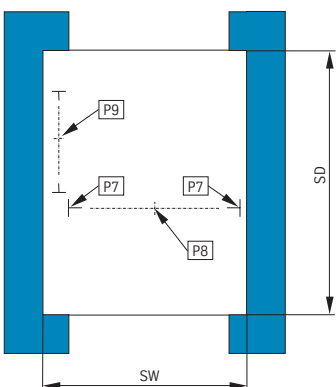


Shaft layout with centre-opening door



Machine room

Shaft pit

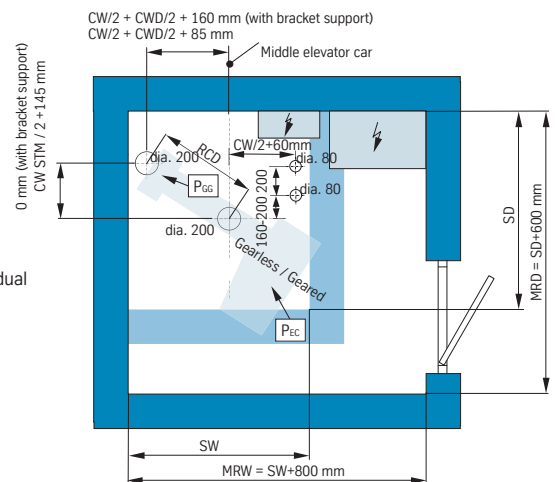


Prerequisites for version with dual entrance:
 Door recess dimension R1 or R2 $\geq 90 \text{ mm}$ on main entrance side and R3 or R4 $\geq 90 \text{ mm}$ on rear side; dual entrance is not otherwise possible.

R1 - door recess, left
 R2 - door recess, right
¹⁾ The larger value is valid.

For the values C1 and C2 see table on Pages 17/18.

Pictured load points in the machine room for gearless drive.



Project planning and performance data (side counterweight)

Rated load $630 \text{ kg} \leq Q \leq 1050 \text{ kg}$

Performance data and principal dimensions with side counterweight without / with dual entrance (rope suspension 1:1)

| Rated load ¹ | Q | [kg] | 630 | 750 | 825 | 900 | 1000 | 1050 |
|---|-------------------------|--------------|--|------|------|------|------|-------|
| Speed | v | [m/s] | 1.0 | | | | | |
| Max. travel height | TH | [m] | 40 | | | | | |
| Dual entrance | | | Yes/No | | | | | |
| Number of passengers | | | 8 | 10 | 11 | 12 | 13 | 14 |
| Car width | (in 1 mm steps) | Min. CW [mm] | 900 | | 1000 | | 1100 | |
| | | Max. CW [mm] | 1500 | | 1600 | | | |
| Car depth | (in 1 mm steps) | Min. CD [mm] | 1050 | 1150 | 1200 | 1300 | 1450 | |
| | | Max. CD [mm] | 1750 | 2000 | 2100 | | | |
| Car height | CH | [mm] | 2000 – 2250 (min. CH = DH; max. CH = DH + 150 mm) | | | | | |
| Side wall clearance, side GG | WC1 | [mm] | 255 (without bracket support); 330 (with bracket support) ² | | | | | |
| | WC2 | [mm] | 140 – 300 | | | | | |
| Shaft width | Min. SW ³ | [mm] | 1295 | | 1395 | | 1495 | |
| | Max. SW ³ | [mm] | 2130 | | | | | 2230 |
| Rear wall clearance | Min. WC3 ⁴ | [mm] | 70 (without dual entrance) | | | | | |
| Door packet thickness | DD | [mm] | 155 – 295 (depending on door model and door type, see Pages 17/18) | | | | | |
| Shaft depth | (without dual entrance) | Min. SD [mm] | 1300 | 1400 | 1450 | 1550 | 1700 | |
| | (without dual entrance) | Max. SD [mm] | 2140 | 2390 | 2490 | | | |
| | (with dual entrance) | Max. SD [mm] | 2390 | 2640 | 2740 | | | |
| Headroom height | Min. HR | [mm] | 3320 – 3570 (min. HR = CH + 1320 mm) | | | | | |
| Pit depth | Min. SP | [mm] | 1150 | | | | | |
| Clearance - rail bracket | Max. I | [mm] | 2750 | | 2500 | | 2200 | |
| Distance between elevator car guide rails | EC STM | [mm] | CW + 40 | | | | | |
| Rope clearance dimension | RCD | [mm] | variable | | | | | |
| Load point in machine room | P _{GG} | [kN] | 63.9 | 68.2 | 70.9 | 73.6 | 77.4 | |
| Load point in machine room | P _{ec} | [kN] | 34.4 | 36.7 | 38.2 | 39.7 | 41.7 | |
| Installation eye in machine room | E1 | [kN] | 10.0 | | | | | |
| Load point in the shaft pit | P7 | [kN] | 24.0 | 25.5 | 26.5 | 27.5 | 29.0 | 30.5 |
| Load point in the shaft pit | P8 | [kN] | 75.0 | 81.5 | 86.0 | 90.5 | 97.0 | 101.5 |
| Load point in the shaft pit | P9 | [kN] | 59.0 | 62.5 | 65.5 | 68.0 | 69.0 | 72.5 |

¹⁾ The rated load depends on the car dimensions and on the installed car door. To determine the actual rated load, see table "Rated load depending on car width and car depth" on Pages 15/16. ²⁾ Without dual entrance: WC1 = 255 mm (without bracket support) with min. CD >= 1520 mm, otherwise WC1 = 330 mm (with bracket support). With dual entrance: WC1 = 255 mm (without bracket support) with min. CD >= 1680 mm, otherwise WC1 = 330 mm (with bracket support). ³⁾ The values for the lateral wall clearances WC1/WC2 and the resulting shaft widths have unrestricted validity only if the existing doors are retained. As soon as new doors are installed, the permissible values for the shaft width must be determined depending on the door model, the door type and the door width. See table "Dimensions of the landing doors for project planning" on Pages 17/18. ⁴⁾ The horizontal, free clearance between outer edge of the elevator car and shaft rear wall must be at least 50 mm (including installation tolerances). The specified dimension also contains the installation depth of the wall panels of 20 mm, because it is referred to the car inner side.

Determination of the maximum possible car dimensions with side counterweight (rope suspension 1:1)

| Car width | = | Shaft width | - | Wall clearance, left | - | Wall clearance, right |
|------------------|---|-------------|---|---------------------------|---|---------------------------|
| CW | = | SW | - | WC1 | - | WC2 |
| CW | = | SW | - | (C1 - R1 + IT + "air") | - | (C2 - R2 + IT + "Luft") |
| CW | = | SW | - | (C1 - R1 + 25 mm + 10 mm) | - | (C2 - R2 + 25 mm + 10 mm) |
| Max. CW | = | SW | - | 255 mm | - | 140 mm |

| Car width | = | Car gauge between rails | - | 2 x distance from elevator car to rail |
|------------------|---|-------------------------|---|--|
| CW | = | CGBR | - | 2 x 20 mm |

Without dual entrance

| Car depth | = | Shaft depth | - | Door packet thickness | - | Rear wall clearance | - | Installation tolerance, door side |
|------------------|---|-------------|---|-----------------------|---|---------------------|---|-----------------------------------|
| CD | = | SD | - | DD | - | WC3 | - | IT |
| CD | = | SD | - | (155 to 295 mm) | - | 70 mm | - | 25 mm |
| Max. CD | = | SD | - | 155 mm | - | 70 mm | - | 25 mm |

With dual entrance

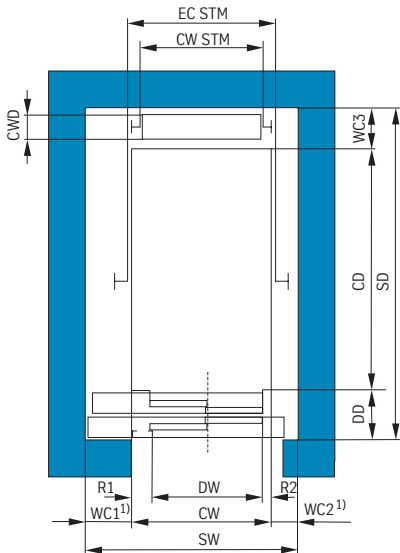
| Car depth | = | Shaft depth | - | Thickness of door packet (1st entrance) | - | Thickness of door packet (2nd entrance) | - | 2 x installation tolerance, door sides |
|------------------|---|-------------|---|---|---|---|---|--|
| CD | = | SD | - | DD (1st entrance) | - | DD (2nd entrance) | - | 2 x IT |
| CD | = | SD | - | (155 to 295 mm) | - | (155 to 295 mm) | - | 2 x 25 mm |
| Max. CD | = | SD | - | 155 mm | - | 155 mm | - | 50 mm |

IT – installation tolerance (± 25 mm); C1 / C2 – door dimensions, space requirements of the door panels in shaft width; R1 – door recess, left; R2 – door recess, right; installation tolerances of ± 25 mm each are included in wall clearance dimensions WC1, WC2 and WC3.

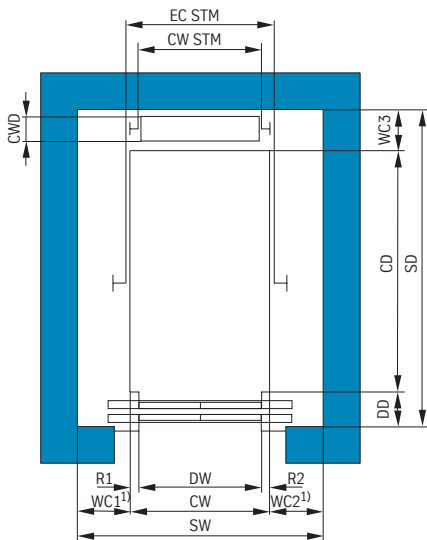
Project planning and performance data (rear counterweight)

Rated load $320 \text{ kg} \leq Q \leq 550 \text{ kg}$

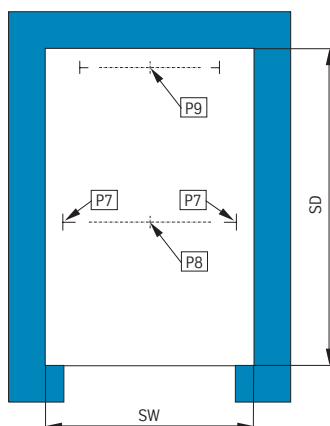
Shaft layout with side-opening door



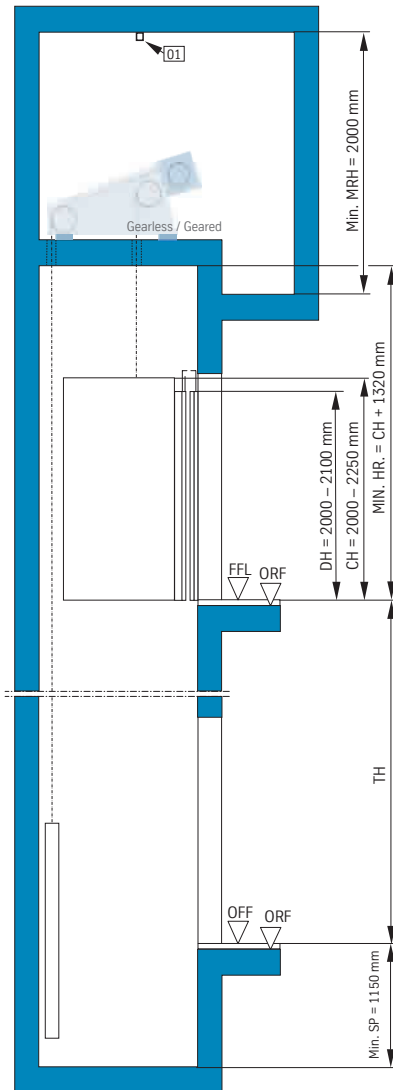
Shaft layout with centre-opening door



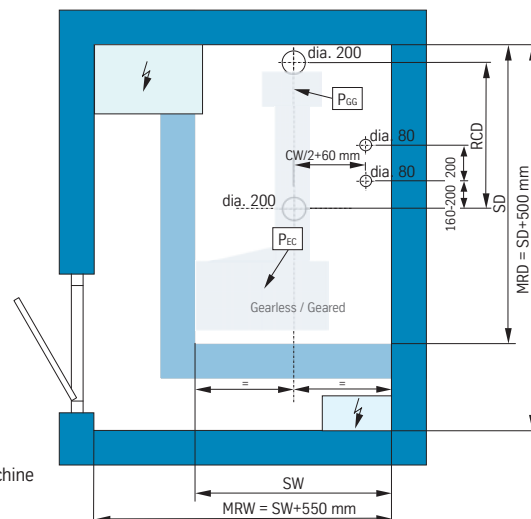
Shaft pit



R1 - door recess, left
 R2 - door recess, right
¹⁾ The larger value is valid.
 For the values C1 and C2
 see table on Pages 17/18.
 Pictured load points in the machine
 room for gearless drive.



Machine room



Project planning and performance data (rear counterweight)

Rated load $320 \text{ kg} \leq Q \leq 550 \text{ kg}$

Performance data and principal dimensions with rear counterweight without dual entrance (rope suspension 1:1)

| Rated load ¹ | Q | [kg] | 320 | 350 | 375 | 400 | 425 | 450 | 500 | 550 |
|---|----------------------|--------------|--|------|------|------|------|------|------|------|
| Speed | v | [m/s] | 1.0 | | | | | | | |
| Max. travel height | TH | [m] | 40 | | | | | | | |
| Dual entrance | | | No | | | | | | | |
| Number of passengers | | | 4 | | 5 | | | 6 | | 7 |
| Car width | (in 1 mm steps) | Min. CW [mm] | 800 | | | | | | | |
| | | Max. CW [mm] | 1050 | 1100 | 1200 | 1300 | 1350 | 1400 | | |
| Car depth | (in 1 mm steps) | Min. CD [mm] | 850 | | | | | | | |
| | | Max. CD [mm] | 1100 | 1200 | 1300 | 1350 | 1450 | 1500 | 1550 | 1650 |
| Car height | CH | [mm] | 2000 – 2250 (min. CH = DH; max. CH = DH + 150 mm) | | | | | | | |
| Side wall clearance, side GG | WC1/WC2 | [mm] | 140 – 300 | | | | | | | |
| Shaft width | Min. SW ² | [mm] | 1080 | | | | | | | |
| | Max. SW ² | [mm] | 1650 | 1700 | 1800 | 1900 | 1950 | 2000 | | |
| Rear wall clearance | WC3 ³ | [mm] | 225 (for counterweight 100 mm) | | | | | | | |
| Door packet thickness | DD | [mm] | 155 – 295 (depending on door model and door type, see Pages 17/18) | | | | | | | |
| Shaft depth | Min. SD | [mm] | 1255 ⁴ | | | | | | | |
| | Max. SD | [mm] | 1645 | 1745 | 1845 | 1895 | 1945 | 2045 | 2095 | 2195 |
| Headroom height | Min. HR | [mm] | 3320 – 3570 (min. HR = CH + 1320 mm) | | | | | | | |
| Pit depth | Min. SP | [mm] | 1150 / 1550 ⁵ | | | | | | | |
| Clearance - rail bracket | Max. I | [mm] | 2500 | 2450 | 2400 | 2200 | 2150 | 2100 | 2000 | 2000 |
| Distance between elevator car guide rails | EC STM | [mm] | CW + 40 | | | | | | | |
| Rope clearance dimension | RCD | [mm] | variable | | | | | | | |
| Load point in machine room | P _{eg} | [kN] | 35.7 | 36.8 | 37.5 | 38.5 | 39.9 | 40.9 | 43.0 | 48.4 |
| Load point in machine room | P _{ec} | [kN] | 19.2 | 19.9 | 20.3 | 20.8 | 21.5 | 22.1 | 23.2 | 26.1 |
| Installation eye in machine room | E1 | [kN] | 5.0 | | | | | | | |
| Load point in the shaft pit | P7 | [kN] | 13.1 | 13.6 | 13.9 | 14.3 | 13.7 | 14.1 | 16.0 | 17.4 |
| Load point in the shaft pit | P8 | [kN] | 40.5 | 42.2 | 43.8 | 45.3 | 43.1 | 44.8 | 52.3 | 58.7 |
| Load point in the shaft pit | P9 | [kN] | 32.3 | 33.4 | 34.1 | 34.9 | 36.4 | 36.9 | 39.4 | 44.1 |

¹⁾ The rated load depends on the car dimensions and on the installed car door. To determine the actual rated load, see table "Rated load depending on car width and car depth" on Page 15. ²⁾ The values for the lateral wall clearances WC1/WC2 and the resulting shaft widths have unrestricted validity only if the existing doors are retained. As soon as new doors are installed, the permissible values for the shaft width must be determined depending on the door model, the door type and the door width. See table "Dimensions of the landing doors for project planning" on Pages 17/18. ³⁾ The horizontal, free clearance between outer edge of the elevator car and outer edge of the counterweight must be at least 50 mm (including installation tolerances). The specified dimension also contains the installation depth of the wall panels of 20 mm, because it is referred to the car inner side. ⁴⁾ Smaller shaft depths are possible on request and after the project planning has been technically reviewed. ⁵⁾ The minimum pit depth is 1550 mm for CW x CD = 800 x 1100 - 1200 mm and for CD = 850 to 950 mm.

Determination of the maximum possible car dimensions with rear counterweight (rope suspension 1:1)

| | | | | | | |
|------------------|---|-------------|---|---------------------------|---|---------------------------|
| Car width | = | Shaft width | - | Wall clearance, left | - | Wall clearance, right |
| CW | = | SW | - | WC1 | - | WC2 |
| CW | = | SW | - | (C1 - R1 + IT + "air") | - | (C2 - R2 + IT + "air") |
| CW | = | SW | - | (C1 - R1 + 25 mm + 10 mm) | - | (C2 - R2 + 25 mm + 10 mm) |
| Max. CW | = | SW | - | 140 mm | - | 140 mm |

| | | | | |
|------------------|---|-------------------------|---|--|
| Car width | = | Car gauge between rails | - | 2 x distance from elevator car to rail |
| CW | = | CGBR | - | 2 x 20 mm |

Without dual entrance

| | | | | | | | | |
|------------------|---|-------------|---|-----------------------|---|---------------------|---|-----------------------------------|
| Car depth | = | Shaft depth | - | Door packet thickness | - | Rear wall clearance | - | Installation tolerance, door side |
| CD | = | SD | - | DD | - | WC3 | - | IT |
| CD | = | SD | - | (155 to 295 mm) | - | 225 mm | - | 25 mm |
| Max. CD | = | SD | - | 155 mm | - | 225 mm | - | 25 mm |

IT – installation tolerance ($\pm 25 \text{ mm}$); C1 / C2 – door dimensions, space requirements of the door panels in shaft width; R1 – door recess, left; R2 – door recess, right; installation tolerances of $\pm 25 \text{ mm}$ each are included in wall clearance dimensions WC1, WC2 and WC3.

Project planning and performance data (rear counterweight)

Rated load $630 \text{ kg} \leq Q \leq 1000 \text{ kg}$

Performance data and principal dimensions with rear counterweight without dual entrance (rope suspension 1:1)

| Rated load ¹ | Q | [kg] | 630 | 750 | 825 | 900 | 1000 |
|---|----------------------|--------------|--|------|------|------|------|
| Speed | v | [m/s] | | | 1.0 | | |
| Max. travel height | TH | [m] | | | 40 | | |
| Dual entrance | | | | | No | | |
| Number of passengers | | | 8 | 10 | 11 | 12 | 13 |
| Car width | (in 1 mm steps) | Min. CW [mm] | | 900 | | 1000 | 1100 |
| | | Max. CW [mm] | 1500 | | 1600 | | |
| Car depth | (in 1 mm steps) | Min. CD [mm] | 1050 | 1150 | 1200 | 1300 | 1450 |
| | | Max. CD [mm] | 1750 | 2000 | | 2100 | |
| Car height | CH | [mm] | 2000 – 2250 (min. CH = DH; max. CH = DH + 150 mm) | | | | |
| Side wall clearance, side GG | WC1 | [mm] | 255 (without bracket support); 330 (with bracket support) ² | | | | |
| | WC2 | [mm] | 140 – 300 | | | | |
| Shaft width | Min. SW ² | [mm] | 1180 | | | 1280 | 1380 |
| | Max. SW ² | [mm] | 2100 | 2200 | | | |
| Rear wall clearance | WC3 ³ | [mm] | 255 (for counterweight 135 mm) | | | | |
| Door packet thickness | DD | [mm] | 155 – 295 (depending on door model and door type, see Pages 17/18) | | | | |
| Shaft depth | Min. SD | [mm] | 1485 | 1585 | 1635 | 1735 | 1885 |
| | Max. SD | [mm] | 2325 | 2575 | | 2675 | |
| Headroom height | Min. HR | [mm] | 3320 – 3570 (min. HR = CH + 1320 mm) | | | | |
| Pit depth | Min. SP | [mm] | 1150 | | | | |
| Clearance - rail bracket | Max. I | [mm] | 2750 | | | 2500 | |
| Distance between elevator car guide rails | EC STM | [mm] | CW + 40 | | | | |
| Rope clearance dimension | RCD | [mm] | variable | | | | |
| Load point in machine room | P _{GG} | [kN] | 63.9 | 68.2 | 70.9 | 73.6 | 77.4 |
| Load point in machine room | P _{ec} | [kN] | 34.4 | 36.7 | 38.2 | 39.7 | 41.7 |
| Installation eye in machine room | E1 | [kN] | 10.0 | | | | |
| Load point in the shaft pit | P7 | [kN] | 24.0 | 25.5 | 26.5 | 27.5 | 29.0 |
| Load point in the shaft pit | P8 | [kN] | 75.0 | 81.5 | 86.0 | 90.5 | 97.0 |
| Load point in the shaft pit | P9 | [kN] | 59.0 | 62.5 | 65.5 | 68.0 | 69.0 |

¹⁾ The rated load depends on the car dimensions and on the installed car door. To determine the actual rated load, see table "Rated load depending on car width and car depth" on Page 15. ²⁾ The values for the lateral wall clearances WC1/WC2 and the resulting shaft widths have unrestricted validity only if the existing doors are retained. As soon as new doors are installed, the permissible values for the shaft width must be determined depending on the door model, the door type and the door width. See table "Dimensions of the landing doors for project planning" on Pages 17/18. ³⁾ The horizontal, free clearance between outer edge of the elevator car and outer edge of the counterweight must be at least 50 mm (including installation tolerances). The specified dimension also contains the installation depth of the wall panels of 20 mm, because it is referred to the car inner side.

Determination of the maximum possible car dimensions with rear counterweight (rope suspension 1:1)

| | | | | | | |
|------------------|---|-------------|---|---------------------------|---|---------------------------|
| Car width | = | Shaft width | - | Wall clearance, left | - | Wall clearance, right |
| CW | = | SW | - | WC1 | - | WC2 |
| CW | = | SW | - | (C1 - R1 + IT + "air") | - | (C2 - R2 + IT + "air") |
| CW | = | SW | - | (C1 - R1 + 25 mm + 10 mm) | - | (C2 - R2 + 25 mm + 10 mm) |
| Max. CW | = | SW | - | 140 mm | - | 140 mm |

| | | | | |
|------------------|---|-------------------------|---|--|
| Car width | = | Car gauge between rails | - | 2 x distance from elevator car to rail |
| CW | = | CGBR | - | 2 x 20 mm |

Without dual entrance

| | | | | | | | | |
|------------------|---|-------------|---|-----------------------|---|---------------------|---|-----------------------------------|
| Car depth | = | Shaft depth | - | Door packet thickness | - | Rear wall clearance | - | Installation tolerance, door side |
| CD | = | SD | - | DD | - | WC3 | - | IT |
| CD | = | SD | - | (155 to 295 mm) | - | 255 mm | - | 25 mm |
| Max. CD | = | SD | - | 155 mm | - | 255 mm | - | 25 mm |

IT – installation tolerance ($\pm 25 \text{ mm}$); C1 / C2 – door dimensions, space requirements of the door panels in shaft width;
R1 – door recess, left; R2 – door recess, right; installation tolerances of $\pm 25 \text{ mm}$ each are included in wall clearance dimensions WC1, WC2 and WC3.

Project planning data (without dual entrance)

Rated load depending on car width and car depth

| Rated loads Q [kg] | | Car width CW [mm] | | | | | | | | | | | | | | | | |
|-----------------------|------|-------------------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | 800 | 850 | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 | 1350 | 1400 | 1450 | 1500 | 1550 | 1600 |
| Car depth CD [mm] | 850 | | | | | 320 | 350 | 350 | 375 | 375 | 400 | 425 | 425 | 450 | 475 | 500 | 500 | 525 |
| | 900 | | | | 320 | 350 | 350 | 375 | 400 | 400 | 425 | 450 | 450 | 475 | 500 | 525 | 550 | 575 |
| | 950 | | | 320 | 350 | 350 | 375 | 400 | 425 | 425 | 450 | 475 | 500 | 525 | 550 | 575 | 600 | 600 |
| | 1000 | | 320 | 350 | 350 | 375 | 400 | 425 | 425 | 450 | 475 | 500 | 525 | 550 | 575 | 600 | 630 | 650 |
| | 1050 | 320 | 350 | 350 | 375 | 400 | 425 | 425 | 450 | 475 | 500 | 525 | 550 | 575 | 630 | 630 | 675 | 700 |
| | 1100 | 320 | 350 | 375 | 400 | 425 | 425 | 475 | 475 | 500 | 550 | 575 | 600 | 630 | 650 | 675 | 700 | 725 |
| | 1150 | 350 | 375 | 400 | 425 | 425 | 450 | 475 | 525 | 550 | 575 | 600 | 630 | 650 | 675 | 725 | 750 | 775 |
| | 1200 | 350 | 375 | 400 | 425 | 450 | 475 | 500 | 550 | 575 | 600 | 630 | 650 | 700 | 725 | 750 | 775 | 800 |
| | 1250 | 375 | 400 | 425 | 450 | 475 | 500 | 550 | 575 | 600 | 630 | 675 | 700 | 725 | 750 | 800 | 825 | 850 |
| | 1300 | 400 | 425 | 450 | 475 | 500 | 525 | 575 | 600 | 630 | 675 | 700 | 725 | 750 | 800 | 825 | 850 | 900 |
| | 1350 | 400 | 425 | 450 | 500 | 525 | 550 | 600 | 630 | 650 | 700 | 725 | 775 | 800 | 825 | 875 | 900 | 925 |
| | 1400 | 425 | 450 | 475 | 525 | 550 | 575 | 630 | 650 | 700 | 725 | 750 | 800 | 825 | 875 | 900 | 925 | 975 |
| | 1450 | 425 | 475 | 500 | 550 | 575 | 630 | 650 | 675 | 725 | 750 | 800 | 825 | 875 | 900 | 950 | 975 | 1000 |
| | 1500 | 450 | 475 | 525 | 575 | 600 | 630 | 675 | 725 | 750 | 800 | 825 | 875 | 900 | 950 | 975 | | |
| | 1550 | 475 | 500 | 550 | 600 | 630 | 675 | 700 | 750 | 775 | 825 | 850 | 900 | 925 | 975 | | | |
| | 1600 | 475 | 525 | 575 | 600 | 650 | 700 | 725 | 775 | 800 | 850 | 900 | 925 | 975 | 1000 | | | |
| | 1650 | 500 | 550 | 600 | 630 | 675 | 725 | 750 | 800 | 850 | 875 | 925 | 975 | 1000 | | | | |
| | 1700 | 525 | 575 | 630 | 650 | 700 | 750 | 775 | 825 | 875 | 925 | 950 | 1000 | | | | | |
| | 1750 | 550 | 600 | 630 | 675 | 725 | 775 | 825 | 850 | 900 | 950 | 1000 | | | | | | |
| | 1800 | 575 | 600 | 650 | 700 | 750 | 800 | 850 | 875 | 925 | 975 | | | | | | | |
| | 1850 | 575 | 630 | 675 | 725 | 775 | 825 | 875 | 925 | 950 | 1000 | | | | | | | |
| 1900 | 600 | 650 | 700 | 750 | 800 | 850 | 900 | 850 | 1000 | | | | | | | | | |
| 1950 | 630 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | | | | | | | | | | |
| 2000 | 650 | 700 | 750 | 800 | 850 | 900 | 950 | 1000 | | | | | | | | | | |
| 2050 | 675 | 725 | 775 | 825 | 875 | 925 | 975 | | | | | | | | | | | |
| 2100 | 675 | 750 | 800 | 850 | 900 | 950 | 1000 | | | | | | | | | | | |

Determination of the rated loads in accordance with DIN EN 81-1:1998+A3:2009, edition 06.2010, item 8.2.1, table 1.1 for passenger elevators, with consideration given to an available area in the entrance area with closed door of 0.072 m² (door model ThyssenKrupp K8A, door type M2T / dual panel, one-sided telescoping, side-opening, door width DW = 900 mm). When using other door models and door types, rated loads may vary from these values.

Number of persons depending on rated load Q

| Rated loads | Q [kg] | 100 | 180 | 225 | 320 | 350 | 375 | 400 | 425 | 450 | 500 | 525 |
|-------------------------------------|-------------------|------|------|------|------|-----|-----|------|-----|------|-----|------|
| Number of persons | | 1 | 2 | 3 | 4 | | | 5 | | 6 | | 7 |
| Min. available area in elevator car | [m ²] | 0.28 | 0.49 | 0.60 | 0.79 | | | 0.98 | | 1.17 | | 1.31 |

| Rated loads | Q [kg] | 630 | 675 | 750 | 800 | 825 | 900 | 975 | 1000 | 1050 |
|-------------------------------------|-------------------|------|------|------|------|------|------|------|------|------|
| Number of persons | | 8 | 9 | 10 | 11 | 12 | 13 | 14 | | |
| Min. available area in elevator car | [m ²] | 1.45 | 1.59 | 1.73 | 1.87 | 2.01 | 2.15 | 2.29 | | |

Determination of the number of persons in accordance with DIN EN 81-1:1998+A3:2009, edition 06.2010, item 8.2.3 (person weight 75 kg) or table 1.2.

Project planning data (with dual entrance)

Rated load depending on car width and car depth

| Rated loads Q [kg] | | Car width CW [mm] | | | | | | | | | | | | | | | | |
|-----------------------|------|-------------------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | 800 | 850 | 900 | 950 | 1000 | 1050 | 1100 | 1150 | 1200 | 1250 | 1300 | 1350 | 1400 | 1450 | 1500 | 1550 | 1600 |
| Car depth CD [mm] | 850 | | | | | | | | | | | | | | | | | |
| | 900 | | | | | | | | | | | | | | | | | |
| | 950 | | | | | | | | | | | | | | | | | |
| | 1000 | | | | | | | | | | | | 575 | 600 | 630 | 630 | 675 | 700 |
| | 1050 | | | | | | | | | | | 575 | 600 | 630 | 650 | 675 | 700 | 725 |
| | 1100 | | | | | | | | | 575 | 600 | 630 | 650 | 700 | 725 | 750 | 775 | 800 |
| | 1150 | | | | | | | | 575 | 600 | 630 | 675 | 700 | 725 | 750 | 775 | 800 | 850 |
| | 1200 | | | | | | | 575 | 600 | 630 | 675 | 700 | 725 | 775 | 800 | 825 | 850 | 900 |
| | 1250 | | | | | | 575 | 600 | 630 | 675 | 700 | 725 | 775 | 800 | 825 | 875 | 900 | 925 |
| | 1300 | | | | | 575 | 600 | 630 | 675 | 700 | 725 | 775 | 800 | 825 | 875 | 900 | 950 | 975 |
| | 1350 | | | | 575 | 600 | 630 | 675 | 700 | 725 | 775 | 800 | 825 | 875 | 900 | 950 | 975 | 1000 |
| | 1400 | | | | 600 | 630 | 650 | 700 | 725 | 775 | 800 | 825 | 875 | 900 | 950 | 975 | 1025 | 1050 |
| | 1450 | | | 575 | 630 | 650 | 700 | 725 | 750 | 800 | 825 | 875 | 900 | 950 | 975 | 1025 | 1050 | |
| | 1500 | | 575 | 600 | 630 | 675 | 725 | 750 | 800 | 825 | 875 | 900 | 950 | 975 | 1025 | 1050 | | |
| | 1550 | | 600 | 630 | 675 | 700 | 750 | 775 | 825 | 850 | 900 | 950 | 975 | 1025 | 1050 | | | |
| | 1600 | | 600 | 650 | 700 | 725 | 775 | 800 | 850 | 900 | 925 | 975 | 1000 | 1050 | | | | |
| | 1650 | | 630 | 675 | 725 | 750 | 800 | 850 | 875 | 925 | 975 | 975 | 1050 | | | | | |
| | 1700 | | 650 | 700 | 750 | 775 | 825 | 875 | 900 | 950 | 1000 | 1050 | | | | | | |
| | 1750 | | 675 | 725 | 775 | 800 | 850 | 900 | 950 | 975 | 1025 | | | | | | | |
| | 1800 | | 700 | 750 | 800 | 825 | 875 | 925 | 975 | 1025 | 1050 | | | | | | | |
| | 1850 | | 725 | 775 | 825 | 875 | 900 | 950 | 1000 | 1050 | | | | | | | | |
| 1900 | | 750 | 800 | 850 | 900 | 925 | 975 | 1025 | | | | | | | | | | |
| 1950 | | 775 | 825 | 875 | 925 | 975 | 1025 | 1050 | | | | | | | | | | |
| 2000 | | 800 | 850 | 900 | 950 | 1000 | 1050 | | | | | | | | | | | |
| 2050 | | 825 | 875 | 925 | 975 | 1025 | | | | | | | | | | | | |
| 2100 | | 825 | 900 | 950 | 1000 | 1050 | | | | | | | | | | | | |

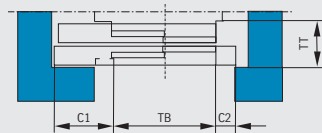
Determination of the rated loads in accordance with DIN EN 81-1:1998+A3:2009, edition 06.2010, item 8.2.1, table 1.1 for passenger elevators, with consideration given to an available area in the entrance area with closed door of 0.072 m² (door model ThyssenKrupp K8A, door type M2T / dual panel, one-sided telescoping, side-opening, door width DW = 900 mm). When using other door models and door types, rated loads may vary from these values.

Project planning data (door mountings)

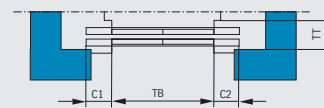
Decision-making aid for selecting a suitable door model

| Door model | S8A / K8A | 2000 C-MOD | FINELINE |
|---------------------------|---|--|--|
| Special advantages | <ul style="list-style-type: none"> - High-quality, elegant and efficient door series - Robust and reliable, even under challenging application conditions - Extensive range of fire protection certifications and many options | <ul style="list-style-type: none"> - Economical solution for many common applications - Further usage of existing swing landing doors possible | <ul style="list-style-type: none"> - Compact dimensions: low installation depth and width, ideal for narrow shafts - Version with asymmetric entrance offers additional planning freedom - Further usage of existing swing landing doors possible |





Dimensions of the landing doors for project planning



Dimensioned drawing for side-opening door (left-opening version shown)









Dimensioned drawing for centre-opening door (dual panel version shown)

| Door model | Door type | Door width DW [mm] | Space requirement of door panels (in shaft width) | | Door packet thickness |
|------------|---|--------------------|---|----------|---------------------------|
| | | | C 1 [mm] | C 2 [mm] | DD [mm] |
| S8A / K8A | M2T (dual panel, one-sided telescoping, left-opening)  | 700 | 400 | 150 | 295 (incl. door frame) |
| | | 750 | 425 | | |
| | | 800 | 450 | | |
| | | 850 | 475 | | |
| | | 900 | 500 | | |
| S8A / K8A | M2T (dual panel, one-sided telescoping, right-opening)  | 700 | 150 | 400 | 295 (incl. door frame) |
| | | 750 | | 425 | |
| | | 800 | | 450 | |
| | | 850 | | 475 | |
| | | 900 | | 500 | |
| S8A / K8A | M2Z (dual panel, centre-opening)  | 700 | 400 | 400 | 235 (incl. door frame) |
| | | 750 | 425 | 425 | |
| | | 800 | 450 | 450 | |
| | | 850 | 475 | 475 | |
| | | 900 | 500 | 500 | |
| S8A / K8A | M4TZ (quadruple panel, telescoping, centre-opening)  | 800 | 250 | 250 | 295 (incl. door frame) |
| | | 850 | 265 | 265 | |
| | | 900 | 275 | 275 | |

For dimensions C1 and C2 and for the dimension of door packet thickness TT, no shaft and dimensional tolerances are included in the calculation. To determine the maximum car width and maximum car depth in an existing elevator shaft, the space requirements of the doors must be taken into consideration. Listed in the above table are the values for C1, C2 and DD for the various door models and door types. Further door designs possible on request.

Project planning data (door mountings)

Dimensions of the landing doors for project planning

| Door model | Door type | Door width DW [mm] | Space requirement of door panels (in shaft width) | | Door packet thickness DD [mm] |
|------------|---|-----------------------|---|-------------------------------|--|
| | | | C 1 [mm] | C 2 [mm] | |
| 2000 C-MOD | 2L (dual panel, one-sided telescoping, left-opening)  | 650 | 390 | 100 | 230 (not including depth of the door frame) |
| | | 700 | 415 | | |
| | | 750 | 440 | | |
| | | 800 | 465 | | |
| | | 850 | 490 | | |
| | | 900 | 515 | | |
| 2000 C-MOD | 2R (dual panel, one-sided telescoping, right-opening)  | 650 | 100 | 390 | 230 (not including depth of the door frame) |
| | | 700 | | 415 | |
| | | 750 | | 440 | |
| | | 800 | | 465 | |
| | | 850 | | 490 | |
| | | 900 | | 515 | |
| 2000 C-MOD | 4Z (quadruple panel, telescoping centre-opening)  | 650 | 210 (DH 2000) / 235 (DH 2100) | 210 (DH 2000) / 235 (DH 2100) | 230 (not including depth of the door frame) |
| | | 700 | 210 (DH 2000) / 235 (DH 2100) | 210 (DH 2000) / 235 (DH 2100) | |
| | | 750 | 225 | 225 | |
| | | 800 | 235 | 235 | |
| | | 850 | 250 | 250 | |
| | | 900 | 260 | 260 | |
| FINELINE | 4S (quadruple panel, telescoping centre-opening, symmetric)  | 650 | 205 | 205 | 155 (not including depth of the door frame) |
| | | 700 | 205 | 205 | |
| | | 750 | 215 | 215 | |
| | | 800 | 230 | 230 | |
| | | 850 | 240 | 240 | |
| | | 900 | 255 | 255 | |
| FINELINE | 4/AS-L (quadruple panel, telescoping centre-opening, asymmetric left)  | 650 | 255 | 145 | 155 (not including depth of the door frame) |
| | | 700 | 260 | | |
| | | 750 | 290 | | |
| | | 800 | 310 | | |
| | | 850 | 340 | | |
| | | 900 | 360 | | |
| FINELINE | 4/AS-R (quadruple panel, telescoping centre-opening, asymmetric right)  | 650 | 145 | 255 | 155 (not including depth of the door frame) |
| | | 700 | | 260 | |
| | | 750 | | 290 | |
| | | 800 | | 310 | |
| | | 850 | | 340 | |
| | | 900 | | 360 | |

For dimensions C1 and C2 and for the dimension of door packet thickness, no shaft and dimensional tolerances are included in the calculation. To determine the maximum car width and maximum car depth in an existing elevator shaft, the space requirements of the doors must be taken into consideration. Listed in the above table are the values for C1, C2 and DD for the various door models and door types.

Technical data

Technical data, installed components and electrical data


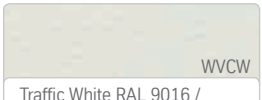





| Rated load | Q | [kg] | 320 | 350 | 375 | 400 | 425 | 450 | 500 | 550 |
|------------------------------------|-----------------|-------|--------------|-------------|-----------|-----------|--------------|-----------|-----------|-----------|
| Speed | v | [m/s] | 1.0 | | | | | | | |
| Max. travel height | Max. TH | [m] | 40 | | | | | | | |
| Dual entrance | | | No | | | | | | | |
| Mass of car (P 450 SV) | EC ¹ | [kg] | 400 – 540 | 410 – 550 | 415 – 555 | 420 – 560 | 430 – 580 | 435 – 590 | 450 – 610 | 475 – 725 |
| Drive | Geared | | TW 45 C | | | | | | | |
| Nominal power | | [kW] | 2.7 | 2.9 | 3.0 | 3.2 | 3.4 | 3.6 | 3.9 | 4.3 |
| Max. mains power ^{2,3} | | [kVA] | 6.4 | 6.7 | 7.0 | 7.3 | 7.6 | 7.9 | 8.6 | 9.4 |
| Mains rated current ^{2,3} | | [A] | 5.1 | 5.5 | 5.8 | 6.1 | 6.5 | 6.8 | 7.6 | 8.3 |
| Max. mains current ^{2,3} | | [A] | 9.2 | 9.7 | 10.1 | 10.5 | 11.0 | 11.4 | 12.4 | 13.6 |
| Diameter of traction sheave | D _r | [mm] | 440 | | | | | | | |
| Suspension ropes | n x ds | [mm] | 7 x 8 | | | | | | | |
| Drive | Gearless | | PMC 145-2 M | PMC 145-2 L | | | | | | |
| Nominal power | | [kW] | 2.38 | 3.69 | | | | | | |
| Max. mains power ^{2,3} | | [kVA] | 4.1 | 6.3 | | | | | | |
| Mains rated current ^{2,3} | | [A] | 4.1 | 6.6 | | | | | | |
| Max. mains current ^{2,3} | | [A] | 5.9 | 9.1 | | | | | | |
| Diameter of traction sheave | D _r | [mm] | 240 | | | | | | | |
| Suspension ropes | n x ds | [mm] | 6 x 6 | 7 x 6 | 8 x 6 | | | 10 x 6 | 12 x 6 | |
| Elevator-car guide rails | | | T 70/B | | | | | | | |
| Counterweight guides | | | T 50/A | | | | | | | |
| Elevator-car buffer | n x type | | 1 x 100x80 A | | | | 2 x 100x80 A | | | |
| Counterweight buffer | n x type | | 1 x 100x80 A | | | | | | | |

| Rated load | Q | [kg] | 630 | 750 | 825 | 900 | 1000 | 1050 | |
|------------------------------------|-----------------|-------|-----------------------------------|-----------|-----------|------------------------|------------|------------|------------|
| Speed | v | [m/s] | 1.0 | | | | | | |
| Max. travel height | Max. TH | [m] | 40 | | | | | | |
| Dual entrance | | | possible | | | | | | Yes |
| Mass of car (P 1000 SV) | EC ¹ | [kg] | 550 – 680 | 550 – 950 | 590 – 980 | 610 – 1000 | 630 – 1020 | 650 – 1050 | 700 – 1100 |
| Drive | Geared | | TW 45 C | | | TW 63 B | | | |
| Nominal power | | [kW] | 4.8 | 4.8 | 5.3 | 5.8 | 6.7 | 7.4 | 7.7 |
| Max. mains power ^{2,3} | | [kVA] | 10.2 | 12.3 | 13.6 | 14.6 | 15.6 | 16.7 | 17.4 |
| Mains rated current ^{2,3} | | [A] | 9.3 | 9.4 | 10.3 | 11.2 | 12.9 | 14.2 | 14.9 |
| Max. mains current ^{2,3} | | [A] | 14.7 | 17.7 | 19.6 | 21 | 22.5 | 24.1 | 25.1 |
| Diameter of traction sheave | D _r | [mm] | 440 | 590 | | | 510 | | |
| Suspension ropes | n x ds | [mm] | 7 x 8 | 5 x 10 | 6 x 10 | | 7 x 10 | | |
| Drive | Gearless | | PMC 145 M / PMC 170 M / DAF 210 L | | | PMC 170 XL / DAF 270 M | | | |
| Nominal power | | [kW] | 4.8 | | | 5.8 | | | |
| Max. mains power ^{2,3} | | [kVA] | 8.8 | | | 11.9 | | | |
| Mains rated current ^{2,3} | | [A] | 9.3 | | | 13.1 | | | |
| Max. mains current ^{2,3} | | [A] | 12.7 | | | 17.1 | | | |
| Diameter of traction sheave | D _r | [mm] | 320 | | | | | | |
| Suspension ropes | n x ds | [mm] | 7 x 8 | | | 8 x 8 | | | |
| Elevator-car guide rails | | | T 89/B | | | | | | |
| Counterweight guides | | | T 50/A | | | | | | |
| Elevator-car buffer | n x type | | 2 x 100x80 A | | | 2 x 125x80 A | | | |
| Counterweight buffer | n x type | | 1 x 125x80 A | | | 2 x 100x80 A | | | |



¹ Equipment features for determining the elevator car weights: Min. EC: without dual entrance, door model FINELINE, hand-rail, without mirror, plastic flooring material, 2 mm. Max. EC: with dual entrance, door model K8A, hand-rail, mirror, plastic flooring material, 2 mm. ² For 400 V / 50 Hz. ³ The specified powers and currents are average values for orientation, are based on the actually installed components and increase depending on the project according to elevator control unit, the number of landings, the type and number of operating and indicator elements, the car lighting and other electrical power consumers (e.g. fans).

Elevator car design

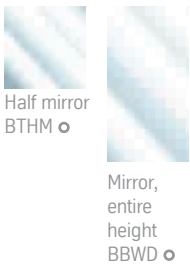
Colours / materials

| | | | |
|--|--|--|--|
|  WVSG Galvanised steel |  WVCW Traffic White RAL 9016 / powder coating |  WVCC Colour RAL / powder coating |  WVSE Leather / stainless steel |
|  WVSL Linen / stainless steel |  WVSF Grain 220/stainless steel ferritic |  WVSA Grain 220/stainless steel austenitic | |







Car ceiling and lighting systems

| | | |
|---|---|--|
|  |  |  |
| SpotLED Traffic white RAL 9016 / powder coating, CWFS stainless steel grain 220, CSFS ○ | SlimLED Traffic white RAL 9016 / powder coating, CWSL ○ stainless steel grain 220, CSSL | Without lighting Traffic white RAL 9016 / powder coating, CWNL |

Mirrors





Flooring material

| | | | |
|---|---|---|---|
|  FNES Black Stone / rubber |  FRKB Kayar Black / rubber |  FRKG Kayar Grey / rubber |  FRIC Ice / rubber |
|  FPDG Dove Grey / vinyl |  FOEO Dark Brushed Oak / PVC | Prepared for flooring material of up to 25 mm to be provided by customer | |

Handrails

| | | |
|--|---|---|
|  |  |  |
| Stainless steel Grain 220 dia. 40 mm straight version ○ Rear wall, side walls | Stainless steel Grain 220 dia. 40 mm bowed version ○ Rear wall, side walls | Stainless steel Grain 220 dia. 40 mm bowed version, all round ○ L-layout, U-layout |

Skirt guards

| | |
|---|---|
|  |  |
| Grain 220 stainless steel 50 mm SBSS ○ | Aluminium 30 mm SBAA |

○ Optional

Elevator car design

| Design variants | | | |
|-----------------------------------|---|---|---|
| | VERTICAL A | VERTICAL B | VERTICAL C |
| Colours / materials |  |  |  |
| | Galvanised steel WWSG | Traffic White / powder coating WVCW | Grain 220 stainless steel WVSF |
| Wall | WWSG | WVCW | WVSF |
| Car ceiling with lighting systems | | | |
| | CWFS | CWFS | CSSL |
| Skirt guard | | | |
| | SBAA | SBAA | SBSS |
| Flooring material | | | |
| | without | FRKG | FRKB |
| Hand rail | | | |
| | without | HSRE + HSLT | HCIL |
| Mirrors | | | |
| | without | BTHM | BBWD |

The elevator car can also be supplied in galvanised sheet metal as the design for customer lining. Please specify the customer-designed equipment with weight.

VERTICAL



The elevator car is prepared for installation of a COP (car operating panel) as installation panel by the customer. On account of the self-supporting construction no through-holes or openings may be provided in the walls (exception: cable lead-through).

Elevator car P450SV / P1000SV design options

| Colours / materials | Code | VERTICAL selection | Colours / materials | Code | VERTICAL selection |
|--|------|-----------------------|---|------|-----------------------|
| Walls (VERTICAL design line) | | | Mirror on the rear wall of the car | | |
| Galvanised steel | WWSG | <input type="radio"/> | Half mirror from height of hand-rail to cover | BTHM | <input type="radio"/> |
| Traffic White RAL 9016 / powder coating | WVCW | <input type="radio"/> | Full height mirror without dots pattern | BBWD | <input type="radio"/> |
| Colour / RAL powder coating | WVCC | <input type="radio"/> | Handrails in the elevator car | | |
| Leather / stainless steel | WVSE | <input type="radio"/> | Stainless steel grain 220 40 mm version, straight | | |
| Linen / stainless steel | WVSL | <input type="radio"/> | on rear wall, rear | HSRE | <input type="radio"/> |
| Grain 220 / stainless steel ferritic | WVSF | <input type="radio"/> | on side wall, right | HSRI | <input type="radio"/> |
| Grain 220 / stainless steel austenitic | WWSA | <input type="radio"/> | on side wall, left | HSLT | <input type="radio"/> |
| Car front walls | | | Stainless steel grain 220 40 mm, bowed version | | |
| Galvanised steel | DPSG | <input type="radio"/> | on rear wall, rear | HBRE | <input type="radio"/> |
| Traffic White RAL 9016 / powder coating | DPCW | <input type="radio"/> | on side wall, right | HBRI | <input type="radio"/> |
| Colour / RAL powder coating | DPCC | <input type="radio"/> | on side wall, left | HBLT | <input type="radio"/> |
| Leather / stainless steel | DPSE | <input type="radio"/> | Stainless steel grain 220 40 mm, bowed version, surrounding | | |
| Linen / stainless steel | DPSL | <input type="radio"/> | L-layout (on rear and side wall, opposite CIOP) | HCIL | <input type="radio"/> |
| Grain 220 / stainless steel ferritic | DPSF | <input type="radio"/> | U-layout (on three sides) | HCIU | <input type="radio"/> |
| Grain 220 / stainless steel austenitic | DPSA | <input type="radio"/> | Skirt guards in the elevator car | | |
| Car ceiling and lighting | | | Stainless steel grain 220 h = 50 mm without lighting | | |
| SpotLED Traffic White RAL 9016 / powder coating | CWFS | <input type="radio"/> | Aluminium h = 30 mm without lighting | SBAA | <input type="radio"/> |
| SpotLED grain 220 / austenitic stainless steel | CSFS | <input type="radio"/> | | | |
| SlimLED Traffic White RAL 9016 / powder coating | CWSL | <input type="radio"/> | | | |
| SlimLED grain 220 / austenitic stainless steel | CSSL | <input type="radio"/> | | | |
| Without lighting Traffic White RAL 9016 / powder coating | CWNL | <input type="radio"/> | | | |
| Flooring material in the elevator car | | | | | |
| Black Stone / rubber | FNES | <input type="radio"/> | | | |
| Kayar Black / rubber | FRKB | <input type="radio"/> | | | |
| Kayar Grey / rubber | FRKG | <input type="radio"/> | | | |
| Ice / rubber | FRIC | <input type="radio"/> | | | |
| Dove Grey / vinyl | FPDG | <input type="radio"/> | | | |
| Dark Brushed Oak / PVC | FOEO | <input type="radio"/> | | | |
| Without flooring material | | <input type="radio"/> | | | |


Option

Lighting system

LED Lighting

Through the use of highly efficient and energy-saving LED lighting, energy savings up to 78% over fluorescent lamps can be achieved.



 White LED



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